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Editorial

The literature on comparative education has, in recent years, become sizable and broad in its scope. The *International Journal of Comparative Education and Development* (*IJCED*), the official biannual journal of the Comparative Education Society of Hong Kong (CESHK), wants to contribute not only to comparative education as a research area but also, perhaps more importantly, to the development of the field of education *per se*.

The *IJCED* is both new and old. Its origin is the *Comparative Education Bulletin* (*CEB*) first published in 1989. While it is arguable that analogy and comparison are inextricable for all learning processes, it is beyond doubt that the ultimate goal of education is development that leads to human well-being and flourishing. The sixteen articles published in the present issue, Volume 16 Issue 2, cover a broad range of topics and they share the common aim of development.

The authors in this issue were able to make a preliminary presentation of their findings at the March 2014 Conference "Policy and Educational Development in a Global Context," which took place at the School of Professional and Continuing Education of the University of Hong Kong. We editors appreciate their responsiveness and subsequent revision of their manuscripts, which have gone through the usual process of drafting and redrafting.

My deep gratitude also goes to the editorial members and reviewers, who continuously show their generosity and industriousness. My special thanks go to Miss Chan Ka Ying whose intensive type-setting work made this editorial project hit the shelves in time.

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Jae Park
Editor-in-Chief
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A Comparative Study of International Students and Students Going International among the Little Four Dragons

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Abstract

The so-called "Four Little Dragons" of Asia: Singapore, Hong Kong, South Korea and Taiwan, which the IMF now designates the four "Asian Newly Industrialized Economies. In response to the impact and challenges of globalization both, the Little Four Dragons have adopted strategies for attracting international students, and encouraging home students going international. The main purpose of this paper is to examine the change of international students in Taiwan, Hong Kong, South Korea, and Singapore on the one hand, and the trend of home students going international on the other. As for the future prospects of international mobility of college students in the four little dragons, this paper presents conclusions in the final part of this paper.

Keywords: Little Four Dragons, Talent development, International mobility

Background and Purpose

Hong Kong and Singapore are among the biggest financial centers worldwide, while South Korea and Taiwan are important hubs of global manufacturing in automobile/electronic components and information technology, respectively (China Post, 2013; Investopedia, 2013). The IMF includes South Korea, Taiwan, Hong Kong, and Singapore in its category of 35 advanced economies (Investopedia, 2013). However, the way in which Confucian traditions have shaped styles of modernity in Japan, South Korea, Taiwan, Hong Kong, Mainland China, and Singapore presents a particular challenge to the intellectual community. Explorations of Confucian network capitalism, meritocratic democracy, and liberal education have practical implications for a sense of self, community, economy, and polity (Tu, 1996). There is a consensus that higher education is undergoing substantial change in the face of globalization, which brings a greater emphasis on market forces within the process of educational decision making (Stromquist 2007). Research suggests that the internationalization of education is viewed as an antidote to subjectivism, which compromises most domestic education (Murphy 2007). In a recent paper, Huang (2007) emphasized that the internationalization of higher education includes two aspects. First, it refers to the internationalization of the domestic system of higher education, such as accepting incoming international students, developing internationalized curricula, and integrating international dimensions into teaching, learning, and research activities. Second, it refers to sending abroad students, faculty members, and researchers as well as transnational higher education activities, such as exporting curricula to higher education institutions in foreign countries. It is important to examine international students and local students studying abroad that a country has in order to enhance the country's competitiveness.

The purposes of this study are 1) to review the theoretical consideration relating to student mobility; 2) to give an overview of the global competitiveness associated with student mobility in Taiwan, South Korea, Hong Kong, Singapore; 3) to perform a comparison of student mobility among Taiwan, South Korea, Hong Kong, Singapore; and 4) to draw conclusions from the findings of this study.

Literature Review and Theoretical Consideration

Yang (2002) indicated that, due to increasing interest in the international dimension of higher education, the internationalization of education has become a research area in its own right. In education, internationalization is commonly understood in terms of categories or types of activities. These include academic and extracurricular activities; scholar, student, and faculty exchanges; area studies; technological assistance; intercultural training; the education of international students; and joint research initiatives (Knight and De Wit, 1995). However, the best-known form of internationalization is the increasing number of students studying abroad (Van Damme, 2001).

Knight and De Wit (1995) identify four principal approaches to the internationalization of education. The activity approach includes the traditional and familiar activities of student and faculty mobility, international student recruitment, technical assistance and knowledge transfer, research co-operation, and curricular reform. The competency approach focuses on outcomes and goals as measured by the added value that internationalization brings to individuals' professional and personal development. The ethos approach promotes an international milieu on campus. Finally, the process or strategic approach develops an integrated strategy in which activities and outcomes are incorporated in a planned way to achieve the international dimension as a systemic feature of the institution (Callan 2000).

While the increasing internationalization of education is well documented, there are few studies that explicitly address the driving forces behind this trend (Aksnes, Frølich & Slipersæter, 2008). However, Yang (2002) pointed out that research on the internationalization of universities is at present far from adequate, especially empirical studies from an international and comparative perspective.

Knight and De Wit (1995) define internationalization as "the process of integrating an international/intercultural dimension into the teaching, research, and service functions of the institution." This definition provides a solid foundation for a more philosophy-driven approach. Internationalization as a process can be contrasted with the typical activity-based approach associated with the term *international education*. The verb *to internationalize* emphasizes action and process. Furthermore, Knight and De Wit's penetrating definition encourages leaders to revisit the core functions of their institutions as they think about international learning (Olson, 2005).

Since the 1960s, two main theoretical views on student mobility have prevailed: one was the internationalist view, favoring the unrestricted international migration of the highly skilled individual as a vehicle to enhance global efficiency; the other was the nationalist view, concerned with the adverse impact on national development of student outflows to advanced economies. In addition, there are three distinctive perspectives on the origins of the international migration of students: first, neoclassical economic analysis argues that the migration of students is due to the existence of the geographical wage of differentials; second, kinship networks are the alternative account for student migration; and third,

historical-structure tradition is the third perspective within the migration of student studies. We identify various long-run and cyclical factors that determine migration (Solimano, 2010): (1) developmental gaps and wage differentials across countries, a medium- to long-run factor that reflects the differences in economic potential and development levels between sending and receiving countries; (2) the degree of unemployment and informality in the labor markets of the sending and receiving countries; (3) the effects of financial crisis with the ensuing flight to economic security abroad; (4) family and social networks that affect the capacity of foreign entrants to find jobs and adjust to the new country of immigration; (5) the migration policies and restrictions to international mobility of people in recipient and sending countries; (6) the cost of migration (cost of traveling, legal costs, search costs); and (7) differences in the extent of human security and availability of social services to migrants and their families available in cities between the sending and host countries.

With regard to the relationship of talent development and international student mobility, Haupt, Krieger, and Lange (2011) indicate that the acquisition of international students also reflects a long-term strategy to increase the future number of skilled workers in the domestic economy, since many of the foreign talent will continue to stay in their host countries after graduation. In addition, managing international student mobility as part of the strategy to manage highly skilled migration goes beyond merely a matter of skill formation and in fact represents specific social relations and power struggles in each host nation (She & Wotherspoon, 2013).

One important study conducted by Ramburuth & McCormick (2001) is concerned with "Learning diversity in higher education: A comparative study of Asian international and Australian students." The purpose of this study was to investigate the learning style preferences and approaches to learning among international students from Asian backgrounds and to make comparisons with the learning styles of Australian students. The sample consisted of 78 newly arrived international students from Asian countries and 110 Australian students, all studying at the same university. Two survey instruments, the Study Process Questionnaire (Biggs, 1987) and the Perceptual Learning Style Preference Questionnaire (Reid, 1987), were used to investigate cognitive and environmental dimensions to student learning. Descriptive statistics and multiple discriminant analyses were employed for data analysis. No statistically significant differences were found between Asian international and Australian students in their overall approaches to learning. However, Asian international students demonstrated significantly higher use of deep motivation, surface strategies, and achieving strategies, whilst Australian students demonstrated higher use of deep strategies and surface motivation. The groups also differed significantly in their learning style preferences in group, auditory, tactile, and kinesthetic modes of learning, with the strongest difference being in group learning, thus supporting the notion of Asian students being more collaborative in their learning styles. The findings draw attention to dimensions of learning diversity that may be present in Australian tertiary classrooms and could have implications for the teaching and management of this diversity. The findings may also have relevance to countries with similar western traditions to those of Australia and cross-cultural student populations.

Another important study discusses "International student mobility and highly skilled migration: a comparative study of Canada, the United States, and the United Kingdom," carried out by She & Wotherspoon (2013). Against the backdrop of demographic change and economic reconfiguration, recruiting international students, especially those at the tertiary level, has drawn growing attention from advanced economies as part of a broad strategy to

manage highly skilled migration. This comparative study focuses on three English-speaking countries receiving international students: Canada, the United States, and the United Kingdom. International student policies, specifically entry and immigration regulations, and the trends in student mobility since the late 1990s are examined by drawing on secondary data. By exploring the issue from political economy perspectives, this study identifies distinct national strategies for managing student mobility, determines key factors shaping the environment of student migration in each nation, and addresses the deficiency of human capital theory in the analysis of global competition for high skills.

Overview of Global Talent in the Four Economies
According to the Global Talent Index Report, written by the Economist Intelligence Unit, the main findings can be shown as follows: First, the US is the Stellar GTI Performer, ranking first in 2011 and 2015. The US lead is almost one full point (on a 1-10 scale) in both years over the next-best performers. The country's foremost strengths are the excellence of its universities, the high overall quality of its existing workforce, and a meritocratic environment that is relatively unencumbered by restrictive labor regulation. Second, the Nordic and developed Asia Pacific countries are also prominent in the GTI top ten. Denmark, Finland, and Norway place in the index top five in both 2011 and 2015, and Sweden joins them in the latter year, all thanks in part to its consistent and substantial investment in education from the primary through tertiary levels. Australia and Singapore are other strong performers, the former due to (among other factors) its high-quality universities and the latter to its openness to international trade and foreign direct investment. Third, Canada, Chile, and Turkey are the biggest gainers between 2011 and 2015. The rankings remain reasonably stable in both years, but noteworthy advances in 2015 are registered by Canada, Chile, and Turkey. Improved economic performance is expected to help talent environments improve in these countries, while tough economic conditions contribute to the largest falls in the index in 2015, suffered by Greece and Venezuela. Fourth, China outperforms other countries in the index.

China rises to 31st place in the GTI in 2015 from 33rd in 2011, but more notable is the five-point improvement in its score – the largest increase in 2015 of any country in the index. A major contributor is an expected increase in the country's willingness to embrace foreign workers. Brazil also registers considerable improvement between 2011 and 2015, with employment growing quickly, expenditure on education rising, and the language skills of the workforce improving.

Please see Tables 1 and 2 for details.

Table 1 *Global Talent Index 2011*

2011 RANK	COUNTRY	SCORE/100	2011 RANK	COUNTRY	SCORE/100
1	United States	74.2	31	Chile	43.7
2	Denmark	64.7	32	Slovakia	43.3
3	Finland	63.2	33	China	41.1
4	Norway	61.9	34	Russia	40.8
5	Singapore	60.2	35	India	40.5
6	Australia	60.1	=36	Malaysia	40.1
7	Sweden	59.5	=36	Romania	40.1
8	Hong Kong	59.1	38	Mexico	39.7
9	Switzerland	58.5	39	Venezuela	39.4
=10	Israel	58.3	40	Colombia	39.1
=10	Netherlands	58.3	41	Saudi Arabia	39.0
12	United Kingdom	58.2	42	Brazil	38.2
13	Germany	57.9	43	Ukraine	38.0
14	Canada	57.8	44	Philippines	37.6
15	New Zealand	57.7	45	South Africa	37.4
16	Ireland	57.4	46	Thailand	36.8
17	Austria	55.7	47	Peru	36.4
18	Belgium	55.5	48	Turkey	35.0
19	France	55.1	49	Bulgaria	34.7
20	Taiwan	54.5	50	Ecuador	33.5
21	Spain	49.7	51	Egypt	32.8
22	South Korea	48.4	52	Vietnam	30.7
=23	Greece	46.7	53	Kazakhstan	30.5
=23	Italy	46.7	54	Azerbaijan	29.8
25	Czech Republic	45.9	55	Iran	29.7
26	Portugal	45.4	=56	Algeria	27.0
27	Japan	45.0	=56	Pakistan	27.0
28	Argentina	44.6	58	Indonesia	26.5
29	Poland	44.0	59	Sri Lanka	26.3
30	Hungary	43.8	60	Nigeria	23.1

Data from *The Global Talent Index Report 2011-2015* (Economist Intelligence Unit, 2012), p. 4.

Table 2 *Global Talent Index 2015*

2015 RANK	RANK CHANGE	COUNTRY	SCORE/ 100	2011-2015 CHANGE	2015 RANK	RANK CHANGE	COUNTRY	SCORE/ 100	2011-2015 CHANGE
1	--	United States	74.5	+0.3	31	+2	China	46.3	+5.2
2	--	Denmark	65.4	+0.7	32	-4	Argentina	46.2	+1.6
3	--	Finland	64.2	+1.0	33	-10	Greece	45.7	-1.0
4	+3	Sweden	63.4	+3.9	34	--	Russia	43.1	+2.3
5	-1	Norway	62.3	+0.4	=35	--	India	42.2	+1.7
=6	--	Australia	61.9	+1.8	=35	+3	Mexico	42.2	+2.5
=6	-1	Singapore	61.9	+1.7	37	-1	Romania	41.8	+1.7
8	+6	Canada	61.3	+3.5	38	+4	Brazil	41.7	+3.5
9	--	Switzerland	60.9	+2.4	=39	-3	Malaysia	41.1	+1.0
10	-2	Hong Kong	60.8	+1.7	=39	+2	Saudi Arabia	41.1	+2.1
=11	+2	Germany	59.9	+2.0	41	-1	Colombia	40.8	+1.7
=11	-1	Israel	59.9	+1.6	42	+1	Ukraine	40.3	+2.3
13	-3	Netherlands	59.4	+1.1	43	+5	Turkey	39.9	+4.9
14	-2	United Kingdom	59.3	+1.1	44	--	Philippines	39.8	+2.2
15	--	New Zealand	59.1	+1.4	45	+1	Thailand	39.0	+2.2
16	+3	France	58.1	+3.0	46	-1	South Africa	38.7	+1.3
17	-1	Ireland	58.0	+0.6	47	--	Peru	37.8	+1.4
18	--	Belgium	57.2	+1.7	=48	+1	Bulgaria	37.3	+2.6
19	+1	Taiwan	54.3	-0.2	=48	+3	Egypt	37.3	+4.5
20	-3	Austria	53.5	-2.2	50	--	Ecuador	36.7	+3.2
21	+1	South Korea	51.6	+3.2	51	-12	Venezuela	36.0	-3.4
22	-1	Spain	49.5	-0.2	52	+1	Kazakhstan	33.2	+2.7
23	--	Italy	48.1	+1.4	53	-1	Vietnam	32.7	+2.0
24	+3	Japan	48.0	+3.0	54	+2	Pakistan	30.8	+3.8
25	--	Czech Republic	47.6	+1.7	55	--	Iran	30.3	+0.6
=26	+5	Chile	47.1	+3.4	56	+2	Indonesia	30.2	+3.7
=26	--	Portugal	47.1	+1.7	57	+2	Sri Lanka	29.2	+2.9
28	+1	Poland	46.7	+2.7	58	-2	Algeria	28.0	+1.0
29	+3	Slovakia	46.6	+3.3	59	+1	Nigeria	27.7	+4.6
30	--	Hungary	46.5	+2.7	60	-6	Azerbaijan	26.3	-3.5

Data from *The Global Talent Index Report 2011-2015* (Economist Intelligence Unit, 2012), p. 5.

Based on the results shown above, the advantages and disadvantages of global talents among the four Asian economies can be delineated as follows:

First of all, in terms of the total performance in the index, Taiwan is in third place among the four Asian economies. Taiwan's performance is better than that of South Korea. However, projected from 2011 to 2015, Taiwan is declining; in contrast, South Korean is making progress, as can be seen in Tables 1 and 2. In the GTI 2011, Singapore is listed in fifth place among all of the economies, and its total score is about 60.2. Next to Singapore, Hong Kong is listed in eighth place among all of the economies, and its total score is about 59.1.

Following Hong Kong is Taiwan, listed as 20th among all of the economies. South Korea's total score is about 48.8, listed as 22nd among all the economies.

Second, regarding university education, South Korea (48.2) is in the leading position, followed by Taiwan (47.7), Singapore (38.2), and Hong Kong (37.6).

Please see Table 3 for details.

Table 3 *A Comparison of University Education in the Global Talent Index 2011 among the Four Economies*

	University education
South Korea	48.2
Taiwan	47.7
Singapore	38.2
Hong Kong	37.6

Data from *The Global Talent Index Report 2011-2015* (Economist Intelligence Unit, 2012), p. 20.

A Comparative Analysis of Students Going International

Many universities and departments aim to enable their graduates to compete in an increasingly globalized work world (Haigh, 2002). Internationalization as macro change denotes environmental transformations which represent a changed context in which research and higher educational institutions operate. These transformations have been analyzed in terms of cooperation and competition, and organizations are facing an environment that is increasingly competitive and less focused on cooperation (Frølich, 2006).

According to the UNESCO Institute of Statistics (UIS), the number of globally mobile students increased to 3.4 million students in 2009, up from 2.1 million students in 2002. As Figure 1 shows, the four leading destination countries – the U.S., the UK, Australia, and Canada – witnessed sizable growth from 2002 to 2009. Canada saw the biggest percentage gains, with enrollments increasing by 67% (from 52,650 in 2002 to 87,798 in 2009). Canada was followed by the UK and Australia, which saw increases of 62% (from 227,273 to 368,968) and 43% (from 179,619 to 257,637), respectively. Although U.S. enrollment grew at a slower rate of 13% (from 582,996 to 660,581 students), it remained the leading destination in absolute numbers and enrolled approximately one-fifth of all mobile students worldwide in 2009. The most recent data from the Institute of International Education (IIE, 2012) showed an increase of 4.7% (from 690,923 to 723,277) in international student enrollment in the 2010-11 academic year compared to the previous year.

Number of
international
students
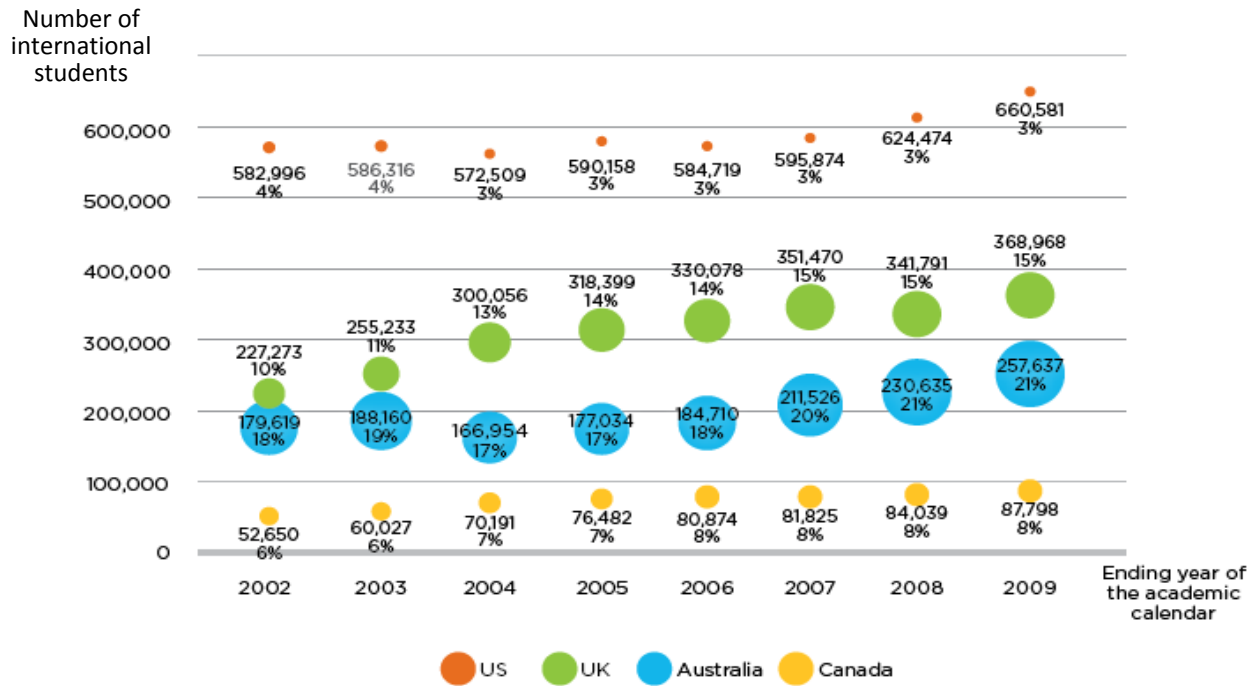
Figure 1 The four leading destination countries. Adapted from *Open Doors Data* (Institute of International Education, 2012).

First of all, let us look at the number of students from Asia in the U.S. Table 4 shows that the number increased by 6% in 2010/11 to 461,903 students.

Table 4 *The number of students from Asia in the U.S. increased by 6% in 2010/11 to 461,903 students*

Place of Origin	2010/2011 Total	% Undergraduate	% Change
Afghanistan	542	31.4	27.2
Bangladesh	2,873	28.6	9.7
Bhutan	115	52.2	-8.7
Brunei	66	65.2	53.5
Cambodia	340	62.1	-2.0
China	157,558	36.2	23.5
East Timor	48	85.4	84.6
Hong Kong	8,136	70.3	1.3
India	103,895	13.5	-1.0
Indonesia	6,942	64.5	0.0
Japan	21,290	49.5	-14.3
Kazakhstan	1,890	57.9	-2.4
Kyrgyzstan	279	40.5	1.8
Laos	49	44.9	-23.4
Macau	497	72.8	6.2
Malaysia	6,735	68.6	8.8
Maldives	34	50.0	-12.8
Mongolia	1,259	65.3	0.1
Myanmar	796	68.8	14.5
Nepal	10,301	58.9	-8.3
North Korea	16	81.3	-71.9
Pakistan	5,045	44.8	-3.4
Philippines	3,604	51.7	-5.5
Singapore	4,316	49.5	6.5
South Korea	73,351	51.7	1.7
Sri Lanka	2,965	40.4	0.3
Taiwan	24,818	24.2	-7.0
Tajikistan	249	53.4	-13.5
Thailand	8,236	29.8	-3.5
Turkmenistan	210	49.0	7.7
Uzbekistan	560	44.5	9.2
Vietnam	14,888	74.2	13.5

Data from *Open Doors Data* (Institute of International Education, 2012), p. 1

Now let us move on to look at the relevant details in the four Economies.

South Korea
In the 2012/13 academic year, 70,627 students from South Korea were studying in the United States (down 2.3% from the previous year). South Korea is the third leading place of origin

for students coming to the United States. The majority of South Korean students study at the undergraduate level. In 2012/13, their breakdown was as follows: 53.9% undergraduate, 28.2% graduate students, 9.0% other, and 8.9% OPT. After consistently increasing through the 1980s and 1990s, the number of South Korean students in the U.S. decreased in the late 1990s due to the Asian financial crisis. Following a rebound of the economy, the numbers of South Korean students have increased significantly since 1998/99. In 2001/02, South Korea moved from the fourth leading place of origin to third, after China and India, and continues to hold that spot.

Table 5 *The relevant statistics of international students in the USA from South Korea and the USA study abroad students in South Korea*

Year	# of Students From South Korea	% Change from Previous Year	# of U.S. Study Abroad Students Going to South Korea
2012/13	70,627	-2.3%	n/a
2011/12	72,295	-1.4%	2,695(up 8.4%)
2010/11	73,351	1.7%	2,487 (up 16.4%)
2009/10	72,153	-3.9%	2,137 (up 3.6%)
2008/09	75,065	8.6%	2,062
2007/08	69,124	10.8%	1,597
2006/07	62,392	5.7%	1,312
2005/06	59,022	10.6%	1,267
2004/05	53,358	1.7%	941
2003/04	52,484	1.9%	881
2002/03	51,519	5.0%	739
2001/02	49,046	7.4%	631
2000/01	45,685	10.9%	522
1999/00	41,191	5.1%	444
1998/99	39,199	-8.6%	479
1997/98	42,890	-	375

Data from *Open Doors Data* (Institute of International Education, 2012)

Taiwan

In the 2012/13 academic year, **21,867** students from Taiwan were studying in the United States (down 5.9% from the previous year). Taiwan is the sixth leading place of origin for students coming to the United States. The majority of Taiwanese students study at the graduate level. In 2012/13, their breakdown was as follows: 27.4% undergraduate, 49.7% graduate students, 7.3% other, and 15.6% OPT. Student numbers from Taiwan have been on the decline in recent years after peaking in 1993/94 with 37,581 students in the United States. Taiwan was the leading sender of students to the U.S. from 1987/88 until 1988/89, when China became the leading sender. The number of students from Taiwan has decreased gradually since then, falling by 0.3% in 2007/08 after two years of increases and by even greater percentages during the following years.

Table 6 *The relevant statistics of international students in the USA from Taiwan and the USA study abroad students in Taiwan*

Year	# of Students From Taiwan	% Change from Previous Year	# of U.S. Study Abroad Students Going to Taiwan
2012/13	21,867	-5.9%	n/a
2011/12	23,250	-6.3%	820 (up 0.7%)

2010/11	24,818	-7.0%	814 (down 4.2%)
2009/10	26,685	-4.9%	850 (up 42.4%)
2008/09	28,065	-3.2%	597
2007/08	29,001	-0.3%	578
2006/07	29,094	4.4%	467
2005/06	27,876	7.6%	367
2004/05	25,914	-1.0%	194
2003/04	26,178	-6.6%	195
2002/03	28,017	-3.2%	148
2001/02	28,930	1.3%	173
2000/01	28,566	-2.3%	182
1999/00	29,234	-5.8%	169
1998/99	31,043	0.6%	165
1997/98	30,855	1.2%	162
1996/97	30,487	-	144

Data from *Open Doors Data* (Institute of International Education, 2012)

Hong Kong

During the 2012/13 academic year, **8,026** students from Hong Kong were studying in the United States (down 0.1% from the previous year). Hong Kong is the seventeenth leading place of origin for students coming to the United States. The majority of Hong Kong students study at the undergraduate level. In 2012/13, their breakdown was as follows: 72.5% undergraduate, 13.1% graduate students, 5.3% other, and 9.2% OPT. The number of students from Hong Kong increased significantly throughout the 1980s and early 1990s, peaking in 1992/93, with just over 14,000 students and then decreasing steadily until 1999/2000. Since 2000/01, the number of students from Hong Kong has fluctuated, with a low of 7,180 in 2004/05 and a high of 8,329 in 2008/09 since the previous decade. The number continues to fluctuate, decreasing by 4% in 2009/10, followed by a 1% increase in 2010/11 and falling again by 1.3% in 2011/12.

Table 7 *The relevant statistics of international students in the USA from Hong Kong and the USA study abroad students in Hong Kong*

Year	# of Students From Hong Kong	% Change from Previous Year	# of U.S. Study Abroad Students Going to Hong Kong
2012/13	8,026	-0.1%	n/a
2011/12	8,032	-1.3%	1,474 (up 42.7%)
2010/11	8,136	1.3%	1,033 (down 13.6%)
2009/10	8,034	-3.5%	1,196 (up 3.5%)
2008/09	8,329	0.5%	1,155
2007/08	8,286	7.3%	1,093
2006/07	7,722	-1.6%	1,059
2005/06	7,849	9.3%	915
2004/05	7,180	-2.4%	748
2003/04	7,353	-9.0%	487
2002/03	8,076	4.1%	458
2001/02	7,757	1.7%	501
2000/01	7,627	1.1%	470
1999/00	7,545	-13.6%	342
1998/99	8,735	-9.6%	289

| 1997/98 | 9,665 | -11.7% | 181 |
| 1996/97 | 10,942 | -9.0% | 308 |

Data from *Open Doors Data* (Institute of International Education, 2012)

Singapore

The following shows that Singapore is listed as the 7th leading place in terms of the number of international students in Australia. Please see Table 9 for the details.

Table 8 *Degree Level, Top 10 Places of Origin for Australia, 2011*

Places of Origin	Top 10 Places of Origin	Total Number of International Students	Undergraduate Degree-seeking International Students	Undergraduate Non-degree-seeking International Students	(Post-)Graduate Degree-seeking International Students	(Post-)Graduate Non-degree-seeking International Students
#1	China	4,415	50,410	12,825	32,173	2,015
#2	Malaysia	2,751	13,619	796	3,339	219
#3	India	2,092	5,414	427	8,535	1,131
#4	Vietnam	1,727	6,122	1,762	2,932	151
#5	Indonesia	1,310	5,605	1,136	2,490	120
#6	South Korea	1,168	6,195	1,375	1,101	101
#7	Singapore	975	6,916	242	1,131	92
#8	Nepal	909	5,427	146	1,122	200
#9	Saudi Arabia	899	2,064	687	3,324	114
#10	Thailand	788	1,110	190	2,332	90
Total of All Places of Origin	**Total**	242,351	131,342	23,386	81,032	6,591

Data from *International Student Data 2013* (Australian Education International, 2013).

A Comparative Analysis of International Students

Regarding U.S. students studying abroad, about 32,340 U.S. students studied abroad in Asia in 2009/10, an 8.8% increase over the previous year, as can be seen in Table 9.

Table 9 *U.S. Study Abroad: 32,340 U.S. students studied abroad in Asia in 2009/10, an 8.8% increase over the previous year.*

Top 10 Destinations	2008/2009 Total	2009/2010 Total	% Change
China	13,674	13,910	1.7
Japan	5,784	6,166	6.6
India	2,690	3,884	44.4
South Korea	2,062	2,137	3.6
Thailand	1,462	1,231	-15.8
Hong Kong	1,155	1,196	3.5
Taiwan	597	850	42.4
Singapore	612	841	37.4
Vietnam	672	686	2.1
Cambodia	183	320	74.9

From the above, we have looked at the change of international students in Taiwan, Hong Kong, South Korea, and Singapore, and the trend of home students going international as well.

Concluding Remarks
Based on the above, four observations can be made as follows:

Firstly, in term of global talent competiveness as a whole, the order is Singapore, Hong Kong, Taiwan, and South Korea among the four Asian economies. According to Wong (2013), Singapore is also able to attract top foreign students and is strong in higher-level skills and formal education.

Secondly, according to the findings of the Global Talent Index Report, in terms of global talent competiveness of university education, South Korea (48.2) is in the leading position, followed by Taiwan (47.7), Singapore (38.2), and Hong Kong (37.6). This is due to the fact that in South Korea concentration of government financial support toward certain university that is noted for its research-oriented system, rest of other institutes begin to perceive the university as a representative example and focuses on imitating the universities' system(Shim, Park, and So, 2012).

Thirdly, in terms of the number of international students in the USA, South Korea is about 73,351, in the leading position among the four Asian economies. The main factors that encourage Koreans to study abroad are the following (Becker & Kolster, 2012): 1)The difficult access to high-quality higher education programs in South Korea; 2)The employ of unattractive teaching and learning methods at domestic institutions;3)The high recognizability, acceptance and value of degrees from foreign (mainly English-speaking) countries, among domestic employers and higher education institutions;4)South Korea's cultural, economic, educational, linguistic, historical, political and religious ties to other regions and countries, particularly those in East-Asia. These regions are thus likely to be particularly attractive study destinations for South Koreans; 5) South Korea's favorable economic climate, which enables many students to study abroad; 6) The willingness and financial capability of Korean students to study abroad; 7) The relatively high tuition fees charged by South Korean higher education institutions; and 8) The availability of some government-sponsored study abroad scholarships. Next to South Korea is Taiwan; the relevant number is about 24,818. Then the numbers of international students from Hong Kong and Singapore are 8,136 and 4,316, respectively.

Finally, in terms of U.S. study abroad, 32,340 U.S. students studied abroad in Asia in 2009/10, an 8.8% increase over the previous year. Among the four Asian economies, South Korea (2,137) is in the leading position. This is followed by Hong Kong (1,196), Taiwan (850), and Singapore (841). It appears that the government in South Korea has made the recruitment of international students and scholars to Korea a high priority. This is reflected in the actual number of international students in Korea, which went up from 22,500 in 2005 to close to 76,000 in 2009 (Becker & Kolster, 2012).

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A Review of Three Decades of Empirical Studies on Principal Time Allocation at Work: From the Perspective of Methodological Features

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Abstract
The allocation of school principals' time at work is more than a matter-of-fact issue of principal work efficiency and time management. It reflects the distribution of principals' attention to their responsibilities, thereby greatly affecting school management and improvement. The body of preexisting literature maintains that, "the allocation of greater attention by principals to certain task domains may offer greater leverage for school improvement than others" (as cited from Lee & Hallinger, 2011, p. 1; Hallinger & Heck, 1996; Leithwood, Louis, Anderson, & Wahlstrom, 2004). Therefore, principal time use is a terrain worthy continuous and in-depth exploration.

Keywords: Principal, Time allocation, Methodological varieties, Work activities, Synthesis

Introduction
Although early studies on principal time allocation at work can be traced back to the 1960s and 1970s (e.g. Bridges, 1967; Glenn, 1975; March, 1978; Richards & Peterson, 1965), the number of quality publications is anything but large. It is always there in the pool of empirical research, but has remained a relatively less explored sub-field of educational leadership research. Therefore it is not strange that the past few decades have witnessed the lack of synthesis of the studies on this topic. The methodological adventures of a few recent studies draws the readers' attention back to this nearly forgotten terrain again. Responding to the calls, the present study reviews relevant empirical research conducted from the year of 1980 and onwards from the perspective of methodological features and development. It involves 12 articles published in peer-reviewed journals in the past 30 years. In addition to the nature and size of the samples, research design, instrumentation, etc., this study particularly examines the analytical approaches and techniques of the selected literature, meanwhile conceptualizes and operationalizes the variables involved, where possible.

Search Strategies
The variety of key words combined to use for the retrieval of literature includes principal, headteacher, head master, time, time use, time allocation, tasks, work activities, etc. The sources vary. E-resources are searched thoroughly, such as ERIC, ProQuest, Google Scholar, the relevant online journals, and journals and books from the library catalogues of all university libraries in Hong Kong. After several rounds of search, 12 articles published in peer-referred journals across the time span of 30 years are identified as appropriate for the overview. In addition, 8 unpublished doctoral theses are also found relevant though they will not be included in the overview at this stage. Though a relatively small number of publications, the threshold for entry as high as such ensures the quality of works involved. Nevertheless, the author does not further narrow down the search results to those that explicitly explore principal time allocation. That is to say, principal time allocation is not necessarily the key variable. Empirical research will be the focus in the hope of reviewing the

methodological development in this field worldwide. The overarching methodology is more like a synthesis rather than a meta-analysis which aggregates findings across studies (Lipsey & Wilson, 2001; Robinson, LLoyd, & Rowe, 2008).

Since the body of selected research is relatively small that all but the one from Seid (2010) are include, which reads nothing but like a autobiographic magazine article. To conduct analysis of research methodology, the issues of data collection, analyses, and interpretation are addressed (Everhart, 1988; Hallinger & Heck, 1996; Kaplan, 1964). The review begins with research design, sampling and instrumentation, and then moves a step further to explore the analytical approaches and techniques. Limitations of these studies are also examined from different perspectives along the delineation.

Objectives of this review are as follows:
1. To identify the methodological varieties and characteristics studies in this domain have presented;
2. To pinpoint the strengths and limitations of the selected studies from the methodological perspective.

Principal Time Allocation at work: Methodological Issues

Research Design
All the selected studies employ cross-sectional non-experimental design. While seven out of the 11 follow qualitative paradigm of research methodology, 2 adopt quantitative approach to inquiry, and another 2 use mix-methods approach. All but one of them use empirical data from observational studies, and demonstrate descriptive and comparative findings based on the categorization of the principals' work activities and time used correspondingly. Although the present study does not incline to quantitative studies, substance like nature and purpose of principal work activities and time allocation that the qualitative studies explored in depth will not be of interest.

Sample Size and the Nature
Though limited, the body of literature well represents the diversity of cultural contexts to some extent. Of the 11 studies, seven are conducted in the United States, 2 in Australia, 1 in South Korea, and 1 in Malta. This may enlarge the spectrum of the methodological investigation though social context in which the studies are formulated and conducted will not be examined.

When it comes to sampling type, 6 of the studies use convenience samples, and 5 use purposive samples. The sizes of the convenience samples vary widely, ranging from a low of 3 to as high as 65 principals. In the 6 purposive samples the criteria for principal selection differ. While Chung and Miskel (1989) and Bezzina (1998) take into account gender and length of principalship in their studies, Parkes and Thomas (1998) do not consider these in their sampling procedure, nor do they take school size and location into consideration. Instead they follow Dinham et al's (1995) criteria to select principals who are identified effective at work and who are considered as effective by stakeholders (as cited from Parkes & Thomas, 1998). Measures of school and principal effectiveness, such as school Annual Report, certificate results, and community and parent perceptions are also considered. They end up with five principals from secondary schools of both urban and rural areas which have more than 700 students. While Chung and Miskel (1989) have five Korean secondary school principals from a large metropolitan area of very different cultures, Bezzina (1998) includes

eight Maltese primary school principals in the state sector. Martinko and Gardner's (1990) investigation further stratifies the sample of 41 principals according to the demographic and school environmental factors.

Some studies focus on principals from a single level of schools, i.e., elementary, secondary or high schools; others use principals from a combination of school levels (see for example, Goldring, Huff, May, & Camburn, 2007; Horng, Klasik, & Loeb, 2009).

Another concern is "the extent to which the sample represents the populations from which they are chosen" (Hallinger & Heck, 1996, p. 749). Among these international literature, Goldring and colleagues' (2007) research includes 46 principals from the whole population of schools in the district, to be exact, 29 elementary schools, 9 middle schools, 4 high schools, and 4 alternative/special education schools. Horng et al. (2009) also include principals from all the 41 high schools in the educational district, and meanwhile a sample of 12 elementary schools and 12 middle schools. Though no indication to the population, Camburn et al. (2010) include as many as 48 principals from a medium-sized urban district. With relatively small convenience samples, the few studies tend to include principals from diverse social and cultural backgrounds. A good example is Martinko and Gardner's (1990) study: they have five high school principals who "represent a variety of school types and community settings"; meanwhile school sizes and geographic distributions are also put into account (p. 70). Apparently the researchers attempt to counterbalance the limitations of nonprobability sampling in their research. In spite of the sampling deficiencies of each individual studies, when put together the deficiencies counteract and become less serious (Hallinger & Heck, 1996).

By and large the variety of the samples is proportionally distributed in terms of sample sizes and types, and school levels and types, hence the representativeness of the samples to some extent (Hallinger & Heck, 1996). However, this does not mean that the findings can be replicated or generalized across the entire populations in particular educational settings. Nonprobability samples such as convenience sample and purposive sample have, by nature, limited inferential power. However, the convergence of data from a large dataset represents compensating power (Jick, 1979)

Instrumentation
In the selected studies all but one use structured observation as the fundamental data collection instruments. Mintzberg's (1973) structured observation techniques are utilized in most cases, where they are not particularly mentioned, structured protocols are followed for data collection and analysis (see for example, Parkes & Thomas, 1998). Goldring, Huff, May, and Camburn (2007) make the exception. They have principals record their own work activities and time used for each activity on a web log at the end of each day, and use these self-report data instead of field notes recorded by observers for subsequent analysis. Camburnm, Spillane, and Sebstain (2010) also use web-based daily log as a principal self-administered instrument. Another exceptional case is Thomas and Ayres' (1998) study, which only employs structured non-participant observations. In contrast with it, all other studies use several other methods of data gathering, for example, exit interview, end-of-day briefing, questionnaire survey. In some cases there are interviews or meetings with the participating principals on an individual basis before the observation (e.g., Horng, Klasik, & Loeb, 2009). In some other cases the observers have a debriefing with the principals individually at the end of each day, to clarify the events happening in the day, and events that the observers are not supposed to be present observing on the spot (e.g., Chung & Miskel,

1989; Parkes & Thomas, 1998). 3 studies use questionnaire surveys to collect data from principals, teachers, parents and students (Goldring, Huff, May, & Camburn, 2007; Horng, Klasik, & Loeb, 2009; Parkes & Thomas, 1998; Walker, 2009). As Hallinger and Heck claim, "when preferred methods of sampling cannot be used considering the practical limitations, replication with various instruments becomes an important means of increasing confidence in findings" (Hallinger & Heck, 1996, p. 751). In this way validation of the findings can be evidenced through the triangulation of data from multiple sources.

On the other hand, in the observational studies the durations of observations differ, so do the intervals at which the field notes are recorded. On the whole principals in the selected literature are observed individually from as short as two days to a maximum of ten days. Generally the time length of the observation is five consecutive days, i.e. one week, and field notes are taken at 5-minute intervals. The observation is often conducted in the principal's office.

In most cases, there is one observer shadowing one principal. A notable exception is Horng, Klasik, and Loeb's in which seven pairs of researchers observe 65 principals in one week, and each observation lasts three hours. It is more flexible with the interviews: one of the studies (Parkes & Thomas, 1998) reports an average of 60-minute interview with each of the five principals after the observation. On account of the daily web log, the duration is both six consecutive schools days stretched over two weeks (Goldring, Huff, May, & Camburn, 2007; Camburnm, Spillane, & Sebstain, 2010).

Despite the fact that most studies use observation as the basic means to collect data, validity of the observational instruments are not particularly mentioned. The reason might be that, Mintzberg's (1973) structured observation which the large majority of studies have employed has long been established and extensively used. Early from 1970s, observational research has already begun to seriously examine how principals arrange their time at work (Bezzina, 1998; Blease & Lever, 1991). Gronn (2003) maintains that "observations are reliable because information is collected in real time, and observers are able to record events and details that participants themselves might forget or might not be aware of"; further, extended observation is believed to be "well suited to providing insight into the complexities of the work of leaders because it exposes researchers to the networks of leaders' interpersonal relationships" (as cited from Camburn, Spillane, & Sebstain, 2010, p. 4; Kotter, 1982; Sayles, 1964). Conversely, non-participant observation may undermine the accuracy of data, because observers often do not have a clue about events they see or hear the first time (Camburn & Barnes, 2004). A prior lead-in or brief clarification by the principal may stop the potential risk. A few of the studies also use questionnaire survey as key strategy for data collection. However, the lack of evidence of the construct validity of the questionnaires does not hold. Generally speaking systematic analyses of the instrument validity should be conducted prior to the data analysis. To compensate, match of data between various instruments may help improve the trustworthiness of the findings.

Analytical Strategies

Research Foci

No distinct conceptual frameworks are identified from the selected literature. Instead the 11 studies can be classified into three groups, namely, those explicitly examining principal work behavior and time use, those exploring the relationships between principal time allocation and variables like school outcomes, school context, and the rest that involve principal time use but

focus on some other themes. A few of them include, additionally, comparison to Mintzberg's theory of structured observation or effects of some other instruments.

Unit of Analysis

In studies that take qualitative approach, principals are often treated as individuals. By contrast in quantitative studies they are either considered as one group (e.g., Horng, Klasik, & Loeb, 2009), or divided into a few groups (e.g., Goldring, Huff, May, & Camburn, 2007). No matter what, where there descriptive and comparative findings dominate, the unit of analysis is usually a minute of time or the percentage of time spent on certain activities. In their 2010 study, Camburn, Spillane, and Sebstain employ multilevel modeling method, and the 48 principals, in terms of the average percentage of time they spend on each task category; all together represent one level in the hierarchical structure. This does not contradict the purpose of the research - to decomposite the variance between principals, in other words, to identify the extent to which the principals differ from one another in term of the time they spend on certain variety of tasks. In terms of surveys that aim to capture teacher or parent perceptions of principal work and time arrangement, the perceptions often count toward the principal measures (e.g., Walker, 2009).

Analytical Approaches and Techniques

Provided the lack of a common framework for analysis the subsequent synthesis will be conducted from the perspective of analytical approaches and techniques. Briefly, most of the studies do not aim at proposing or testifying any theoretical propositions or methodological approaches with respect to principal time allocation studies. Instead they all report descriptive and comparative categorical findings of the principals work activities and time allocated accordingly. It's especially true with the few qualitative studies that attempt to compare work activities of principals in quantitative terms. Principal role performance is generally systematized into major areas of responsibilities based on predefined frameworks, among which the most popular is Mintzberg's (1973) four basic records, namely, chronological, correspondence, contact records, and the analysis of purpose.

A few studies compare their findings either with those of previous studies, or across school levels, or with studies conducted in another country. For example, Kmetz and Willower (1982) find that "the elementary principals' pace was less hectic, and they spent more time on the instructional program" (p. 62). In their study, Chung and Miskel first group Korean secondary school principals' managerial behaviors on the basis of field notes they made during structured observations, and then compare the managerial behaviors of these principals with their American counterparts. Their comparative findings shed light on cross-cultural investigations in this field. Walker's study classifies instructional and managerial behaviors of the principals, and then compares the findings with the previous year. Finally She (2010) reports an overall 15% increase on average in principal instructional time from a year ago, meanwhile an average decrease of 15% of their time in performing management responsibilities.

The purpose of doing research is to construct theory or accumulate knowledge. However, the limited studies in this narrow field are still found a-theoretical at this stage. The early naturalistic inquiries into principal tasks at work and their time allocation are merely based on observational studies and have generated very basic outcomes. Although these studies meant to explore the nature and purpose of principal work as they emerge during content analysis, they represent more of replications across cultures rather than meaningful adventures into

unknown territories. In other words, though better at generating theories, qualitative approach itself is not enough for the generalization of research findings.

There is no clear watershed from which quantitative approach takes the place of qualitative method in this area of principal leadership research. However, qualitative approach predominates in the first two decades, as far as the selected literature is concerned. It is until the recent few years that quantitative approach surfaces the water and makes large-scale investigations possible.

On the whole, the over-reliance on descriptive and comparative analysis is less the case until very recently. In fact early in 1990, Martinko and Gardner have made the breakthrough by using profile analysis to explore the relationships between principal managerial behavior and performance, environmental and demographic variables. Profile analysis (Johnson & Wichern, 1982; Morrison, 1976) is a "multivariate technique which permits contrasts of multiple dependent variables with respect to their relation to two or more levels of an independent variable" (Martinko & Gardner, 1990, p. 337). In this study the dependent variables are two proportional measures, i.e., events per hour and minutes per hour of principal behavior for each of the five categories. On the contrary, principal time allocation to work activities is used as independent variable to predict school outcomes in Horng and colleagues' regression analyses. Goldring and colleagues (2007) use cluster analysis to identify principals who allocate their time and tasks in similar way, and then use discriminant analysis to find out the "individual characteristics and contextual conditions that best predict each principal's cluster membership" (p. 332). However, their study, like Camburn and colleagues' (2010) multilevel study, does not mean to identify the relationships between principal time allocation and any other variables. In a nutshell, although there happens to be variables, to name a few, principal time allocation, their individual characteristics, school demographics, included in these studies, they are used for different purpose while leading to different directions. In brief principal time use is not necessarily the key independent variable, and there are no common outcome variables in these quantitative studies. Hence the difficulty to conceptualize and operationalize the variables concerned.

Conclusion

To sum up, these selected studies are conducted in a variety of educational settings, with varied samples, using different instruments and techniques for data collection and analyses. They adopt cross-sectional non-experimental research design and generally use structured observation as the fundamental data collection instruments. They use either convenience or purposive samples, and the sample sizes vary to a large extent. The levels and types of schools involved vary from one study to another. The earlier studies focus on reporting descriptive and comparative patterns of the principals work activities and time used. Nonetheless advanced statistical methods, such as hierarchical linear modeling, are prevalent in recent few years. It is worth noting that, due to exclusive focus on articles from peer-refereed journals, the quality of the literature is ensured, whereas the number of them is limited. In addition, non-probability samples used in these studies also hinder the generalizability of the findings. Last but not least, it will be more appropriate to review the methodological development of studies in this sub-field on the premise of a common conceptual framework.

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Appendix: Selected Studies with Regards to Principal Time Allocation

No	Author(s)	Research	Country	Sampling type	Sample Size	Duration	Instrument for Data collection	Author(s)	Research
1	Martin, W. J., & Willower, D. J. (1981)	qualitative	USA	convenience	5 high school principals	observation: 5 days, Monday from Friday	● structured direct observation (Mintzberg, 1973) ● interview ● debriefing at the end of each day	1. principals' personal and organizational histories; 2. principals self-role perceptions; 3. principals appraisal of the main problems at work;	1. categorization of obsevational records: 4 basic records (Mintzberg, 1973) 2. comparison with Mintzberg's "theory"
2	Kmetz, J. T., & Willower, D. J. (1982)	qualitative	USA	convenience	5 elementary school principals	observation: one full work week	● structured observation (Mintzberg, 1973) ● interview before observation ● a brief session at the end of each day ● exit interviews daily log: recorded by the principals	4 basic records of structured observation (Mintzberg, 1973): 1. the chronological record (principal activities and time duration); 2. the correspondence record (printed or written material) 3. the contact record (all non-written contacts with others: the medium used, the purpose of the contact, the initiators and participants, location and duration) 4. the analysis of purpose (each activity is classified into 1 of the 5 categories).	1. categorisation of obsevational records 2. comparative analysis of elementary and secondary school principals' work behaviors

| 3 | Chung, K. A. & Miskel, C. G. (1989) | qualitative | Korea | purposive | 5 secondary schools from a large Korean metropolitan area | observation: 4 or 5 consecutive days | ● informal meeting
● structured observation (Mintzberg, 1973)
● interview
● final brief session | 1. individual attributes: principal gender, years of experience, and age,
2. principal tasks: activity, location, time and duration, participants, material used, rules or patterns, regulations, work flow and configuration of the schools;
3. district context: type of school, school; composition, and student socio-economic status;
4. documents: school plans, school books and principal resumes. | 1. categorization of observational records
2. comparative analysis of Korean and American secondary school principal |
| 4 | Bezzina, C. (1998) | qualitative | Malta | purposive | 8 Maltese primary school principals in the state sector | observation: 10 consecutive school days | ● interview
● observation | Two main properties - the duration and the frequency of activities, including duration, medium, purpose, location, personal contacts, and other factors that would contribute to knowledge about the content of their work, and the nature of their work | 1. descriptive analysis (percentage and duration of work activities)
2. exploratory analysis: nature and purpose of work |

| 5 | Parkes, S. E. & Thomas, R. (1998) | qualitative | Australia | purposive | 5 principals from a mixture of city and rural secondary schools | observation: 2 days

interview: 60 minute | ● unstructured
● private "debriefing" interview
● non-participative observation
● questionnaire surveys on work values | observed, agreed and espoused values, including:
1. Values related to interpersonal relationships
2. Values related to operational style
3. Values related to personal qualities/attributes | 1. comparative study of emergent values
2. validation of the values observed through the triangulation of data-gathering procedures
3. exploration of nature of the principals' observed behaviors |
| 6 | Thomas, R. & Ayres, J. (1998) | qualitative | Australia | convenience | 3 male principals in country high schools in New South Wales, Australia | observation: 4 working days for 2 principals, and 5 days for the 3rd princiapls; 6 hours each day
field notes: recorded in 5-minute interval. | ● structured non-participant observation ONLY | 1. place and nature of the interruptions;
2. frequency and time, and duration of interruptions;
3. the sources of such (the "interrupters") | 1. descriptive treatment of the data
2. comparative analysis with Philipp's (1990) report of the interruptibility of five primary school principals |

7	Goldring E., Huff, J., May, H. & Camburn, E. (2007)	quantitative	USA	convenience	Principal survey: 46 of the principals in one urban Northeastern district (response rate: 90%) Teacher survey: 2070 (response rate: 87 %)	end-of-day daily log: 6 consecutive school days stretched over 2 weeks	• daily web log • principal surveys • teacher surveys	1. individual attributes: the number of years of experience in school leadership, gender, and a report of the principals' assessment of the quality and impact of their professional development. 2. contextual measures: measure of the percent of disadvantaged students, the number of students, student engagement, teachers' average number of years for teaching, and student engagement.	1. cluster analysis 2. discriminant analysis 3. match of data between the principal surveys, teacher surveys, and daily logs
8	Walker, J (2009)	qualitative	USA	purposive	10 elementary, secondary and high school principals for 2007–2008; 11 more principal for 2008-2009	observation: 5 days; an average of 6 hours a day field notes: recorded in 5-minute increment	• observation • daily meetings • monthly meeting • parent, student, and teacher surveys	baseline and annual data of prinicipals' time collected	1. descriptive analysis of instructional and managerial behavior categories 2. comparison to Previous Year
9	Horng, E. L., Klasik, D. & Loeb, S. (2009)	mixed-methods	USA	convenience	All 65 high school principals in Miami-Dade County Public Schools.	observation: 1 week; 3 hours each day	• briefing • observation • teacher and parent survey: on district school climate	1. Principals' time use: on each of 43 tasks and six aggregate task categories; in each of five locations; 2. administrative data on schools, staff, and students: include school demographic variables such as enrollment, principal tenure at a school, and school performance; population of minority students and the number of students eligible for the Free	1. categorization of principal tasks 2. descriptive analysis 3. regressions

								and Reduced Price Lunch. 3. school outcomes: student achievement, student achievement gains in multiple years, teacher and parent assessments of the school, and teacher satisfaction.	
10	Camburn, E. M. Spillane, J. P. & Sebstain, J. (2010	methods	USA	convenience	48 principals in a midsized urban school district	observation: 6 days field notes: recorded in 10-minute increment	● structured observation ● daily log: web-based principal self-administered	1. leadership functions: principals' work as classified into major areas of responsibility; 2. Percentages of time leaders spend on different leadership functions estimated by daily logs and experience sampling instruments;	1. HLM 2. descriptive & comparative analysis on daily log and observation results comparisons with an experience-sampling instrument and direct observations
11	Martinko, M.J. & Gardner, W. L. (1990)	quantitative	USA	purposive	41 principals (elementary, junior high and high schools)	observation: a minimum of 3 days of observation; 6.7 days on average	● direct non-participatory observation (field notes taken minute-by-minute)	Independent variable: performance level, grade level, staff size, district size, geographic location, student SES Dependent variable: proportional measures of behavior for each of the 5 categories of work activities	1. profile analysis: principal time allocation as the dependent variable 2. reliability check 3. comparative analysis with those of other structured observation studies

Access and Equity of Female Students in a Globalized Context

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Abstract

Globalization of higher education has brought the issue of access and equity. The number of students competing to have access in higher education has increased rapidly under the back drop of constrained resources in terms of finance and capacity of the existing higher education institutions to accommodate this upsurge. This research uses quantitative and qualitative analysis to investigate access and equity among female students in higher education institutions in China and Kenya. Factors which influence female access in higher education for example, cultural and socio-economic; enrolment trends and students' representation in selected subjects were discussed. Policy issues were analyzed in terms of its role and effectiveness to address access and equity in higher education. The general trend of disparity has reduced significantly in China mainland, though; it has taken a different perspective. In Kenya, parity issue still has a long way to go, as there is relatively low enrolment of female students in universities. Gains have been realized in languages and human resource management. There are gender related policies in the two countries of study, though; more emphasis should be put on implementation and monitoring strategies.

Keywords: University female students, Access, Equity, China, Kenya

Introduction

The last three decades of reforms and opening up to the rest of the world, coupled with political stability has brought about drastic economic, educational as well as technological advancement in China (GU, et al, 2009; Zhao & Sheng, 2008; Chiu, 2008). The Chinese women in comparison to other women in the East Asia region have not been left behind in this pursuit for knowledge advancement in higher institutions of learning (Hooper, 1991).

During the 1995 international women conference held in Beijing, every participating country showed a commitment to improve the participation of women in higher education (BPFA, 1995). This participation can only be realized through increased access and equity of women in various fields of higher education. Whereas China has attained mass higher education, Kenya is still struggling to realize the dream of Education for All (EFA) (Hughes & Mwiria, 1990; Teferra, 2001).This research therefore investigates access and equity issues among Chinese and Kenyan female university students.

The study investigates how much gain has been realized among university female students in China and Kenya. The researcher has spent a considerable length of time in China, coupled with previous experience in Kenyan University setting, developed a keen interest to study the actual progress made by female students in the two countries of study.

The research also analyzes related educational policies put in place to help address access and equity issues. The main objective is to investigate factors which influence access and equity among female university students in China and Kenya, and to determine existing policies and

their effectiveness. To help the researcher address the objectives, the following questions were of paramount importance:

1. What are the factors influencing Chinese and Kenyan female students' access in higher education?
2. Is there any parity in access between the Chinese and Kenyan female students in higher education? What lessons can be learnt from existing parity/disparity?
3. What are the implications of the trends in Higher Education Institutions in China and Kenya to the global trends?
4. What policies are put in place to address female students' access issues?

Methodology

The study employs both quantitative and qualitative research approaches. The qualitative aspect enabled the researcher to make use of descriptive analysis, reasoning from a specific situation to a general conclusion (Wiersma & Jurs, 2004). The researcher followed the naturalist paradigm by conducting the research in a natural setting (Talesra, 1989). The qualitative analysis was used in the interview schedules and literature review. Some qualitative feminist researchers argue that qualitative methods are more feminist than quantitative (Kasper, 1994; Talesra, 1989; Hooper, 1991).

The quantitative aspect involved giving questionnaires to respondents and analyzing the data collected using percentiles. The research involved purposeful sampling. The two universities were purposefully sampled due to their similar historical background of teacher (normal) University. For ease of reference, the Chinese university is here referred to as 'Mercury University' (MU) and the Kenyan University referred to as 'Venus University' (VU).

Six hundred questionnaires were distributed to MU and VU respectively. The turn-over was five hundred and twenty for MU and four hundred and eighty for VU. There were 510 and 474 usable questionnaires from MU and VU respectively. That gave the researcher a percentage turnout of approximately 85% for MU and 79% for VU. The researcher used random sampling to select ten students each from Mercury and Venus Universities for the interview. The study took about one and a half years.

Literature Review

Analysis of Chinese and Kenyan Higher Education Systems
This section gives a brief analysis of Chinese and Kenyan higher education systems in terms of structure and how it influences access to higher education. Clark (1983) views higher education system in a broader sense to include any of the population engaged in postsecondary education activities, either as controllers, organizers, workers, or consumers (Clark, 1983). Hughes and Mwiria (1990) underscored the critical role education system plays in legitimization of rules governing distribution of rewards in a society. They argue that education system is the mechanism that permits some people from society's lower ranks, access to positions of privilege (Hughes & Mwiria, 1990). They concur with other researchers who argue that because the distribution of the opportunity for secondary and tertiary education is tantamount to distribution of future economic and status benefits, acceptance of the validity by which the educational system sanctions and subsequently allocates the access to educational opportunity is critical (cited in Hughes & Mwiria, 1990; Goedegebuure, et al., 1994; Sen, 2008).

In 1952, the Chinese higher education system adopted the Soviet model, and most of the colleges and universities became highly specialized, focusing on subjects like law, medicine, finance, trade, textile industry and coal mining (Ma, 2009a; Yang, 2007; Law, 1995). The labour-force were mainly male predominated, thus, those who were being admitted to those courses were predominately male (Hooper, 1991).

Currently, Chinese tertiary education comprises degree and non-degree courses (Zhao, Zhao & Wu, 2008; Yang, 2007; Gu, et al., 2009; Hooper, 1991). Education is assigned a major role in development and is supposed to perform the functions of promoting social equity and nurturing talents (Mak, 1996). Due to the current diversity in the nature of Chinese higher education system, coupled with free compulsory education up to grade nine, more female students have a chance to pursue higher education (Hall & Lewis, 2008; Hooper, 1991).

In Kenya, the 8-4-4 education system expanded the secondary curriculum to include a number of practical subjects that are vocational in nature with the aim of enhancing the transition from secondary graduates into the world of work as well as opportunities for further training in relevant post-secondary fields (Kilemi, 2005; Osoro, et al., 2000). Most of the vocational subjects are putting emphasis on male dominated subjects like engineering; thus creating a widening gender gap (Okwach, 1999), and yet the main objective of the system was to reduce gender disparity.

China and Kenya have striking similarities and differences in their higher education systems. For instance, the rapid expansion in student enrolment and the proliferation of universities during the last few decades (Hughes & Mwiria 1990; Mak, 1996; Zhao & Sheng, 2008; Gu et al., 2009; King & Hill, 1993), and the establishment of private universities meant to help bridge the gap in government institutions; but which have faced a lot of limitations (Mwiria, 1990; Okwach, 1999; Zhang & Sheng, 2008).

International Adaptation for Equal Access in Higher Education

Women's higher education in the United States emerged in the middle of the 19th century. It broke the monopoly of men in higher education and started a new era for women's education (Niu, 2009, McClelland, 1992; Talesra, 1989). This new era in education was not an easy task as McClelland (1992) explains. She argues that the era of the "college woman" begun in 1837, when the first woman was granted a baccalaureate degree. However during that time, that 'first' woman was unable to read her graduation address since women were not allowed to speak in public (McClelland, 1992). Study carried out by Luo (2008) points out that the admission of women in higher education institutions in China started with the development of the society coupled by the liberation movement engineered by education reformers during the 19th century (Luo, 2008; Talesra, 1989). During the United Nations Beijing Declaration and Platform for Action (1995), education researchers were challenged to design and implement education strategies that institutionalize gender equitable development (UNO, 1995, p.1-4).[1] UNICEF's "multiplier effect" also emphasizes getting girls into schools and ensuring that they stay there (UNESCO, 2011). Proponents of a "multiplier effect" argue that educating a girl dramatically reduces the chance that her child will die before age five. Furthermore, educated girls are likely to marry later and have fewer children, who in turn will be more likely to survive and be better nourished and educated. Educated girls are more productive at home and better paid in the workplace. They are more able to participate in social, economic

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[1] Beijing Declaration and Platform for Action: Fourth World Conference on Women, 4th-5th Sept., 1995. (http://www.un.org/womenwatch/daw/beijing/prf/BDPfA%20E.pdf) Accessed on August, 28, 2009.

and political decision-making (UNESCO, 2011; Bailey, 2007; McClelland, 1992; Talesra, 1989).

Policies, Access and Equity in Chinese and Kenyan Higher Education Institutions
In 1978, the Chinese government adopted the policy of open reform to the world and changed the country's economic development from the planned economy to the market economy. As a result, Chinese universities were mandated to accept individual funds for development. Private universities and colleges became part of the Chinese higher education system. The emergence of private universities and colleges in China indicated a shift to quasi-market-based solutions to major domestic policy challenges in higher education (Ma, 2009; Yang, 2007). In 1992, the national government adopted formal policy to merge universities. This was to increase institutional efficiency and better manage future costs. Specialized colleges were merged as the ideal choice to develop comprehensive universities. Currently, many Chinese universities have more than one campus. The assumption of the public multi-campus system is to provide easy access to students and to meet the need of the local or regional economy (Ma, 2009a; Yang, 2007).

The policy of free university education for those who are willing to train as teachers and go back to their rural villages after graduation allows more female students to get admission to the university. It also helps to bridge the gap of rural-urban or geographical regions as students from rural areas and different geographical regions are the majority of the beneficiary of this policy. The one child policy has encouraged 'sex selective abortion', where many couples voluntarily decide to abort baby girls in favour of boys. This could be seen as having a negative impact on equity issues in China's higher education. In major cities like Shanghai and Beijing, there are more boys than girls being born in current household families. The underlying issue is that the one child policy has created 'pre-natal' gender inequality. The 2013 plenary session where one child policy was eased may reduce the prevalence of 'pre-natal' inequality (CCTV News, 2013).

The Policy Framework (Republic of Kenya, 2005a), deals with equity and states that education and training must embrace equity issues such as equal opportunities for all, access, retention and completion (Republic of Kenya, 2005a; IPAR, 2008). Though the current policy clearly gives emphasis to equity issues as concerns the education of female students, the factors limiting their chances of access to higher education has not been fully addressed (Eshiwani, 1989). The 2007 Devolved Fund Policy by the Kenyan government allows students from less economically viable regions and the less privileged access to education. Though, report by IPAR revealed that the policy has been ineffective. This has led to low retention rates of children from financially disadvantaged households, thus raising inequity issues (IPAR, 2008).

Admission policy to certain courses at the universities allows female students to be admitted with one percent point lower. This encourages more female students to gain admission in public universities (MoE, 2007). The state central-planning model was also embraced by the Kenyan government until the mid 1990s. The head of state was the titular head of the university system as the chancellor of all public universities and steered the universities in specific policy directions through appointment of vice-chancellors who supported the government positions (Nduko, 1998). Admission decisions are still centralized under the Joint Admissions Board (JAB) which collect data on prospective students' high school performance and use them for university admission decisions (Munene & Otieno, 2008; Nduko 1998).

Research Findings
This section reports the results from the analysis of questionnaires and the responses from interview questions.

Enrolment Trends in Chinese and Kenyan Higher Education Institutions
China has registered a dramatic enrolment in female students after revolution (Mak, 1996; Luo, 2008; Zhao & Sheng, 2008). The number of students enrolled in the state owned universities has increased tremendously, though there seems to be disparity in the subject areas of specialization (Sen, 2008; Mak, 1996). In Kenya, public universities expansion started with the 1981 Presidential Working Party which recommended the setting up of a second public university. The public universities enrolment surged from about 2000 students in the 1980s to over 40,000 in the mid 1990s (Okwach, 1999). Private universities have played a major role in addressing gender equity and access in higher education (Munene & Otieno 2008). Enrolment of female students in Kenyan private universities exceeds their male counterparts and in public universities, it is the reverse. This could be a reflection of the high socio-economic status of students in private universities and as a result, could open up new avenues of inequality.
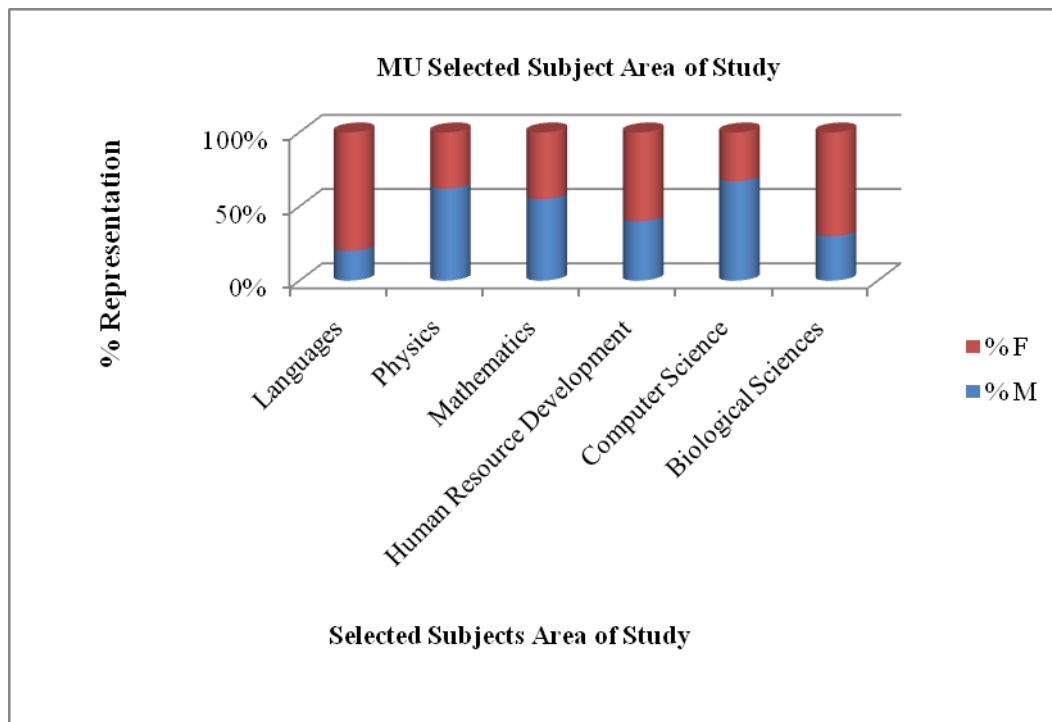
Figure 2.1: MU Students' Enrolment in Selected Subject Areas by Gender. Adapted from *MU Archives database*.

In China, girls' enrolment in public 'normal' universities surpasses boys in most areas. This research confirms this trend as illustrated in (Figure 2.1). In normal universities, where majority of female students are majoring in education, the enrolment of girls in science related subjects are almost reaching parity. The data from MU archives reveals that the number of boys and girls doing mathematic during the academic year 2008/2009 are almost reaching parity level and that more female students were doing biological sciences (Figure 2.1).

Analysis of VU students' enrolment shows that the number of males in public universities still surpasses that of females. More male students are still enrolled in courses like Mathematics, Computer Sciences and Biological Sciences, though more female students are enrolled in Languages and Human Resource Management (Figure 2.2). Chinese and Kenyan universities both have converging and diverging areas. Before the 1990s, the public higher education in China and Kenya were highly centralized and heavily financed by the government (Okwach, 1999; Gu et al., 2009), though high concentration of female students in education courses is prevalent in China.
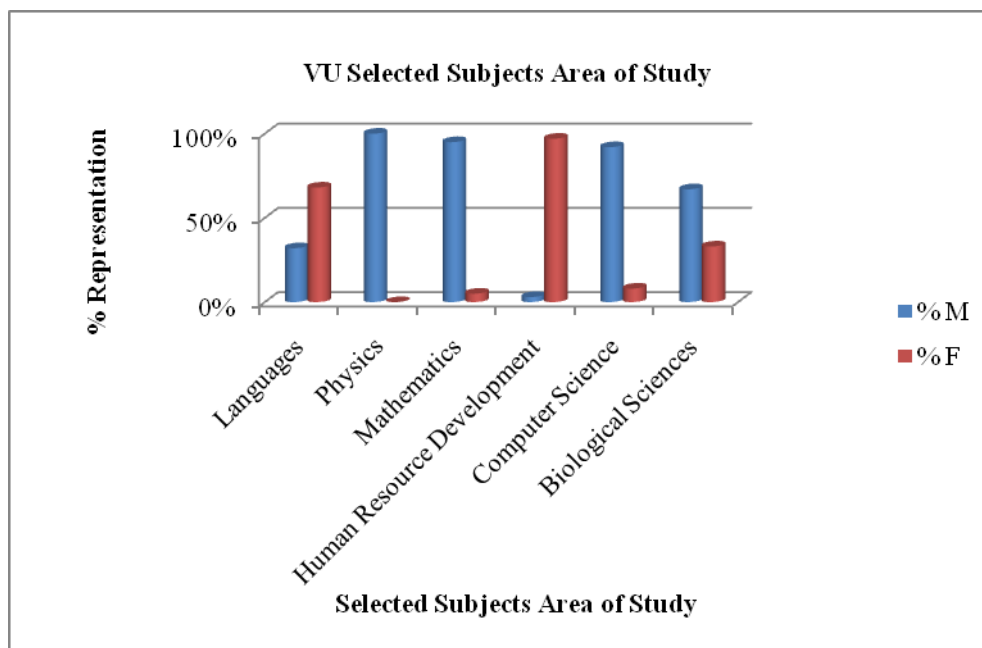

Figure 2.2: VU Students' Enrolment in Selected Subject Areas by Gender. Adapted from *VU Archives database*.

School Environment and Socio-Economic Influence

This section reports the findings on how school environment and socio-economic factors can interact to influence female access to higher education, the respondents were asked to fill a questionnaire with multiple choices with answers ranging from "I strongly agree, being the highest of the scale "5"; and "I strongly disagree" being the lowest in scale "1". The results of the respondents are tabulated in appendix 1 and 2.

Majority of respondents from Mercury University "agreed" or "strongly agreed" (65%) that being born either in town or rural area has some influence on the opportunity to have access to higher education (Appendix 1). They also "agree" or "strongly agree" in areas like female and male teachers giving them the same attention (74 & 76 % respectively); early marriage interfering with their chances for advancement in higher education (68%); Whether or not rural children have less chance for education (88%). Majority of the respondents from MU either "disagree" or "strongly disagree" in areas like family responsibility hindering their chances of attaining higher education (72%), whether or not they had enough time to prepare for college entrance examination (81%), and the fact that they spend more time doing household chores (92%).

Respondents from Venus University (88.6%) either "agree" or "strongly agree" that being born in town or rural areas has some influence on the opportunity to have access to higher education. Most respondents from VU "agree" or "strongly agree" that family responsibility

influenced their chances of university admission (73%) and that male teachers have positive attitudes towards students (85.5%) (Appendix 2). The respondents from VU either "disagree" or "strongly disagree" with the fact that female teachers have positive attitudes towards the students (69%); early marriage would interfere with their chances for advancement in higher education (80%) and that they had enough time to prepare for college entrance exams (98.3%). A higher percentage of respondents from both MU (88%) and VU (93.3%), "agree" or "strongly agree" that attaining higher education is important and is related to a sense of autonomy, personal development and self-reliance (Appendices 1 & 2).

Interview Results

The interview questions were mainly meant to get an in-depth understanding of socio-economic situation of the respondents and the impact of culture on their educational attainment. The interview lasted for about one hour and was administered between September and November 2010 in China and Kenya respectively.

The interview questions were tape-recorded and then transcribed word verbatim. Coding was also used to analyze sentences in terms of major thematic areas. Major themes like access, socio-economic background, and geographical area, social and cultural factors were identified as main factors which influence the access of female students in higher education. Other factors, including choice to take a given course of study, general attitude, and the future career advancement by the respondents were also identified. The findings are reported below using pseudonyms for interviewees' names. One of the respondents from MU, Li had this to say:

> *"In China, majority are single child family. In case the family has only one child, there are more chances that the child will have an opportunity to attend school. There are a lot of regional disparities for instance Anhui province cannot be compared with developed provinces like Zhejiang or Jiangsu, and at the same time there are much poorer regions. In poorer regions, parents' attitudes towards boy/girl child attending school are not the same. Parents prefer boys to receive more education since boys study better and have continuous progress while girls' academic progress is not definite. Most girls in the rural areas after high school will look for casual labour or opt for marriage".*

She also demonstrated that male students after graduation have better opportunity of getting employed due to their subject specialization. The same sentiments were shared by most of the interviewees. Liu mentioned:

> *In major cities the percentage of girls being admitted to universities is very high. There is no major difference between boys and girls because of the policy of single child family. But when it comes to employment, employers prefer boys to girls.*

Students' interviewees from Venus University contend that as far as family relationship is concerned, there is no direct favouritism by the parents (80%), though girls are more susceptible to domestic work than boys. One of the interviewee, Ruth stated:

> *I remember when I was in primary school, my father was doing casual work in one of the towns and my mother was doing small business. Even though I was younger than my elder brother, it was me who could prepare lunch. In the evening after school, I had to go and fetch water from the river, firewood and come back to prepare supper. My brother could*

only go to the market place to bring food which mom had bought. While I was busy with household chores, he was busy playing with his friends or doing school assignments!

When asked whether teachers in high school treat all students alike, one of the interviewees from Mercury University retorted:

Superficially, there is a lot of equality. But when you ask a question, the teachers will always think that boys have more potentiality. I am doing pure science, so during my high school, most of our teachers were male and they were more willing to look for boys to discuss with them matters concerning their academic progress, but for girls they could not do the same.

Discussion of Research Findings

Introduction
This section focuses on the analysis and discussion of the research findings with emphasis on cultural, socio-economic, and school environment based on questionnaires and interview results. The research revealed that majority of students receives higher education at the appropriate age group, despite the fact that few from Kenyan VU receive higher education at a relatively later age[2]. For instance 100% of students from MU indicated that they were within the required age-cohort as compared to 95% of respondents from VU.

Subject of Study
The major area of specialization for student determines the kind of jobs they get in future thus the ability of their purchasing power and economic growth (Bhatt & Sharma, 1992). Most respondents both in MU and VU major in languages and social sciences. This implies that they will not get employed in the country's top echelon jobs. This finding confirms assertions of other researchers that globally, majority of female students in the institutions of higher learning are concentrated in languages and social sciences (Hayhoe, 1991; Hooper, 1991).

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[2] The appropriate age for undergraduate students in institutions of higher education is between 21-25 years (PDF: Age Equality and Admission to Higher Education—Equality Unit Challenge (EUC), Sept. 2007, 3-4; http://www.ecu.ac.uk/publications/files/age-briefing.pdf/view
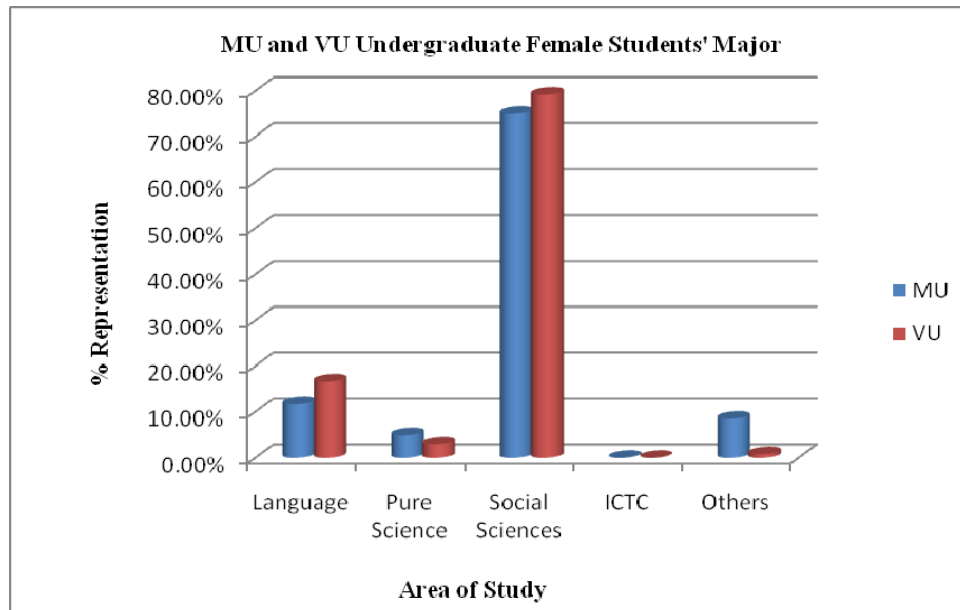
Figure 4.1: MU and VU Female Students' Majors in some selected subject areas, data from *archives.*

There still exists parity in subject areas of study (Hooper, 1984), though, female students in MU are tending towards parity in some specific subject areas and in other disciplines, they have surpassed male students (Figure 2.1). This confirms earlier research findings that the Chinese leading technological universities, female students comprise of less than 20% of the total students but up to half the enrolment in provincial and teachers' universities (Hooper, 1991; Mak, 1996). Other researchers also contend that currently, there is positive achievement of girls and women which is being replicated across the globe in countries where girls have equal access to education (Boaler & Sengupta-Irving, 2006).

Some interviewees from MU and VU agree that even though they can improve their performances in the sciences, male students will still do better in these subject areas. Their sentiments support Galton's argument that "women tend in all capacities to be inferior to men" (cited in Lewin & Wild, 1991). They also contend that even in teaching profession, male graduates have relatively better chance in getting employment because they are few in the profession thus they will be given first priority when it comes to employment. Though, they assert that as compared to other areas of employment, female graduates are more likely to be employed in the teaching profession (Hooper, 1991). One of the interviewees felt that in employment so long as you have the ability you will definitely get employed, but she also agrees with others that there is an element of male graduates standing a better position when it comes to employment. This indicates a shift of attitudes towards employment and self-image in girls. For instance, Unger argues that women took time before they were incorporated into major offices (Unger, 2001).

Majority of interviewees from Mercury University agree that their parents had less influence on their area of specialization, though they tend to think that the kind of work their parents do determined their chances of attaining higher education (Zhang, Zhang & Wu, 2008). Parents' economic status strongly influences a female child's ability to benefit from higher education. This influence ranges from the capacity to sponsor their children in self paying programs, to giving them a favourable learning environment during their early years of schooling (King & Hill, 1993).

School Environment and Socio-Economic Influence
The respondents were asked to fill a questionnaire on a Likert scale with answers ranging from "I strongly agree, being the highest on the scale "5"; and "I strongly disagree" being the lowest on the scale "1". The results on the Likert scale revealed similarities and differences among the two groups of respondents. The most striking differences were in the areas like the attitudes of female teachers towards the students and the impact of early marriage on their study progress. While majority of respondent from MU either agree or strongly agree that female teachers treat them well (73.9%); only 16.9% of respondents from VU either agree or strongly agree that they are accorded good treatment by female teachers. Despite a feeling of equal treatment by the majority from MU, a few interviewees indicated that male teachers would rather look for male students to discuss academic matters. This confirms the findings of Hooper, that some of the cultural attitudes are very hard to eliminate (Hooper, 1991). The role of female teachers in the lives of these young scholars as role models is necessary (Leathwood, 2006). Female students lack role models when it comes to specific area of specialization as the interview revealed that most subject areas are dominated by male teachers.

Striking differences were evident in the influence of marriage on career advancement; family responsibilities hindering their chances of attaining higher education; and available time to prepare for college entrance examination as well as doing homework. This implies that, generally the female students from MU have more opportunities of getting university admission than students from VU who indicated that they did not have sufficient time to prepare for college entrance examinations.

Conclusion and Recommendations

Conclusion
Female students have managed to narrow the disparity gap as more are admitted to institutions of higher learning (Hooper, 1991; Hayhoe, 1991; Mak, 1993). In China, in the teaching profession, they are the majority studying a variety of science oriented subjects like Mathematics and Biological Sciences, though more are still concentrated in social sciences and language based courses (Figure 2.1). The increase in the number of female students taking courses like Math, Biology and Chemistry in China, more so in normal universities, will in future act as an encouragement and motivating factor for other female students who want to specialize in these subject areas. The Kenyan female students still continue to lack role models in sciences as revealed in the interview responses and the general low representation of female students in science oriented subject in this research (Figure 2.2).

In both cases, there is an element of autonomy where universities are allowed to formulate their own institutional policies and long term development plans, selecting textbooks and organizing teaching activities (cited in Yang, 2007; Ngome, 2007). The hurdle where textbooks were seen as a barrier to female students' access to higher education has been eliminated by the two countries of study. Nowadays you can see the cover of a science textbook having both girls and boys holding the pipette or manipulating Bunsen-burner. This acts as an encouragement to the students and prepares them psychologically that both students, irrespective of gender differences can study all subjects.

The introduction of free primary education (2003) and free tuition secondary education (2008) in Kenya has also given more girls chance to advance in their studies. Though, as revealed in the study, there are still a lot of disparities when it comes to disaggregation of schools into

different levels as national, provincial and district schools. This gives the students unequal opportunities when it comes to their learning experiences. In Kenya there are very few girls' national schools. Majority of girls are admitted either in provincial or district schools which are not well equipped. These act as instigating factors towards their general low performance in the university entrance examinations.

Various gender policies have been incorporated to help in the two countries of study. The problem is with the implementation of these policies as a result of lack of laid down procedures for implementation and monitoring. In China, the disparity gap seems to be closing up with the girls being given equal treatment by parents, though; there are regional variations. For example, this study concurs with earlier research findings that a notable disparity still exist in the rural areas where families still have chance to give birth to two children and the living standards there are not well developed in comparison to most cities in China. This has brought about disparity in terms of the number of students from rural areas joining top national universities and girls are the ones who are seriously affected (Chiu, 2008). The single child family phenomenon has helped in bridging the general inequality gap as more parents try to give their only child the best education, though employment opportunities and promotions to top government offices still have serious elements of disparities (Hooper, 1991).

Recommendations

Factors like education system, socio-cultural, and policies need to be considered. Ensuring that schools are well equipped irrespective of whether they are national, provincial, or district schools will ensure fair competition for all the students during their preparation for college entrance examination in Kenya. The Kenyan students after sitting for university entrance examination have to wait for at least one academic year before they are admitted under the Kenya Universities and Colleges Central Placement Service (KUCCPS). This period of waiting is challenging more so for the girls. Most girls, due to lack of appropriate plans during this grace period, coupled by cultural expectations, end up getting married. Re-introduction of the youth program of the 1980s to keep the high school graduates busy while waiting for the college intake or direct admission after college entrance exams' results will help reduce the number of girls who opt for marriage before joining college. Currently, the least period a student admitted through the KUCCPS can take before starting the study is one academic year, which is indeed a long period of time academically.

The disparity gap created as a result of subject areas of specialization, employment opportunities and promotions to top government offices can only be solved using long term strategies. It is not something that can be achieved through policy declarations, though policy is needed to ensure this smooth transition from exclusion to inclusion. Female students should make in-roads in subject areas like engineering, medicine and law. Apart from that, there is need for mutual understanding and collaboration between the policy formulation and implementation procedures. Implementation of policy issues is just another side of the coin, but the most important point is having pragmatic approach at the university level by putting more emphasis on girls studying sciences and technologically oriented subjects.

Limitation of the Study

The study comprised of a minimal number of respondents. But due to the fact that the respondents were randomly selected, it is believed that the result is a true representation of the real situation. Teachers would have been interviewed to help bridge some of the knowledge gap. This was not possible due to the time factor. Finally, availability of data

posed problems, but this was resolved through official procedures which enabled the researcher to obtain necessary data from the two universities of study.

Suggestions for Further Research
A comparative study between male and female students based on selected subject areas
1. A comparative study based on the coping strategies of female students in China and Kenyan universities
2. A longitudinal survey on retention and graduation rates.

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Appendix

[Appendix 1]: MU School Environment and Socio-Economic Influence (N=510)

Contents	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Total	%	Total	%	Total	%	Total	%	Total	%
1. Children born in town have better chance for education	77	15	85	16.7	17	3.3	101	20	230	45
2. Rural Children have less chance for education	21	4.2	77	15	21	4.2	94	18.3	297	58
3. Early marriage may hinder my education	26	5	47	9.2	91	18	168	33	178	35
4. I had a lot of Chance for University study	221	43.3	166	32.5	12	2.5	77	15	34	6.7
5. My Parents gave equal chances to my siblings	21	4.2	9	1.7	41	8	142	28	297	58
6. Family Responsibility Influenced my Performance	297	58	115	23	17	3.3	47	9	34	6.7
7. I had enough time to prepare for college entrance exam	255	50	158	31	9	1.8	46	9	42	8.2
8. Parents work influenced my University Admission Chance	220	43	168	33	19	4	61	12	42	8.3
9. I've enough time for doing assignments	16	3.2	30	5.8	41	8	168	33	255	50
10. Doing household chores	194	38	214	42	34	6.7	42	8.3	26	5
11. Male Lecturers have positive attitude	10	2	32	6.3	80	15.7	168	33	220	43
12. Female Lecturers have positive attitude	11	2.2	32	6.3	90	17.6	183	35.9	194	38
13. University Education, freedom & Personal Development	6	1.1	20	3.9	51	10	168	33	265	52

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
14. University Education & a sense of autonomy	6	1.2	10	2	35	6.8	194	38	265	52
15. Acquisition of advanced Knowledge & self- reliance	9	1.8	12	2.4	40	7.8	107	21	342	67

[Appendix 2]: VU School Environment and Socio-Economic Influence (N=474)

Contents	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Total	%	Total	%	Total	%	Total	%	Total	%
1. Children born in town have better chance for education	10	2.1	32	6.8	12	2.7	198	41.8	222	46.8
2. Rural children have less chance for education	11	2.3	18	3.8	28	5.9	147	31	270	57
3. Early marriage may hinder my education	237	50	142	30	38	8	30	6.3	27	5.7
4. I had a lot of chance for University Study	231	48.7	138	29.1	47	9.9	37	7.8	21	4.4
5. My parents gave equal chance to my siblings	12	10	10	8.3	6	5	28	23.3	64	53.3
6. Family responsibility influenced my Performance	213	45	128	27	47	9.8	43	9.1	43	9.1
7. I had enough time to prepare for College Entrance exam	300	63.3	166	35	3	0.6	3	0.6	2	0.4
8. Parents' work influenced my University Admission Chances	24	5.1	30	6.3	50	10.5	171	36	199	42
9. I've enough time for doing assignments	161	34	166	35	37	7.8	63	13.3	47	9.9
10. Doing household chores	275	58	161	34	20	4.2	10	2.1	8	1.7
11. Male Lecturers have positive attitude	18	3.8	20	4.2	30	6.3	142	30	264	55.8

12. Female Lecturers have positive attitude	236	49.7	101	21.3	57	12	54	11.4	26	5.5
13. University Education, freedom & Personal Development	4	0.8	6	1.3	17	3.6	128	27	319	67.3
14. University Education & a sense of autonomy	3	0.6	7	1.5	14	3	128	27	322	68
15. Acquisition of advanced knowledge & self-reliance	2	0.4	3	0.6	3	0.6	158	33.3	308	65

[Appendix 3] Access, School Environment and Economic Influence

This sub-section comprises multiple choices ranging from "I strongly agree" to "I strongly disagree", in a scale of 1 to 5. With "I strongly agree" being the highest, '5' and "I strongly disagree being the lowest in the scale, '1'.

Kindly tick (√) whichever is applicable to your case:
1…….Strongly Disagree (SD)
2…….Disagree (D)
3…….Neutral (Neither Agree nor Disagree) (N)
4…….Agree (A)
5…….Strongly Agree (SA)

Content	SD				SA
	1	2	3	4	5
1. Children born in town have more chance of receive Education	1	2	3	4	5
2. Children born in rural areas have little chance to receive Ed.	1	2	3	4	5
3. Early marriage would hinder my chance of University Ed.	1	2	3	4	5
4. I had a lot of chance for University study	1	2	3	4	5
5. My parents gave equal study chance to my brothers and sisters	1	2	3	4	5
6. Family responsibility influenced my chance for university admission	1	2	3	4	5
7. I had enough time to prepare for university entrance exam	1	2	3	4	5
8. The kind of work done by my parents influenced my chance for university admission	1	2	3	4	5
9. I have enough time to do research on my assignment	1	2	3	4	5
10. I sometimes spend time doing chores like washing clothes, preparing meals, etc while in campus	1	2	3	4	5
11. Male lecturers have a positive attitude towards helping students with their assignments	1	2	3	4	5
12. Female Lecturers have positive attitude towards helping students with their assignments	1	2	3	4	5
13. University education brings about freedom and personal development	1	2	3	4	5
14. University education will give me a sense of autonomy	1	2	3	4	5
15. Acquisition of advanced knowledge and technology enables me to become self-reliant.	1	2	3	4	5

[Appendix 4]: "Access and Equity of Female Students in University Education: A Comparative Study of China and Kenya" Interview Questions

Interview Questions

Personal Information
1. Age:　　　20 years & Below □　21-25 □　26-30 □　　31-35 □　36 and above □
2. First Degree (Major): …………………………………………………………...
3. Area of Specialization: ………………………………………………………..

Access/Equity Issues
1. Madam, how can you describe your childhood background?
2. What do your parents do to earn a living?
3. How can you describe economic status of your parents
4. Among your parents, whom do you think had the major influence on your choice of subject area of specialization?
5. Will you be able to graduate in time?
6. What are you planning to do after graduation?
7. Have you considered having a family in the near future after graduation?

END

THANKS FOR YOUR COOPERATION!

Assessment of Affective Objectives under the New Curriculum Reform in China

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Abstract

This study investigated 1,500 volunteers from three lower secondary school students in Gansu Province, China, to explore an adequate assessment tool of affective objectives under the New Curriculum Reform implemented in China since 2001. Key elements of affective objectives were summarized from subject-specific curriculum standards. The assessment tool utilized a self-report method based on the Values in Action Inventory of Strengths containing 64 items of 16 important affective characteristics. Results: The final affective objectives questionnaire containing 30 items was adopted after exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Six key affective characteristics were fairness, integrity, judgment, open-mindedness, energetic, and love of learning. EFA and CFA test results suggest that the self-designed affective objectives assessment tool is a promising measurement that captures students' affective level in school and can be used to implement school assessment and intervention.

Keywords: Affective objectives, New Curriculum Reform, Assessment tool, Validity and reliability, Lower secondary school students

Introduction

The New Curriculum Reform in China was implemented in 2001 within a broad context of socioeconomic changes. It aimed not only to meet the challenges of changing the purpose of education and people's expectations of what it can provide in the 21st century, but also help facilitate the worldwide campaign, "Education for All" in "over-all improvement of quality in education at all levels" (Chinese National Commission for UNESCO, 2004).

The fundamental principle of the New Curriculum Reform was that education must contribute to the overall development of each individual's mind and body, intelligence, sensitivity, aesthetic sense, personal responsibility, and spiritual values (Zhou & Zhu, 2006). To meet this fundamental principle, changes were needed in such areas as curriculum objectives, structure, content, teaching process, evaluation, and school management. Among these required changes, a major breakthrough was the successful facilitation of a shift from a one-sided focus on discipline-based "basic knowledge," and the redefinition of "basic skills" according to three dimensions of curriculum content. The three-dimensional objective is defined as (1) knowledge and skills, (2) process and approaches, and (3) affect/attitude and values (affective objectives). The new emphasis on affective objectives aroused great attention as it highlighted new trends not mentioned in previous reforms, and it was considered audacious and challenging. However, some scholars criticized the three-dimensional objective as too idealistic and only partially interpreted by educational practitioners (Wei, 2011; Zhang, 2009). From a definitional perspective, the term "affective objectives" was originally an imported foreign concept and definitions for "affect domain" were broad and often unfocused. From a practical perspective, teachers complained about confusion over how to teach and evaluate affective objectives in the classroom (Zhang, 2009). Furthermore, Wei (2011) indicated that

most studies on the three-dimensional objective concentrated on the theoretical level, for instance, the relationships and meanings among three affective objectives. Rare empirical research focused on other aspects of affective objectives. Based on the above reasons, the present study was conducted to extract key elements and explore an adequate assessment tool to measure affective objectives under the New Curriculum Reform in China.

Theoretical Basis

What Does Affect Mean in the Educational Field?
Well-conceived and clearly communicated definitions are keys to understanding affect. Anderson and Bourke (2000) pointed out three important functions of a good definition of affective objectives: (a) select or design an appropriate assessment instrument, (b) examine the technical quality of the instrument, and (c) interpret the results. Bills (1976) also stated that educators will never be able to deal with affect in the classroom or for research without a better conceptual understanding of affect. Martin and Briggs (1986) defined the affective domain as a category term that catalogues a class of behaviors having both an emotional tone and cognitive component.

Classifying behaviors into taxonomies was one way researchers in many fields have set boundaries to delineate an area and organize ideas and concepts within those boundaries. Educators such as Krathwohl, Bloom, and Masia (1964), Gephart and Ingle (1976), and Brandhorst (1978) have developed several taxonomies in the affect domain in order to facilitate the teaching and learning process in the classroom. One taxonomy that was proposed by Gephart and Ingle is considered most useful because it provides an excellent overview of the scope and breadth of the affective domain. This taxonomy included two major branches: physiological responses or behaviors and psychosocial responses or behaviors. Physiological responses or behaviors are more closely related to the medical field whereas psychosocial behaviors are most closely related to the education and psychology fields. Among these taxonomies, the one developed by Krathwohl, et al. (1964) was well known and most widely used, and it was a landmark schema due to its most prescriptive traits. The authors divided development of the affective domain into five levels: receiving, responding, valuing, organization, and characterization (Krathwohl, et al., 1964). Central to this taxonomy was the assumption that lower level behaviors were prerequisite to higher level behaviors. However, evidence for the hierarchical validity of the taxonomy was unconvincing and very few studies have been conducted (Martin & Briggs, 1986). Martin and Briggs (1986) listed two important and striking criticisms of existing affective taxonomies. First, they argued that the taxonomies were too general and abstract, such as those of Gephart and Ingle (1976). Second, taxonomic coverage of affective constructs is limited. For example, the taxonomies mentioned above did not include two important dimensions in the affective domain: self-development and motivation. Although the existing taxonomies have been criticized for being too general, overly dependent on cognition, and limited in scope, they provide a sufficient guideline for researchers studying the affective domain.

Scholars in China have suggested that affective objectives under the New Curriculum Reform in China are quite similar to the taxonomy proposed by Krathwohl and colleagues (Yang, 2008; Zhong, 2011). In fact, most research on the evaluation of affective objectives in China is based on their taxonomy. However, their taxonomy might not be sufficient for both formative and summative evaluation purposes due to its overly general and limited coverage of affective constructs. Furthermore, studies in China focused on the assessment of affective objectives have commonly failed to clearly and concisely capture the concept of affect.

How to Assess Affective Objectives?

Two global methods of gathering information about the vast majority of human affective characteristics are the observational method and the self-report method. The observational method refers to gathering information by examining the person being assessed. The self-report method refers to gathering information by asking the person questions and listening to the responses. However, as Anderson and Bourke (2000) stated, the observational method has three problems comparing to self-report method. First, there is the problem of inferring affective characteristics from overt behavior. Second, there is the problem of observing behaviors relevant to the affective characteristic. Third, there is the problem of misinterpreting the behavior seen by the observer. For these reasons, the study utilized the self-report method (self-designed questionnaire) to examine students' affective development.

Questionnaire Design Process

Subject-specific curriculum standards (7th to 9th grades) of the New Curriculum were analyzed in order to precisely define affective objectives under Chinese concept. As shown in Table 1, three subjects (Moral Character Building, Chinese Language, and Mathematics) were selected for analysis because they take up almost half the total class time.

Table 1 *Percentage of Total Class Hours for Various Subjects in 9-Year Compulsory Education in China*

Percentage / Subjects	Previous Curriculum Scheme	New Curriculum Scheme	Increase/Decrease
Moral Character Building	6.6% (including Society)	7%-9%	+
Chinese Language	23.8%	20%-22%	−
Mathematics	15.7%	13%-15%	−
Foreign Language	4.3%	6%-8%	+
Art (or Music, Fine Art)	11%	9%-11%	~
Physical Education	8%	10%-11%	+
(Comprehensive Practice) Activity, Local and School Curriculum	21.5% (including productive Labor and Work Techniques)	16%-20%	−

Note. Data from: Zhou & Zhu. (2006). *Educational Reform and Curriculum Change in China: A Comparative Case Study*. UNESCO: International Bureau for Education.

Based on the affective objectives relevant to each subject, key elements were extracted for coding. Four main affective objectives under Mathematics were as follows: (1) Participate in mathematics activities and have the curiosity and desire to acquire knowledge; (2) Enjoy the happiness of success, overcome difficulties in solving mathematics problems, and have courage and confidence in learning mathematics; (3) Dare to stand up for your own ideas, dare to question and innovate, and develop a habit of conscientious, independent thinking and cooperation; and (4) Develop a rigorous and realistic scientific attitude (MOE, 2011a). Extracted key elements included interest in learning, bravery, confidence, innovation, independent, conscientious, and cooperation. Four main affective objectives under Moral Character Building were as follows: (1) Love your life, develop self-esteem and independent, and form a diligent and optimistic attitude; (2) Respect your parents, form a civilized, honest, kind and tolerant character; love collectivity and cooperate with others; (3) Advocate fairness and justice; (4) Love your hometown and respect the culture difference among various countries and ethnic minorities; (5) Love and take care of nature (MOE, 2011b). Extracted key elements included self-esteem, independent, hope, gratitude, social intelligence,

forgiveness and kindness. The same analysis process was carried out for Chinese Language and Moral Character Building curriculum standards. Five main affective objectives under Chinese language were: (1) Appreciate literature works and have your own emotional experience; (2) Try to understand the scientific spirit and thinking method through reading scientific literature; (3) Discover the beauty in your life, have real feelings and creativity in your writing; (4) Learn how to communicate in a civilized way, have patience when you are listening and have confidence to express your own opinion in discussion; (5) Raise interesting questions in your study and life, discuss them with other students and enjoy the happiness of cooperation (MOE, 2011c). Extracted key elements were aesthetic, open-mindedness, creativity, social intelligence, self-confidence and love of learning.

Summarized results have shown a relatively broad concept of affective objectives in China. Affective objectives are not purely affect-oriented, and are more likely characterized by strengths and building of virtues. According to the Moral Character Building subject standards, several traditional Chinese virtues such as gratitude, forgiveness, and integrity were also considered key affective targets. From the summary of affective objectives, one can conclude that most affective objectives overlapped with the Values in Action (VIA) Classification (Peterson & Seligman, 2004). This classification is considered one of the most systematic research methods for character strengths and virtues. The VIA Classification includes primary cultures from around the world, and there are six virtues, and 24 character strengths (Peterson & Seligman, 2004). After analysis, I extracted 16 main affective objectives under the New Curriculum Reform and summarized their definitions using the VIA Classification of character strengths as a reference in Table 2.

Table 2   *Definitions of 16 Main Affective Objectives under the New Curriculum Reform*

1. Creativity: Thinking of novel and productive ways to do things; includes artistic achievement but is not limited to it.

2. Open-mindedness: Thinking variously referred to as judgment, critical thinking, rationality, or open-mindedness.

3. Love of learning: Mastering new skills, topics, and bodies of knowledge, whether on one's own or formally; obviously related to the strength of curiosity but goes beyond it to describe the tendency to add systematically to what one knows.

4. Bravery: Not shrinking from threat, challenge, difficulty, or pain; speaking up for what is right even if there is opposition; acting on convictions even if unpopular; includes physical bravery but is not limited to it.

5. Integrity: Speaking the truth but more broadly presenting oneself in a genuine way, being without pretense; taking responsibility for one's feelings and actions.

6. Kindness: Doing favors and good deeds for others; helping them; taking care of them.

7. Forgiveness: Forgiving those who have done wrong; giving people a second chance; not being vengeful.

8. Citizenship: Working well as a member of a group or team; being loyal to the group; doing one's share.

9. Fairness: Treating all people the same according to notions of fairness and justice; not letting personal feelings bias decisions about others; giving everyone a fair chance.

10. Social intelligence: Being aware of the motives and feelings of other people and oneself; knowing what to do to fit in to different social situations; knowing what makes other people tick.

11. Self-esteem: Respecting oneself; not kowtowing to other people; not allowing other people's discrimination.

12. Self-confidence: Having the confidence to do things and to deal with other people; not being arrogant.

13. Independence: Accomplishing a task by one's own ability; not relying on other people.

14. Aesthetic: Noticing and appreciating beauty, excellence, and/or skilled performance in all domains of life, from nature to art to mathematics to science to everyday experience.

15. Gratitude: Being aware of and thankful for the good things that happen; taking time to express thanks.

16. Hope: Expecting the best in the future and working to achieve it; believing that a good future is something that can be brought about.

Note. Source: Summarized by author from *subject-specific curriculum standards* (2011) of Moral Character Building, Chinese Language, and Mathematics using the Values in Action Classification as a reference (Park, Peterson, & Seligman, 2004)

Three sources of designing the final version questionnaire were considered: (1) Appropriate questions for the study purpose were strictly selected from the original Values in Action Inventory of Strength (VIA-IS) questionnaire; (2) In order to adapt to Chinese culture and the special age group, relevant questions were selected from a Chinese virtue questionnaire (Duan, et al., 2012) and a positive psychological quality questionnaire of Chinese primary and middle school students (Guan, Meng, & Keller, 2009); These two questionnaires were re-edited and developed by Chinese scholars to examine Chinese adolescents' character strengths and virtues based on the VIA-IS. Also, the number of questions was reduced to 96 items in the Chinese virtue questionnaire and 61 items in the positive psychological quality questionnaire. Additionally, the factor structure of the original VIA-IS was changed in both studies and results showed good reliability and validity after exploratory and confirmatory factor analysis. (3) Questions were designed by author to better reflect students' affective development status; For instance, three affective objectives (self-esteem, self-confidence and independence) were summarized from subject-specific curriculum standards (7th to 9th grades) but not included in VIA-IS classification. In the process of data analysis, exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were utilized. EFA aimed to set and revise the model of affective objectives by using principal component analysis method. CFA was used to examine structural validity and model fitting of the factors extracted by EFA. In addition, two analyzing methods were compared to better understand and confirm the affective objectives' model through seeing the merits and weaknesses from each method. The first one was being dealt with the scree plot result under principle component analysis and the second method used the grouping method of the Chinese virtue questionnaire (Duan, et al., 2012).

Method

Participants
The total sample of this study consisted of 1,500 seventh-, eighth-, and ninth-grade lower secondary school students from Gansu Province, China. The collection rate was 90.1% (1,352 students). The validity rate was 91.7% (1,240 students). Mean age of the sample was 16.04 years.

Materials
The assessment tool utilized a self-designed questionnaire containing 64 items (16 scales, as shown in Table 3) based on a literature review. I utilized three questionnaire sources. The first

were revised questions from the original VIA-IS questionnaire. The second were related test questions from a Chinese virtue questionnaire (Duan, et al., 2012) and a positive psychological quality questionnaire of Chinese primary and middle school students (Guan, Meng, & Keller, 2009). And the third were self-designed questions based on subject-specific curriculum standards. The scale used a 4-point Likert-style format from 1 (*very much unlike me*) to 4 (*very much like me*). The scale consisted of two main parts: basic information (items 1 to 10) and the affective questionnaire (items 11 to 74). Finally, Cronbach's α coefficient was tested.

Data Analysis

Items for the final analysis were chosen based on the following strategies. First, item analysis was conducted by separating the total sample into two groups (top 27% and bottom 27%) by total scores. An independent sample t-test was used to delete non-significant items. Second, exploratory factor analysis (EFA) included two steps: model setting and model revising. In the model setting process, factors were extracted by principal component analysis and rotated by maximum variation. Factors were confirmed by eigenvalues greater than 1. In the model revising process, an item was deleted if it met the following conditions: loading value was less than 0.30 on any factor; and loading value was greater than 0.30 on multiple factors. Third, confirmatory factor analysis (CFA) was used to examine structural validity and model fitting by the maximum likelihood (ML) method. The final model was confirmed using modification indices (MI) and an item's loading on the revised model.

Results (Method 1)

EFA Analysis Results

According to the scree plot under principle component analysis, three main subscales were obtained (See Table 3). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is a statistical index to determine whether data are appropriate for factor analysis. KMO value which greater than 0.70 is considered as "good" and suggests that data are well suited for EFA (Hutcheson & Sofroniou, 1999). Subscale 1: KMO = 0.846, Bartlett test: $p < 0.001$. Results showed that data was suitable for EFA and two factors were extracted. After the rotation, these two factors explained 39.133% of the total variance. From subscale 1's EFA result, the two factors were fairness and integrity. Subscale 2: KMO = 0.732, Bartlett test: $p < 0.001$. Results showed that data was suitable for EFA and two factors were extracted. After the rotation, these two factors explained 38.071% of the total variance. From subscale 2's EFA result, the two factors were judgment and open-mindedness. Subscale 3: KMO = 0.858, Bartlett test: $p < 0.001$. Results showed that data was suitable for EFA and two factors were extracted. After the rotation, these two factors explained 35.836% of the total variance. From subscale 3's EFA result, the two factors were energetic and love of learning.

Table 3   *Exploratory Oblique Rotated Factor Analytic Results for Six Affective Objectives*

	Subscale 1			Subscale 2			Subscale 3	
Item	Fairness	Integrity	Item	Judgment	Open-mindedness	Item	Energetic	Love of Learning
52	.714		59	.694		60	.684	
71	.712		43	.686		42	.675	
61	.573		57	.623		23	.565	
72	.569		15	.407		19	.541	
58	.543		22		.672	12	.525	
67	.468		68		.606	18	.465	

29	.705	69		.579	62	.462	
50	.703	31		.558	74	.407	
63	.585				49		.783
55	.511				16		.749
					56		.541
					34		.407

Note. Data from Computed based on primary data.

CFA Analysis Results

Model setting: According to EFA analytic results, CFA structure was set by six interrelated latent variables. Residuals of 30 observed variables were set independently.

Model revising: Although fitting with the original model, the MI values and factor loading of items 72, 15, and 68 were relatively low, and CFI values were less than 0.80. After deleting items 72, 15, and 68, the CFA test was conducted again. It can be observed from Table 5 that RMSEA < 0.050, CMIN/DF < 5.00, GFI > 0.90, IFI = 0.894, CFI = 0.893, p < 0.001. The revised model fits the statistical requirement (See Figure 2).

Table 4   *Confirmatory Factor Analysis (Method 1)*

Indicator	DF	CMIN	GFI	IFI	CFI	RMSEA
Value	390	952.036	.955	.894	.893	.035

Note. Data from Computed based on primary data. DF = degrees of freedom; CMIN = minimum of discrepancy function; GFI = comparative fit index; IFI = incremental fit index; CFI = comparative fit index; RMSEA = root mean square error of approximation.
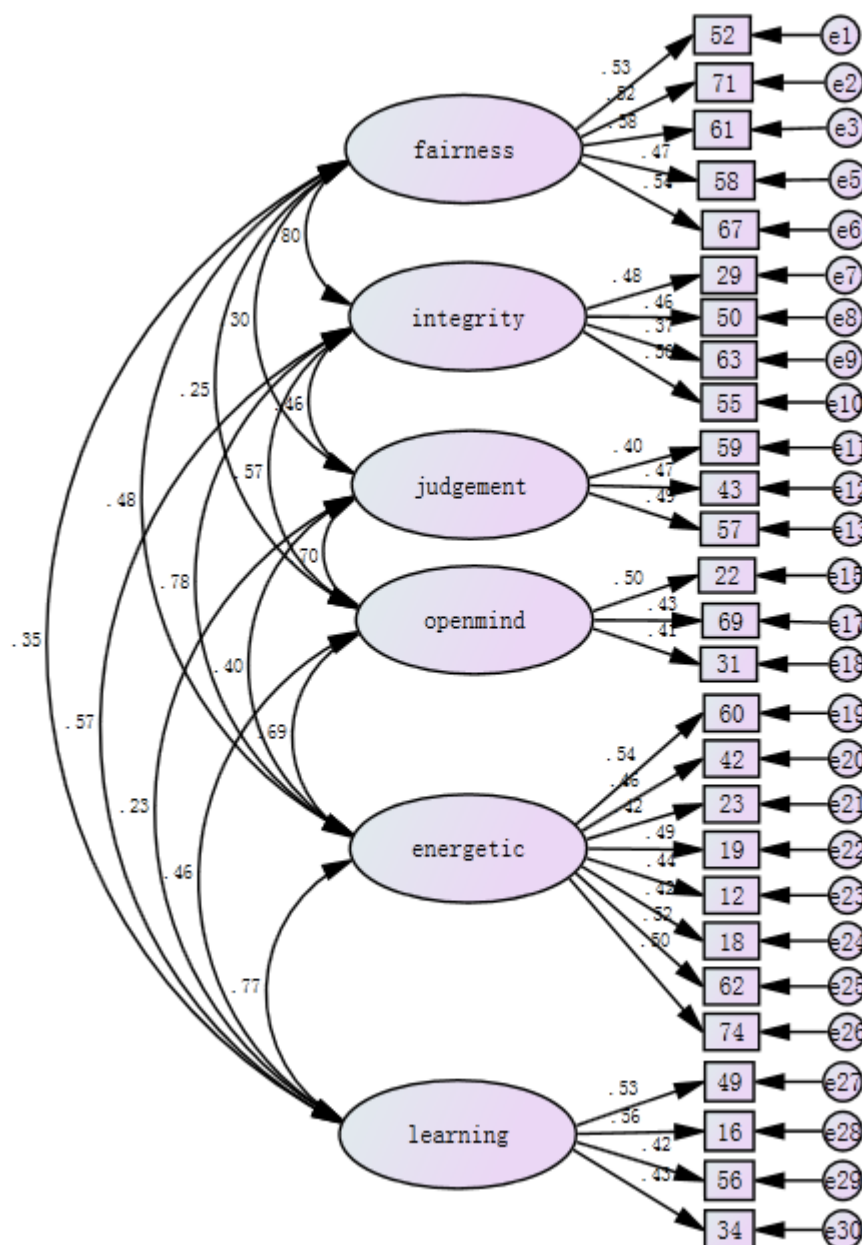
Figure 1 Structure model of the affective objectives questionnaire with standardized path coefficients (Method 1).

Reliability

After CFA analysis, Cronbach's α coefficient of the scale was greater than 0.80 (=0.811), which indicates that the total scale has good consistency and reliability.

Finally, the final model consisted of six factors: fairness, integrity, judgment, open-mindedness, energetic, and love of learning. However, the results had some deficiencies: (1) The original 16 factors were reduced to only six factors after EFA analysis due to the relatively low correlation of 16 factors; and (2) the factor energetic was renamed according to the meaning of the items obtained. Questions under energetic were mixed with the original questions under creativity, appreciation of beauty and excellence, bravery and hope. For this reason, the definition of energetic was difficult to depict. Considering these two weaknesses, I conducted the analysis process again. To avoid deleting the relatively low correlated items, I utilized the grouping method of the Chinese virtue questionnaire.

Results (Method 2)

As Duan et al. (2012) indicated, 24 character strengths can be grouped into the three virtues of relationship, vitality, and conscientiousness. Prior research has shown that these three virtues have good culture adaptation, quality, and stability. Relationship means positive cognition, affect, and actions through social interaction. It includes kindness, fairness, love, integrity, leadership, forgiveness, and gratitude. Vitality mainly indicates positive qualities of perceiving the world and society such as humor, curiosity, creativity, sagacity, hope, aesthetic, bravery, and belief. Conscientiousness can signify an individual's inner qualities such as judgment, self-adjustment, persistence, and love of learning. Based on this grouping, 16 main affective objectives in this study were grouped into three new subscales and analyzed.

EFA Analysis Results

Subscale 1 (relationship) included integrity, kindness, forgiveness, citizenship, fairness, and gratitude. Subscale 2 (vitality) included creativity, open-mindedness, bravery, social intelligence, aesthetic, and hope. Subscale 3 (conscientiousness) included love of learning, self-esteem, self-confidence, and independence. EFA analysis results of each subscale are as follows:

Subscale 1: KMO = 0.827, Bartlett test: $p < 0.001$. Results showed that data was suitable for EFA and three factors were extracted. After the rotation, the three factors explained 42.865% of the total variance. From subscale 1's EFA result, the three factors were fairness, gratitude, and integrity. Subscale 2: KMO = 0.710, Bartlett test: $p < 0.001$. Results showed that data was suitable for EFA and four factors were extracted. After the rotation, these four factors explained 42.376% of the total variance. From subscale 2's EFA result, these four factors were aesthetic, sagacity, open-mindedness, and creativity. Subscale 3: KMO = 0.731, Bartlett test: $p < 0.001$. Results showed that data was suitable for EFA and two factors were extracted. After the rotation, these two factors explained 37.341% of the total variance. From subscale 3's EFA result, the two factors were energetic love of learning and independence.

Table 5　*Exploratory Oblique Rotated Factor Analytic Results for Nine Affective Objectives*

Subscales	Items	Loadings			
	52	.744			
	71	.625			
	58	.623			
	67	.592			
	61	.566			
	23		.690		
Relationship	42		.689		
	45		.592		
	33		.529		
	50		.448		
	57			.759	
	38			.628	
	64			.576	
	48				.671
	36				.651
	73				.583
	46				.573
	56					.677

	18	.664		
	74	.536		
Vitality	69	.509		
	43		.696	
	59		.633	
	27		.551	
	31		.464	
	32			.680
	24			.660
	11			.489
	62			.711
	12			.665
	60			.633
	49			.505
Conscientiousness	15			.666
	54			.582
	41			.551
	22			.534
	66			.387

Note. Data from Computed based on primary data.

CFA Analysis Results

Subscale 1: Relationship. Model setting: According to EFA results, CFA structure was set by three interrelated latent variables. Residuals of 13 observed variables were set independently. Model revising: It can be observed from Table 6 that RMSEA < 0.050, CMIN/DF < 5.00, GFI, IFI, CFI > 0.90, p < 0.001. The model fit the statistical requirement.

Subscale 2: Vitality. Model setting: According to EFA results, CFA structure was set by 4 interrelated latent variables. Residuals of 15 observed variables were set independently. Model revising: It can be observed from Table 6 that RMSEA < 0.050, CMIN/DF < 5.00, GFI > 0.90, IFI = 0.830, CFI = 0.822, p < 0.001. The model fit the statistical requirement.

Subscale 3: Conscientiousness. Model setting: According to EFA analytic results, CFA structure was set by 2 interrelated latent variables. Residuals of nine observed variables were set independently. Model revising: It can be observed from Table 6 that RMSEA < 0.050, CMIN/DF < 5.00, GFI, IFI, CFI > 0.90, p < 0.001. The model fit the statistical requirement.

Total scale: I reserved 37 items under nine factors. Each factor under three subscales was calculated by the total score. Nine factors as observed variables and three subscales as latent variables were carried out by CFA analysis again. Three latent variables were set as interrelated with each other and residuals of 9 observed variables were set independently. Model confirmation: Results have shown that RMSEA > 0.050, CMIN/DF > 5.00, GFI > 0.945, IFI = 0.864, CFI = 0.862, p < 0.001. The model did not fit the statistical requirement.

Table 6　*Confirmatory Factor Analysis (Method 2)*

Subscale	DF	CMIN	GFI	IFI	CFI	RMSEA
Subscale 1	62	133.691	.962	.908	.881	.048
Subscale 2	84	164.370	.956	.830	.822	.043
Subscale 3	26	38.902	.983	.948	.945	.031

| Total scale | 24 | 127.060 | .945 | .864 | .862 | .092 |

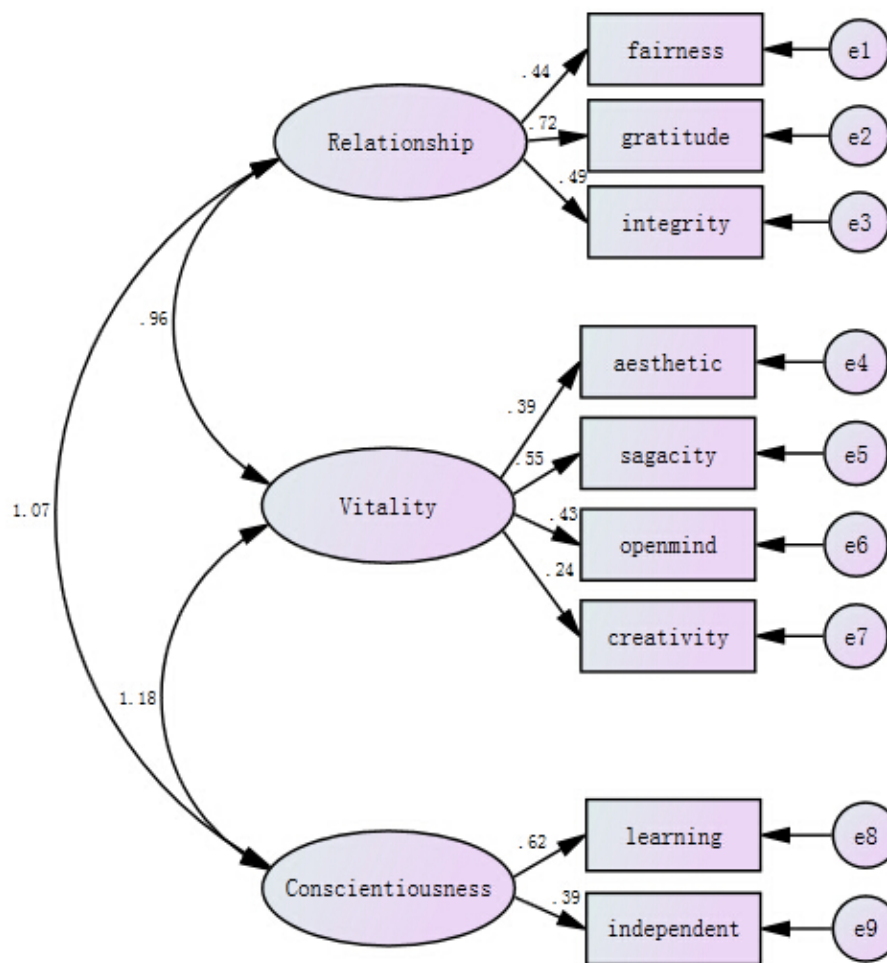*Note*. Data from Computed based on primary data.

Figure 2 Structure model of the affective objectives questionnaire with standardized path coefficients (Method 2).

Reliability

After CFA analysis, Cronbach's α coefficient of the three subscales and total scale was 0.725 (subscale 1), 0.601 (subscale 2), 0.554 (subscale 3), and 0.815 (total scale). As Wu (2003) indicated, a subscale's Cronbach's α should be greater than 0.60. Results showed that the scale had poor consistency and reliability.

Discussion

The present study is a preliminary research on the assessment of affective objectives under the Chinese New Curriculum Reform. First, key elements of the affective objectives were extracted from three subject-specific curriculum standards. Analyses showed that affective objectives under the Chinese concept are intended to build students' character, strengths, and virtues. The 16 main factors of affective objectives are creativity, open-mindedness, love of learning, bravery, integrity, kindness, forgiveness, fairness, social intelligence, self-confidence, independent, aesthetic, gratitude, and hope.

For this purpose, a self-designed questionnaire was utilized and validity and reliability were tested by two grouping methods using EFA and CFA. In Method 1, I extracted only six factors of affective objectives (fairness, integrity, judgment, open-minded, energetic, and love of learning) by principle component factor analysis. However, two new extracted factors (judgment and energetic) were difficult to rename because the questions under these new factors were mixed with original questions from other unrelated factors. For this reason, the second method was used based on the grouping method of the Chinese virtues questionnaire (Duan, et al., 2012). These authors grouped 24 human character strengths (Person & Seligman, 2004) into three virtues (fairness, vitality, and conscientiousness). Their findings showed that the three virtues were stable across different cultures and languages, and they also provided support for the validity of the three factor structure. After EFA analysis, I extracted only nine factors (fairness, gratitude, integrity, aesthetic, sagacity, open-mindedness, creativity, learning, and independent). As Guan et al. (2009) argued, the reason for the unexpectedly dissimilar number of extracted factors might be due to the relatively strong connection between the original 16 factors, for instance, love of learning and creativity. In addition, some semantically obscure questions were borrowed from the Chinese positive psychological quality questionnaire for primary and middle school students. For example, item 36, "I can always find the positive side of things when people see the negative side," is categorized under the factor hope but could also be interpreted as sagacity. For this reason, I renamed the new factors after EFA analysis to ensure that each factor has an independent meaning.

By using CFA analysis, the results showed good validity and reliability indicators by Method 1. The findings demonstrated that a six-factor structured questionnaire could be a promising assessment tool for investigating the affective characteristics of future lower secondary school students despite its limited scale. In Method 2, the scales increased to nine and could capture more affective characteristics of students. CFA analysis suggested that the total scale's model was not fitted. However, this does not mean that the questionnaire failed to examine students' affective development. As Duan et al. (2012) and Guan, et al. (2009) indicated, the three-factor structure was independent but interrelated. The main contribution of the current study is to help understand and examine affective objectives using a reliable and valid assessment tool. These findings suggest that future studies should take into consideration different types of questionnaires or factor grouping method to investigate affective objectives.

Conclusion

This study sets out to explore an adequate assessment tool of affective objectives under the New Curriculum Reform in China. The 16 key elements of the affective objectives were extracted from three subject-specific curriculum standards. In the process of data analysis, exploratory factor analysis (EFA) aimed to set and revise the model of affective objectives. Confirmatory factor analysis (CFA) was used to examine structural validity and model fitting of the factors extracted by EFA. In addition, two analyzing methods were compared to better understand and confirm the affective objectives' model. In method 1, results showed that six-factor structured questionnaire had good validity and reliability indicators after EFA and CFA analysis even though it was limited in scale. In order to obtain more affective objectives, method 2 utilized the factor grouping method of the Chinese virtues questionnaire (Duan, et al., 2012). In Method 2, the scales increased to nine after EFA but showed poor model fitting through CFA analysis. To enhance the modeling setting and structural validity, future work should continue to explore more effective factor grouping method or different types of questionnaire for empirical affective assessment designing. Moreover, research is warranted to investigate the affective development level among different adolescents' groups (e.g., rural

and urban), determinants and to what extent they jointly shape trajectories of adolescents' affective development.

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Assessment of Learning Outcomes in Russia, European Countries and the USA

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Abstract
Existing in Russia pedagogical approaches – traditional (cognitive), competence-based and student-centered – apply different systems of assessment of the educational results. Objects of assessment and forms and methods differ much. Assessment in traditional approach is developed well as this approach has been used in Russia for a long time. But it is deservedly criticized for its limited methods of assessment. Competence-based approach appeared relatively recently. Its terms need accurate definition, some new forms and methods of assessment should be introduced which causes certain difficulties in practice. Student-centered approach means a deep study of a personality of a student by his teacher, the work with such psychological features as self-esteem and his/her expectations from learning of the subject. As not all the researches of this approach determine accurately criteria of assessment of the educational results there are certain difficulties with application of such a system of assessment. Russia's signing Bologna's agreements influences further development of our system of education. It is necessary to compare and possibly to apply the achievements of the other countries in the development of their systems of assessment of educational results. Successful foreign experience and possibility of its introduction in Russia is analyzed in this article.

Keywords: Traditional pedagogical approach, Student-centered approach, Competence-based approach, Assessment of learning outcomes

Introduction
Modern world expects a graduate of the university to be competitive on the labour market, i.e. he/she should be prepared for the future profession. How quickly the former student can be adapted to the professional environment depends on many factors including his/her education. The quality of education and leaning outcomes are closely connected with each other. However different pedagogical approaches vary in their attitude towards the significance and importance of learning outcomes. Let's look at three most common for the modern Russian pedagogy approaches: traditional, student-centered and competence-based.

Pedagogical approaches in Russia
Russia has a long history of the development of its educational system. Various approaches appeared at different times. Let's consider pedagogical approach as a combination of the three constituent parts: main notions; principles of teaching and the most appropriate to the given approach methods of organization of learning (Selevko, 2006). Using this description we can look at some of the most widely used pedagogical approach in details. One of them, the traditional one, can be called knowledge-based (cognitive). Even at the Soviet time it characterized the Soviet schooling, and at the same time it was reasonably criticized. The system of control of knowledge and skills that the student acquires during the process of learning was very well developed as well as the whole process of learning (Slastenin, 2002).

Its main notions include knowledge and skills which are transferred from the elder generation to the younger one during the process of education. The main principles were formulated by J.A. Comenius and later were supplemented by other researchers, so all together they imply the following theoretical propositions: scientific character of the educational process, its conformity to the nature of studies; sequential, systematic and available character; conscious and active nature of education; relation of theory and practice; taking into account age-related and individual features of the learners, etc. Educational process is based on subject-object relationship between the pedagogue and the learner, where the teacher is considered to be the actor of educational process while the student is an object who apprehends the information given by the teacher, as the traditional approach is generally based upon the associative-responsive theory.

Table 1 *The system of control under traditional approach*

objects of control	forms and methods of control
knowledge	oral and written tests, programmed control, individual, group, frontal
skills	the same plus graphic and laboratory control

Many methods of pedagogical assessment are mentioned in the books covering this issue. Among them we can find oral, written, practical, laboratory, programmed methods of control. Researchers single out various types of them: classroom, subject, intermediate, final. There are various forms of assessment: individual, group, frontal; and each of them may include interviews, tests, essays, colloquiums, seminars, laboratory works, yearly projects and examinations, etc. However in practice the whole control performance was reduced to oral individual test or frontal written control work (test) at many educational institutions, both secondary schools and universities. The mark which is still in use at the majority of schools is a five-point system (but there are only three of them, the marks "excellent", "good" and "satisfactory" are used in practice).

At the same period some Soviet and later Russian pedagogues, philosophers and psychologists substantiated the theory and applied in practice student-centered approach. Its goal is harmonious development of learner's personality. Its main notions are personality, self-consciousness, and formation of self-consciousness of the student. Basic principles include taking into account personality needs, necessary for self-realization of the learner. Methods and technologies of organization of the educational process are based on the theory of the development of personality worked out by Vygotsky and Leontyev in Russian pedagogy and humanist psychology by Rogers and the theory of self-actualization of personality of Maslow in foreign pedagogical practice. In this approach the teacher helps and facilitates the learner with his/her studies rather than directs and commands.

But describing the system of learning under this approach (Zagvyazinskiy & Atakhanov, 2004) not all the researchers worked out in details or even mentioned the system of assessment of learning outcomes. That is why the main problem now is not as much the development of the forms and methods of assessment as substantiation and selection of necessary criteria for realization of this procedure (Hutorskoy, 2005).

Nevertheless many researchers mention priority of individual forms and prevalence of creative methods of assessment besides traditional ones. Unassisted work of students and their self-restraint as one of the assessment methods are widely used under student-centered approach.

Table 2 *Components of the system of assessment of learning outcomes under student-centered approach*

component of personality	methods of examination
cognitive interests	work sheet for revelation of distinctly understood interests, favouring mastery of learning, confidence logs, self-esteem of a learner
emotions	tests of anxiety level
needs	tests of needs in achievements and needs in communication, self-esteem
abilities	Raven's tests of intellectual level, creative work
learning skills	examination of learning outcomes, tests of the main types of learning activity, self-esteem, portfolio of achievements, personal logs of achievements, results of pedagogical consultations
mastering of course material	examination of learning outcomes, tests of theoretical course material, self-esteem, results of pedagogical consultations

Wide application of psychological tests is fairly implied under student-centered approach for better understanding of the learner's personality. That is why changes in the system of professional training of teachers are also necessary. Traditional role of the source of information and the only evaluator of the learner's outcomes should be changed for the role of the teacher-facilitator of the process of learning. Changes in organization of educational medium (milieu) are also should be undertaken. Educational milieu is supposed to be subject-oriented; it affects the learner but also changes itself depending on his/her needs at the process of education (Meskov, 2012), maximally diversified, including all possible kinds of resources, text diversity being one of the key points of a successful learning (Gusinskiy & Turchaninova, 2000), favour creative activity, openness and readiness for dialogue, stimulate for cooperation but not competition (Ivanova, 2012).

One more significant component of the system for the assessment of learning outcomes should be taken into account: it is student's self-appraisal. It is one of that personality features that is, on the one hand, an essential and inherent for the learner him/herself, on the other hand, it is one of the characteristics of the personality that the teacher can work with. The problem of taking into account student's self-appraisal is one of the most difficult and most important for the modern Russian education.

There is one more approach for teaching which is being developed in Russian educational system now. Federal state educational standards of the third generation for the higher professional education and for the primary school are written in terms of competence-based approach. This approach can be called relatively new from the point of its terms, although its grounds were substantiated in the works of Soviet and Russian pedagogues, philosophers and psychologists. After Russia signed Bologna agreements we had to change our educational standards so our system of education can be confronted with the European systems and learning outcomes can be recognized both in Russian and foreign educational institutions.

Among the main notions there are competence and competency, key competences and professional ones and their forming on the high level. The principles of organization of educational process under this approach mean that professional values predominate as competence-based education is focused, first of all, on the learning outcomes, on what is the

most important from the point of view of self-realization of the learner in his/her future profession. Methods and technologies of organization of the educational process, which include methods of project, creative and play activity, are also based on the theory of the development of personality in Russian pedagogy and pragmatic theoretical propositions of Dewey, and humanist psychology by Rogers in foreign pedagogical practice.

Learning outcomes oriented education is the basis of competence-based approach. However in our system still there is a contradiction between the demands of standards and practice of assessment of learning outcomes that is made according to the traditional scheme. Teachers have to be highly qualified in psychology to apply some of the forms and methods of assessment, which also needs introduction of changes into teachers training practice. Nevertheless not everywhere but in some schools, colleges and universities various new methods of assessment are used (Shadrikov & Kuznetsova, 2010).

Table 3 *Competences and their assessment methods (competences are given by (Ivanova & Osmolovskaya, 2011))*

competence	methods of assessment of their forming
cultural	psychological tests, observation, interview, role play, creative work
social	observation for the carrying out the practical task, for organization of teamwork, self-esteem, role play
communicative	oral test, interview, written test
personal self-enhancement	tests of the main types of learning activity, case study, project activity, self-esteem, creative work
special (for professional activity)	tests, self-esteem, portfolio, case study, explication, experts' assessment, course paper, scientific research work of students, final qualifying work, examination

Various monographs and articles upon practical application of the competence-based concept of education in the assessment of learning outcomes describe modern methods and forms of this process. Group work and group forms of assessment prevail. Tests of various kinds are widely used; this allows reducing teacher's subjectivity of results scoring. Rating system of learning outcomes looks more objective and unbiased; it brings down stress factor of education, that's why a number of universities introduce this system in their practice now.

Therefore the systems of assessment of learning outcomes under different pedagogical approaches can be compared in the following way:

Table 4 *Comparison of the systems of assessment of learning outcomes under different approaches*

	traditional (cognitive) approach	competence-based approach	student-centered approach
principles	path-goal, objectiveness, validity, systemic nature, visibility, comprehensiveness	like under traditional approach + differentiation	like under competence-based approach + humanist principle
functions	controlling, teaching, educating, correcting	like under traditional + diagnostic, developing, orientating, favoring feedback	like under competence-based + stimulating, prognostic
objectives	to define the level of	to define the level of	to define the level of knowledge

	knowledge and skills according to the results of education planned in the educational programme	knowledge and methods of activity, the rate of forming of competences according to the results planned in the educational standard	and methods of activity, formation of personality, necessary to achieve goals of education determined by the learners themselves
content of control	is characterized by the limited cover of content, rigid subject specialization. Content of learning is directed towards the professional needs regardless the needs of the learner's personality (Ivanova, 2012).	forming competences in the activity spheres (orally and in written form). It is characterized by interactivity, variability, profound differentiation based upon the abilities, interests, motives of personality (Ivanova, 2012).	'personal increment' in the ways of perception and transfer of information (orally and in writing) by monologue, dialogue, realization of communication with other people, appreciation of the other culture and world outlook. Variability of content of control is connected with variability emerging in the process of learning. It has synthetical and interdisciplinary character (Ivanova, 2012).
kinds	running check, subject, intervening, resultant	preliminary, running check, subject, intervening, resultant	preliminary, ongoing, subject, intervening, resultant
forms	individual, group, frontal prevalence of frontal forms. Exams, final tests, oral interview, written tests, essays, seminars, yearly projects, laboratory control works	prevalence of group forms. Like under traditional approach + projects, colloquium, observation logs, playing activity, creative works, portfolio of achievements	prevalence of individual forms. Like under competence-based approach + individual records, analysis of student's own learning activity and realization of expectations of learners from the process of learning a subject
methods	oral, written, programmed, laboratory, practical prevalence of oral individual tests and frontal written control works	prevalence of conventional and criteria tests	prevalence of creative works connected with unassisted learning activity of a student. Self-control as one of the methods.
criteria of assessment	marks (3 – 5), quantitative control at every stage of work at the learning material. Reproductive presentation of learning material with no account taken of the way of mastering (Ivanova, 2012).	score-rating position, quantitative control at the final stage of work over learning material. Intervening test of mastering knowledge aiming to correct them. Combination of checking of knowing the content of learning material with assessment the way of mastering (Ivanova, 2012).	'personality increment'. For the assessment of the resultant level of the development of personality qualities of students the following criteria are used: - textual educational features; - results of his/her educational achievements; - reflexive records, questionnaires and self-esteem; - results of pedagogical consultations, tests and other materials for heuristic learning (Hutorskoy, 2005). Under postmodernism the student chooses the way of assessment. Control of skills to control informational flows and IT. Control of skills in communications and dialogue, unassisted search and ability to prioritize a certain form and

		knowledge (Ivanova, 2012).	
evaluator	teacher	teacher and experts	teacher, experts and learner
self-esteem	not taken into account	is used as an instrument of formation of the reflexive competence	obtains an essential significance in formation of learner's self-consciousness

Pedagogical approaches in foreign education

While in the Soviet and Russian pedagogy the process of education was very well developed, European and American practices paid more attention to the initial and final chain links in the triad "educational goals – educational process – learning outcomes" (Avraamov, 2009). Student-centered education became customary long ago, and in the second half of the 20th century competence-based approach began actively developing. At first the learning outcomes only helped to create the descriptors for qualifications, however after 2003 they became the basis for descriptors (in the countries-participants of Bologna agreement) (Baidenko, 2009). The need for reliable and valid process of learning outcomes assessment and interpretation of its results led to the development of certain specific theoretical points and practical methods of application. So we can find the following approaches for assessment in scientific studies:

LOTA approach (Learning Outcomes and Their Assessment) (Dillon, 2013) – it is a programme of the Open University of the UK which has been developing since 1999 and its goal was to change the attitude towards the learning process from the traditional to the depending on learning outcomes. It involves the ongoing results as a "feedback" allowing both teachers and students to change the learning process according to the needs of the learners;

Scientific approach which is concerned with the measurement of the effects of specific variables against the resultant outcomes. It seeks to examine the achievement of stated goals in relation to a learner's pre-knowledge and skills. The approach is geared towards the measurement of the efficiency of the educational intervention as well as the effectiveness of the learning outcomes (we can compare it with the Russian traditional approach);

Illuminative approach which seeks to examine and explore the process of the educational intervention. The techniques, as such, are therefore more qualitative, some might say, more subjective in nature as they call on personal judgements. The levels of evaluations are: 1) project level, 2) curriculum level, 3) unit level, 4) learning step level. The technologies of assessment used: questionnaires, semi-structured interviews, confidence logs, observations, student profiles, pre- and post tests, checklists (Crompton, 2013);

Integrative approach developed by Draper and his colleagues (University of Glasgow). Its specificity is connected with the sphere of its application; this approach was designed generally for computer-aided learning materials and programmes. But the idea of this approach seems to be rather promising as it looks at the process of education as a whole. It scrutinizes not only how software for learning works, but how surrounding materials are used by the participants of learning: both teachers and students, and what activities they are engaged in during their studies.

There are also two kinds of assessment that are used in foreign educational practice and are being introduced in Russian education now: the formative and the summative ones. However certain scientists consider them to be approaches to assessment. We can agree with this

definition as it is possible to single out their main notions, principles and methods and techniques of organization of educational process in the same way as it was shown earlier, so:

Formative assessment: affects the learning process, takes place in classroom, is undertaken to acquire information about learning process, is used for the purpose of correction and allows not only the teacher but the student as well to appraise his/her achievements during studies;

Summative assessment: takes place at the end of course or programme studies; it is aimed at acquisition of information about learning outcomes and measuring knowledge, skills and abilities of the learner.

We also cannot help mentioning the purposeful work of the creation of the assessment system in the USA. The National Academy for Academic Leadership works out modern concepts of education. For purposes of planning, desired outcomes (the ultimate results desired or actually achieved) as well as processes (the programs, services, and activities developed to produce the desired outcomes) and inputs (the resources: students, faculty and staff members, buildings, psychological climate) are all articulated in terms of goals and objectives. Thus, one can distinguish among outcome goals and objectives and outcome assessment and evaluation, process goals and objectives and process assessment and evaluation, input goals and objectives and input assessment and evaluation. These are the results that are important for most of higher education's stakeholders and critics; the emphasis today is on outcome assessment and evaluation (National Academy for Leadership, 2013).

Dr Richard Stiggins, the founder of Assessment Training Institute, has been developing the methodology of assessment for more than thirty years. His main idea is formulated in a simple but very efficient way: assessment should be not **of** learning, but **for** learning. In this case it works for the improvement of learning process and achievement of better results by students. He singles out three constituent parts of the assessment process: a) the detailed description of the performance which is to be assessed; b) the development of tasks and exercises where this performance can be applied; c) the design of the system of scoring and recording of the results. In his books he supplemented and enriched the understanding of the role of assessment where he emphasizes the necessity of students' involvement into the process of assessment and suggests certain specific methods of using feedback from the learners (Chappuis & Stiggins, 2011).

Many American researchers look at the characteristics of approaches for assessment in detail, and their findings are united as follow. The assessment should be:

1) learner-centered: classroom assessment pays attention of teachers and students on observing and improving learning, rather than on observing and improving teaching;

2) teacher-directed: the individual teacher decides what to assess, how to assess, and how to respond to the information gained through the assessment;

3) mutually beneficial: classroom assessment involves students and faculty into assessment. When students participate more actively, and feel more confident that they can succeed, they are likely to do better in their course work. As teachers work closely with students to assess learning, they improve their teaching skills and gain new insights;

4) formative: classroom assessment is formative rather than summative. Summative assessments include tests and other graded evaluations. Formative assessments are almost

never graded and are almost always anonymous. Their aim is to provide faculty with information on what, how much, and how well students are learning.

5) context-specific: classroom assessments need to respond to the particular needs and characteristics of the teachers, students, and disciplines to which they are applied;

6) ongoing: classroom assessment is an ongoing process, aiming to create a kind of students' "feedback loop";

7) built on good teaching practices: most college teachers already collect some feedback on their student' learning and use that feedback to inform their teaching. Classroom assessment is an attempt to build on existing good practice by making it more systematic, more flexible, and more effective (Illinois Central College, 2013).

Students' response to assessment methods
The approaches considered were developed for the teachers to be applied to practical work with students. However it is interesting to get to know how the students respond to various kinds of suggested assessment. One of the researches in the University of Leuven (KULeuven), Belgium, (Struyven, 2005), shows the students' perceptions about assessments and their attitude to the traditional methods – multi-choice tests and detailed essay examinations in connection with surface and deep approaches of learning. The most interesting conclusion is that alternative methods of evaluation – students' profiles (portfolio) and self-appraisal – made students use deep approach to their learning. It means that the more diverse and creative the method of assessment is used, the better the students' attitude to the studies is.

It can be illustrated by the example from the author's working experience at Moscow State Industrial University (Russia). Students of the Law department were given a practical work to issue a weekly newspaper in English which included three columns with the following headings: "Personal", "Public" and "Private". The students' task was to express in one sentence their current state ("I am glad that…", "I am sorry for my…" etc) for the first column, their attitude to a certain social, political event or a local university problem, which was defined by the duty editor for every issue, in the second column and to write a short funny announcement or just a joke for the third column. They were supposed to use both regular and professional vocabulary and train necessary grammar. At first quite a lot of mistakes were made by them in spelling and in grammar, but the situation changed for the better after 3-4 weeks. Although the students were asked to use nicknames, they did not want their fellow students to see their mistakes. It was a good chance for them to evaluate their skills in the foreign language and to revise necessary course material. This kind of co-working also led to the improvement of their psychological behaviour and their attitude to learning in general, so that it positively influenced their learning outcomes.

Conclusion
Thus the analysis of the main approaches for the assessment of learning outcomes, sorted out by the foreign researchers, and the approaches, used in the Russian pedagogical practice, shows that they are similar to some extent. So we can find the correspondence of goals, objectives and the content of the Russian traditional (cognitive) approach and the other three: scientific (Britain), teacher-directed and summative approaches. There is a certain similarity in the goals, content, forms and methods of competence-based approach (Russia) and the approach of LOTA (Britain), formative, illustrative, context-specific and mutually beneficial, as the competence-based approach in Russia is developing subject to the European and American practice. Goals, forms, methods, criteria, the use of self-appraisal and those who perform the

evaluation under the student-centered approach are obviously alike irrespective the geographical location of the educational institution.

In this case there is a desire to use best foreign experience in the Russian pedagogical practice. However at present when Russian National Qualification Framework has not been elaborated for all professions, professional standard has not been developed yet for teachers, so such a mechanical transfer may hardly be successive.

Still the terms of competence-based approach are discussed in Russia. One of the problems is connected with the fact that they come into our pedagogy in translation from foreign languages, every term having several Russian meanings which may appear to be different. This happens, for example, with the terms "competence" and "competency". The same situation is connected with such notions as "summative" and "formative" assessments. We still have no single term for these phenomena and some Russian researchers interpret them in different ways (Fishman & Golub, 2007; Pinskaya, 2010).

There is one more aspect of the problem of assessment of learning outcomes in our country: for a long time we have had only quantitative evaluation. The notion of qualitative assessment for the higher school meant only "passed or failed" in exam or final test. And even now the quantitative characteristics are secretly considered to be one of the main criteria of assessment of the work of the teaching staff at school. There is a directive not so much for "learning up to its result", or mastery learning, but for the struggle for the achievement of high quantitative result of learning by all means. It should be stated that very little attention is paid to setting up a feedback with students, at the majority of educational institutions students' self-esteem is not taken into consideration during assessment of learning outcomes. We are sure that the system of assessment of learning outcomes should be developed with regard of those philosophical, psychological and pedagogical researches having been carried out and being carried out now, and this theoretical and practical work is realized, however, it is very important to know about and to use best practice of the world. Interest for it grows every year.

Modernization of education held under the conditions of formation of the new understanding of the educational process and its outcomes puts forward new demands for the higher professional education and students' training at the universities. The system of assessment of learning outcomes in our country should also change to meet modern requirements. It should support the learning process and focus it on the real needs of the modern society. Communication and sharing experience and information is the key to the successful development of pedagogical theory and practice. Russia tries to maintain such links with CIS States. Our country also establishes strong relationships with other countries. It is clear that enhancement of cooperation in the development of this sphere of science is useful for all parties.

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Comparing Higher Education Institution's Knowledge Transfer Policies and Practices in a Global Context – Experience from University College London (UCL) and Mahidol University (MU)

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Abstract

Irrespective of the globalization trend, there are different conceptual understanding of the "knowledge transfer (KT)" amongst higher education institutions (HEIs). Different KT policies and practices have been adopted whereas emphasis and/or formalization of the (socio)-economic role of HEIs were shaping by multiple channels, such as public policy.

This paper aims to examine and compare what kinds of KT policies and practices have been adopted and used amongst HEIs as well as their conceptual understanding of KT within the global context. University College London and Mahidol University would be selected as the unit of analyses through the adoption of comparative education approach. It is expected that similarities and differences could be constructed by focusing on the comparison of relevant KT aspects and themes which are derived from the concepts of KT within the country's context. A documentary-qualitative analysis of secondary sources would be adopted for comparative and interpretive analyses for investigating the phenomenon of KT of UCL and MU and to find out any discrepancies. It is expected that the findings could become critical point for rearticulating the issue by local HEIs for having more understanding about the philosophies and the contemporary policies and practices of KT in the knowledge-based economy.

Keywords: Knowledge transfer policy, Higher Education Institutions, KT practices, Third mission, Knowledge-based economy

Introduction

Despite the expectation on higher education institutions (HEIs) for facilitating sustainable development through education and knowledge transfer (KT), challenges for maintaining competiveness and advancing economy in a knowledge-based society within a global environment has already embedded in the "third mission" of Higher Education Institutions by engaging the wider community through their own knowledge transfer policy and practices (Schofield, 2011; Ozga, 2004a; Macgregor, 2014).

In general, apart from the core missions of "teaching" and "research" of HEIs, knowledge transfer is always regarded as their "third mission" (UGC, 2006; Lockett, Kerr & Robinson, 2008; OEDC, 2011), especially for research universities whom are recognized as academic institutions "committed to the creation and dissemination of knowledge" locally and internationally, either for addressing complex issues or striking to support national development in the competitive global knowledge economy (Macgregor, 2014).

In spite of the growth of global knowledge society which emphasizes the diffusion of information, knowledge and innovative technology for benefiting the commercial enterprises

and the economy at large, there seems to have different conceptual understanding and interpretation of the "third mission" or knowledge transfer amongst contemporary HEIs. In this regards, different knowledge transfer policies and practices have been formulated and adopted amongst these HEIs whereas emphasis and/or formalization of the (socio)-economic role of HEIs were shaping by multiple channels, such as public policy, various research funding and/or academic-industry collaboration, or one's own experience in KT.

In views of HEIs, in general, are facing under the same umbrella of globalization and challenges from the knowledge-based economy that they are expecting to play a visionary and pivotal role for contributing a sustainable economy through technology and knowledge transfer to the industry and commercial enterprise (Department for Employment and Learning, 2014; British Council, 2014;). A commercial and economic orientation prevails the interpretation of knowledge transfer policy and practices amongst HEIs (Ozga, 2004b). With the emergence of diffusing concepts of social responsibility and entrepreneurship in the contemporary society, do the selected HEIs have still the same or similar interpretation of their role in KT whereas policy and practices of KT are remained overwhelming by market- or economic-oriented approach?

In respect of the question in doubt, this paper aims to examine and compare what kinds of knowledge transfer policies and practices have been adopted and used by the two HEIs as well as their conceptual understanding of knowledge transfer within the global economy context. A comparative education approach with adoption of the Bray and Thomas Cube (1995, p.475, Cited in Bray, Adamson & Mason, 2007) as conceptual framework for selecting unit(s) of analyses. Two "Research Universities", namely University College London (UCL) and Mahidol University (MU), would be selected as according to the "Cube's" dimension of "locational level five – schools"(hereafter as higher education institutions (HEIs) or research universities (RU) whereas both terms will be interchangeably used) as well as the RUs' KT stakeholders and the KT policies and practices would be selected from the dimensions of "non-locational demographic groups" and "educational phenomena" respectively for the units of analyses (The Bray and Thomas Cube (cited in Bray, Adamson & Mason, 2007).

Regarding data and information in relation to this comparative education study, they will be retrieved through desktop research method / documentary research, particularly from the RUs' websites and documents relevant to their knowledge transfer concepts, philosophy, practices, development and so forth. Those searched and collected information would be categorized into different themes in relation to knowledge transfer, such as role expectation, conceptual definition, general practices and strategies of KT, for mapping between data and themes as well as making comparisons and analyses between the two selected HEIs as according to the mapped information.

It is expected that similarities and differences could be constructed between the two selected universities to the extent that any discrepancies found could become an entry / critical point for rethinking and rearticulating the issue by HEIs of similar backgrounds, especially facilitating local HEIs (i.e. universities in Hong Kong) having more and alternative understanding about the philosophies behind as well as the contemporary policies and practices of KT in knowledge-based economy context.

In brief, this paper is structured starting with an introduction and following with an overview of the conceptual development of knowledge transfer. Then, objectives and scope of study will be briefly stated, and the guiding frameworks for comparative education analyses as well.

Aftermath, it comes to the methodology and data collection section. Findings will be discussed with the illustration of mapped tables and it comes to the analysis and conclusion section.

The Conceptual Development of Knowledge Transfer
The concept of knowledge transfer is traditionally embedded in a learning environment or context between/amongst individuals and/or organizations in which knowledge is acquired and adopted through teaching and learning – the so-called traditional linear models of knowledge transfer, in particular of the role of Higher Education Institutions (HEIs) (Howells, Ramlogan & Cheng, 2012). Nevertheless, this concept is evolving with different interpretations over time, space, and practices while shaping by related policy development, in particular of government policy on higher education's transformation (Bureau of International Cooperation, 2008; Worasinchai & Bechina, 2010; Schofield, 2011).

KT, if fact, could be interpreted as a traditional one-way dissemination of information or knowledge perspective, such as traditional method of teaching and learning, mentoring or publications for hooking readers to read (CSU Monterey Bay, 2008), and as a contemporary multiple-ways of interactional/reciprocal share and exchange of knowledge perspective, such as co-creation and co-application of knowledge through collaboration or open innovation (UCL Grand Challenges, 2012). These distinctive and contradictory perspectives of KT are closely related to the process-oriented concept which implying the focus of KT policy and practices.

However, in the context of organization, in particular of business sector, KT becomes a paradigm shift[1] of knowledge management which "involves creating, securing, coordinating, combining, retrieving and distributing knowledge" (Lin et al., 2006 in Research Supporting Practice in Education website) within and across organizations. This conceptual interpretation will shape KT policy and practices confining to organizational context in which knowledge transfer would be restrictive and affected by organization culture. Policy and practices for retaining and transferring staff experiences and the so-called tacit knowledge internally would be one of the emphases of this organization-oriented concept.

Nevertheless, along with the late 1980s' New Public Management reform amongst HEIs across Europe's countries, such as United Kingdom, HEIs have encountered concepts like privatization, accountability and market-orientation (Serrano-Velarde, 2012) that management transformation has induced a pragmatic-oriented policy and practices in KT whereas it is predominantly associated with intellectual properties, patents and technology transfer etc. which is inclining to the market-oriented philosophy (Ozga, 2004b).

Similar situations are happening with an increasing importance of knowledge-based economy within a globalized context while government of United Kingdom and Thailand have implemented policies in relation to the strategic development and transformation of higher education at the national context (i.e. Leadership Foundation for Higher Education; National Strategy for Higher Education to 2030; Council for Industry and Higher Education (CIHE)

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[1] "Paradigm Shift" is originally derived from Thomas Kuhn's argument that "scientific advancement is a series of peaceful interludes punctuated by intellectually violent revolutions in which one conceptual world view is replaced by another" (Kuhn, 1962). This concept is applied here as a change of perspective through different interpretation of KT by the business sector.

Key Attributes for Successful Knowledge Transfer Partnerships; Bureau of International Cooperation Strategy, Office of the Higher Education Commission, 2008).

As a result, both governments have some common role expectation of HEIs, especially of the research universities, that apart from achieving excellence in quality teaching and research, HEIs should tighten up the relationship between research and policy while exploring linkage mechanism between research and the socio-economic sectors (Ozga, 2004a; Bureau of International Cooperation Strategy, Office of the Higher Education Commission, 2008). Henceforth, HEIs become missionary for pursuing the so-called "third mission" or "third sector" of activities (i.e. put research into practice or producing practical solutions) through knowledge transfer mechanism so as to enhance economic competiveness and social sustainability (Ozga, 2004a & 2004b; Bureau of International Cooperation Strategy, Office of the Higher Education Commission, 2008; UNESCO, 2002; Schofield, 2011). Since then, KT could be interpreted as in terms of this pragmatic-oriented concept.

As a matter fact, the conceptual development of knowledge transfer, no matter of linking with process-, organizational- or pragmatic-oriented interpretation, seems to be associated with and influenced by developmental and/or situational factors over time, space, and practices whereas government public policy plays a pivotal role in shaping HEIs' orientation in KT, at least to a certain extent through the research or KT funding policies.

Furthermore, a specific definition of knowledge transfer adopted in this paper taken from the Internet is relevant to and associated with the RUs, and from which this paper derives themes for mapping between website data of the two selected HEIs and the themes for making comparison and analysis of their existing knowledge transfer policies and practices.

Objectives and Scope of the Study
Major objectives of this paper are to examine and compare what kinds of knowledge transfer policies and practices have been adopted and used by UCL and MU respectively as well as their conceptual understandings of knowledge transfer within the global context.

In addition, do the two selected HEIs have still the same or similar interpretation of their role in KT whereas policy and practices of KT are remained overwhelming by market- or economic-oriented approach despite the emergence of diffusing concepts of social responsibility and entrepreneurship in the contemporary society?

In this regards, two HEIs would be selected, one from United Kingdom (UK) - University College London (UCL), and the other from Thailand (TH) – the Mahidol University (MU), for this comparative education study so that the definitions and concepts of KT would be basically confined to UK and Thailand in general at the macro-level (i.e. government's role expectation on HEIs) while KT policies and practices would be focused on the two research universities: UCL and MU at the macro thru micro-level (i.e. what are their understanding and interpretation of KT in which their KT policies and practices are derived).

In respect of the significance of this research study is to see whether Hong Kong HEIs could draw inferences and gain experiences from the outcomes of comparative analyses or not, it is important to consider the selection of locational units of analyses (i.e. HEIs or RUs as of school level) should have certain degrees of commonalities between the selected units so as to have certain degrees of comparability.

Both UCL and MU, as the locational units of analyses, are indeed based on certain commonalities, such as they were established since 19th century (i.e. UCL was found in 1826 and MU in 1888) for over 125 years entitling as one of the oldest universities in their country; both have certain degree of originality from and association with hospital since UCL has associated with   University College Hospital which was "original founded as North London Hospital in 1834 as a place for clinical training for medical students" while "MU has its origins in the establishment of Sirriaj Hospital in 1888"; they both locate at the capital city of their country with major funding from the government that both have ascertained the status of public research university; and both have similar vision of being a world class university etc. (Website of UCL and MU), whereas comparability parameters are established for comparing to analyses (i.e. relevant details are at Table 1, section of "findings" and "analysis").

Furthermore, KT policies and practices of UCL and MU are embedded within the context of their country from which relevant definitions and concepts of KT could be drawn from UK and Thailand in general as a pair of countries for comparison at the macro-level (i.e. government's role expectation on HEIs) whilst KT policies and practices could be explored from UCL and MU at the macro thru micro-level in order that any derived commonalities and differences as well as the underlying reasons could become references for local HEIs in Hong Kong.

Although the selection of UCL and MU as the units of analyses at the "school level" was prioritized as the primary target for comparison, it is inescapably connected with the education and knowledge transfer policy context of their own country with regard to certain criteria as a pair of countries for comparison.

Both are under the political context of constitutional monarchy with a unitary parliamentary system in which the monarch is a symbolic head of the country while the prime minister is the head of the executive government who is held accountable to the monarchy, parliament, affiliated political party and the electorate as well as responsible for government policies and administration. Despite the differences in the stages and status of economic development of UK and TH, both are regarded as an industrialized country with certain degree of emphasis on export trade, tourism, service industry, sciences and technology development. In addition, both UCL and MU are located at the capital, namely as London and Bangkok, whereas both are the most- populous and visited cosmopolitan city with regards as a political, financial, cultural and educational center (Wikipedia, 2014).

In that regard, both UCL of UK and MU of TH are having certain degrees of commonalities and comparability for establishing meaningful differences from similarities and unveiling the underlying reasons from their respective contexts.

Definition of Knowledge Transfer
Prior to having more details on the guiding frameworks for comparative education analyses, the definition of knowledge transfer is indeed involved diversity of interpretations from different perspectives, such as views from governments, universities, research organizations and even researchers from various fields like medical and organizational management profession, that a consented definition is hardly to achieve.

Nonetheless, the conceptual development of knowledge transfer has been briefly reviewed as well as relevant-non-exhaustive details of the definition of knowledge transfer extracted from different but government related sources (including both UK like UK Office of Science and

Technology and TH government like Ministry of Industry) and some academic research field as in relation to higher education, namely as the Thai-UK Researcher Links scheme (British Council & Thailand Research Fund, 2014) and a series working paper of the UK Economic and Social Research Council funded research project on Knowledge Transfer in HE in Scotland (Ozga, 2004a), are tabulated at Table 3. An adopted version for the definition of KT was summarized with reference to Table 3 and utilized for deriving themes for mapping between website data of the two selected higher education institutions and the themes for making comparison and analysis of their existing knowledge transfer policies and practices at large.

In brief, the definition of knowledge transfer is summarized as

> *"Within the knowledge-based economy, knowledge transfer involves multiple stakeholders, such as universities, private, public and third sector, for the processes of knowledge creation and application, knowledge mobilization and exchange, information search and transformation as well as knowledge learning within and outside organization(s) whereas there would have role for the knowledge creators and users to play as distributors and receivers accordingly through those strategic mechanisms, such as Knowledge Transfer Partnerships (KTP) or Multinational Corporations (MNCs), for facilitating the transfer of tacit and implicit knowledge such as good ideas, research results, experiences and skills whilst enhancing the transfer of tangible and explicit knowledge such as increasing productivity, manufacturing of high value-added products, unleashing creativity, and transferring knowledge and technology. Purposes of knowledge transfer emphasize using research evidences to support policy-making, good practice building and develop innovative new products and services in order that economic competitiveness, effectiveness of public services and policies, and quality of life could be improved and sustained".*

This is indeed an abstract of government's KT perspectives, which is a reference base at the country level for comparison and analysis of the situations of UCL and MU at the school level. Role expectation, conceptual definition, general practices and strategies of KT of UCL and MU are deliberately interpreted and presented at the findings section.

Comparative Education Analyses – Guiding Frameworks
With regard to "*juxtaposition*", UCL of Britain and MU of Thailand are chosen as one of the comparative units of analyses, which are quite contrasting as in terms of their economic, cultural and social contexts, whereas the summarized and adopted definition of KT as well as its associated process could derive comparability criteria for establishing similarities and differences so as to unveil the underlying reasons between the units of comparison.

Regarding the Adamson and Morris's framework for comparing curricula (2007, p.270), there are three interrelated dimensions – "*purpose and perspective, curriculum focus, and manifestations*" from which it is a guiding framework for comparing KT policy and practice between the two selected units at the "*locational*" and "*non-locational*" level by directing focus of study through the examination of study purposes, approach (i.e. interpretative perspective for analyzing and explaining education phenomena), manifestations and data collection methods as in relation to the foci of studying – the KT policy and practice. Table 2 is established to consolidate the research questions, aspect of comparison, manifestations and data collection and research methods, which is an adaptation of the Adamson and Morris's framework for comparing curricula.

Table 2: Research Questions, KT Policy and Practice Manifestations, Typical Data Collection and Research Methods

***Research questions of the study*:**

1. What kinds of knowledge transfer policies and practices have been adopted and used by UCL and MU respectively?

2. What are UCL's and MU's conceptual understanding of knowledge transfer within the global economy context?

3. What are the similarities and differences of knowledge transfer policies and practices of UK and Thailand at the country level and UCL and MU at the school level?

4. Do UCL and MU still have similar interpretation of their role in KT whereas policy and practices of KT are remained overwhelming by market- or economic-oriented approach despite the emergence of diffusing concepts of social responsibility and entrepreneurship in the contemporary society?

Table 2 *KT Policy and Practice Manifestations, Typical Data Collection and Research Methods*

Aspect of KT policy and practice	Typical manifestations	Typical data collection and research methods
Ideology: implicit or explicit	Vision, mission and objective statements on web; strategic development documents; policy documents; academic papers, etc.	Desktop / websites research; Documentary and discourse analysis
Conceptual understandings	Definition on web, at policy documents, academic papers etc.	Desktop / websites research; Documentary and comparative analysis
Planning/intention	Policy documents; Strategic development documents; Planning on web, etc.	Desktop / websites research; Documentary and discourse analysis
Implementation	Collaboration projects; Delivery mechanisms; Solution, product or service outputs;	Desktop / websites research; Documentary, comparative and interpretative analysis
Outcome and evaluation	Change amongst multiple stakeholders; Change in society; Effects on economy; Progress reviews and evaluation reports, etc.	Questionnaires; Interviews; Narratives; Phenomenological analysis; Changing indicators; Content and thematic analysis

Note. Adapted from Adamson and Morris's *framework for comparing curricula* (2007, p.274)

Methodology and Data Collection
Basically, relevant data were collected during the process of desktop / websites research from which the UCL's and MU's websites and documents relevant to their knowledge transfer concepts, philosophy, practices, development and so forth will be retrieved. However, aspects of KT policy and practice were identified and summarized at Table 2 for comparison in order to obtain a research focus but the aspect of "outcome and evaluation" would not be discussed and analysed in this study. Nevertheless, it is included at Table 2 as a more comprehensive

identification of aspects for comparison as well as leaving for future exploration – say for phase II studying.

According to and focusing on the identified aspects, relevant data were searched and collected for categorizing into different themes in relation to knowledge transfer, such as beliefs, role expectation, conceptual definition, general practices and strategies of KT, for mapping between data and themes as well as making comparisons and analyses between the two selected HEIs as according to the mapped information. In fact, a qualitative research methodology is adopted to investigate what kinds of knowledge transfer policies and practices have been adopted and used by UCL and MU and what are their beliefs and understandings about KT. In addition, a comparative education approach is used with reference to the aforementioned conceptual frameworks as guiding for interpretative analyses from the content of the collected data and categorized themes.

In short, this study could be divided as two phases: phase I is studying with documentary and qualitative analyses on secondary sources while phase II will be a study with qualitative research approach by analyzing data collection through interviews and/or standardized short questions which are regarded as primary source of information.

Findings

Regarding the motto, vision and mission as well as the basic profile of UCL and MU, both are classified as "Research University" with similar basic profile that they always put emphasis on academic excellence and visionary as world-class university which has embedded within their motto and vision statements. Specifically speaking, UCL put emphasis on "academic excellence and conducting research that addresses real-world problems" as her motto (UCL website 2014) while MU's motto is "*Attānaṁ upamaṁ kare*" which means "*do unto others as you would have others do unto you*" that "this underlying theme endeavors to imbue graduates, aside from achieving academic excellence, with a solemn duty to improve the quality of life for all humanity (MU website 2014). In addition, mission of UCL is "*London's global university*" which implies connectivity with the global society (UCL website 2014) while MU is to "*excel in health, sciences, arts, and innovation with integrity for the betterment of Thai society and the benefit of mankind*" (MU website 2014). In this regards, both have commonalities in striving for academic and research excellence for benefitting peoples, one's own society and/or the global society by nurturing professional leaders, enhancing capabilities, tackling challenges and deriving solutions etc. through teaching, research and knowledge transfer.

In fact, vision statements of UCL Council White Paper 2011-2021 clearly denote the above-mentioned ideologies as follows, which can also reflect, to certain extent, MU's beliefs within similar circumstances:

"*UCL is recognised as one of the world's most advanced universities and valued highly by*
the wider community thru the provision of an outstanding education internationally thriving
students as global citizens. UCL commits to leadership in the advancement, dissemination
and application of knowledge within and across disciplines, to develop future generations
of leaders in different sectors, to tackle global challenges with confidence and leading
through national and worldwide collaboration in the advancement of knowledge, research,
opportunity and sustainable economic prosperity for achieving maximum positive social,

environmental and economic benefit through its achievements in education, scholarship, research, discovery and collaboration." (University College London, 2011, p.9).

Tabel 1 is constructed to compare the vision, mission and basic profiles of UCL and MU in more details as follows:

Table 1 *Comparison of the Vision, Mission and Basic Profiles Of UCL and MU*

	University College London (UCL)[2]	Mahidol University (MU)[3]
Historical Background	UCL was established in 1826 to open up education in England for the first time to students of any race, class or religion. UCL was also the first university to welcome female students on equal terms with men. It is one of 18 self-governing Colleges of the Federal University of London since the establishment of "*the University of London in 1836 whom is the third oldest university in England". The two founding Colleges of the University, UCL (founded 1826) and King's College London (founded 1829), both predate the University[4]."*	Mahidol University has its origins in the establishment of Siriraj Hospital in 1888 and the hospital's medical school is the oldest institution of higher learning in Thailand, granting its first medical degree in 1893. Later becoming the University of Medical Sciences in 1943, and was renamed as Mahidol University in 1969.
Country of Origin	United Kingdom	Thailand
Region	Europe	Asia
Established Since	1826	1888
Location	London – the Capital City	Bangkok – the Capital City
Organization Structure	UCL's academic structure consists of 10 faculties, each home to world-class research, teaching and learning in a wide-ranging variety of fields.	The university is organized into 17 faculties (responsible for both research and teaching), 7 institutes (mainly focusing on research), 6 colleges (mainly focusing on teaching) and 9 centers (mainly providing academic services).
University Population	UCL has approximately 24,000 students (around 13,000 undergraduate and 10,500 are postgraduate students). It has more than 4,000 academic and research staff and one of the best students to staff ratios in the UK (approximately 9:1).	MU has approximately 24,000 students (around 15,500 undergraduate and 8,300 are postgraduate students). It has a total of 3,000 academic staff responsible for teaching and research, some 6,500 academic assistants, 5,900 administrative staff, and 8,700 other employees (including hospital employees).
National Ranking 2013[5]	4 (QS) / 3 (ARWU)	283 (QS) / NIL (ARWU)
Regional Ranking 2013[6]	4 (QS) / NA (ARWU)	41 (QS) / NA (ARWU)
Global Ranking 2013[7]	4 (QS) / 21 (ARWU)	283(QS) / NIL (ARWU)

[2] Retrieved from http://www.ucl.ac.uk.
[3] Retrieved from http://www.mahidol.ac.th.
[4] Retrieved from http://www.london.ac.uk/history.html#c31.
[5] Ranked by location by the QS World University Rankings (QS) (2013). Retrieved from http://www.topuniversities.com/university-rankings/world-university-rankings/2013; and ranked by Academic Ranking of World Universities (ARWU) of the top 500 universities globally (2013). Retrieved from http://www.shanghairanking.com/ARWU2013.html
[6] Ranked by location by the QS World University Rankings (QS) (2013). Retrieved from http://www.topuniversities.com/university-rankings/world-university-rankings/2013; and ranked by Academic Ranking of World Universities (ARWU) of the top 500 universities globally (2013). Retrieved from http://www.shanghairanking.com/ARWU2013.html

Funding Source & Status	Public funding and Public Research University	Public funding and Public Research University
Motto	Academic excellence and conducting research that addresses real-world problems.	Attānaṁ upamaṁ kare : 'Do unto others as you would have others do unto you'.[8]
Vision	*UCL is recognised as one of the world's most advanced universities...	Determine to be a world class university
Mission	UCL is London's global university[9].	To excel in health, sciences, arts, and innovation with integrity for the betterment of Thai society and the benefit of mankind.

Note. Data from *UCL Council White Paper 2011–2021*. Retrieved from http://www.ucl.ac.uk/white-paper/mission, website of University College London & Mahidol University. (details refer to footnotes)

With regard to the strategic development of UCL and MU, both have similar philosophy of striving for excellence at global level as well as benefiting people and the society at large. UCL's motto, vision and mission described above have clearly disseminated the philosophy of striving for excellence for achieving various goals and maximizing different kinds of positive benefits (University College of London, 2011). In respect of the strategic aims, UCL has emphasized her commitments in achieving specific academic excellence, attracting talented students, managing a team of high caliber of staff from diverse background, establishing global leading position in research, enterprise and open innovation, enhancing cost-effectiveness and sustainability, as well as specifying partnership, knowledge exchange, entrepreneurship and innovation for addressing solutions towards social challenges (University College of London, 2011).

MU has adopted four key strategies for actualizing her vision-mission through "research excellence", "teaching and learning excellence", "healthcare and services excellence" and "internationalization" (Mahidol University, 2009). Amongst the strategic aims, the emphases are closely relating to national and global communities whereas the high caliber of people are engaged through managing, nurturing and collaborating functions with the support of information communication technology (ICT) and systems in management, knowledge sharing, educational learning and research, providing quality and international standard healthcare services, and enhancing internationalization (Mahidol University, 2009).

Although the strategic plans of UCL and MU have shown difference positions of development, in particular of UCL's comprehensiveness in knowledge transfer strategies, both have similar focus on human capital, excellent pragmatic research, facilitating systems/environment and internationalization.

In fact, a review on the motto, vision, mission and key strategies of UCL and MU is to examine the philosophy and strategic aims of the respective institution for exploring policies or directives and definitions, either explicitly or implicitly, of knowledge transfer.

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[7] Ranked by global by the QS World University Rankings (QS) (2013). Retrieved from http://www.topuniversities.com/university-rankings/world-university-rankings/2013; and ranked by Academic Ranking of World Universities (ARWU) of the top 500 universities globally (2013). Retrieved from http://www.shanghairanking.com/ARWU2013.html

[8] In the Pali language, this translates as the Golden Rule in English: 'Do unto others as you would have others do unto you'. This underlying theme pervades every aspect of Mahidol University as it endeavors to imbue graduates with the conviction that, aside from achieving academic excellence, they have a solemn duty to improve the quality of life for all humanity. Retrieved from http://www.mahidol.ac.th/en/history.html

[9] UCL Council White Paper 2011–2021. Retrieved from http://www.ucl.ac.uk/white-paper/mission

To be more specific as in line with knowledge transfer, aspects of KT policy and practice were identified and manipulated, either in the country and institution level, for comparison and further analysis at the analysis and conclusion section. A total of three tables were constructed, two were manifested at the country level and one was institutional manifestation, for comparing conceptual understandings of KT from government perspective (i.e. country level) whereby the underlying context of KT in UK and Thailand was derived (i.e. Table 3 and 4) as well as for comparing full aspects at the institution level (i.e. Table 5).

Table 3 *Definition of Knowledge Transfer (KT): By Geographic/Locational (Country Level's) Perspective*

Country	United Kingdom (UK)	Thailand (TH)
KT in Commons	"In today's **knowledge-based economy**, universities are considered to be **a key entity** in the pathway to **sustainable economic growth**. Recent government policies and strategies identifies that the transference of knowledge and technology from **universities to industry** is **fundamental** to regional development and growth." (British Council & Thailand Research Fund, 2014). "Policy-makers elsewhere are looking for more effective ways of using **research evidence** to **support** policy-making and to **build good practice** in schools and other educational organisations" (Ozga, 2004a).	
Government's KT Perspectives	**BIS** "Within a modern, **knowledge driven economy**, knowledge transfer is about transferring **good ideas**, **research results** and **skills** between universities, other research organisations, business and the wider community to **enable innovative** new **products** and **services** to be developed" (BIS 2009 in Robert J. Howlett 2010) **RCUK** "Knowledge transfer describes how **knowledge and ideas** move between the **knowledge sources to the potential users** of that knowledge. The Research Councils encourage knowledge transfer by supporting schemes and activities to transfer **good ideas**, **research results** and **skills** between universities and other research organisations, business, the third sector, public sector and/or the wider community." (RCUK website in Robert J. Howlett 2010 **ESRC** "Knowledge exchange is about exchanging **good ideas**, **research results**, **experiences** and **skills** between universities, other research organisations, business, Government, the third sector and the wider community to **enable innovative** new **products, services** and **policies** to be developed." (ESRC website in Robert J. Howlett 2010)	**BOI, Ministry of Industry** "Thailand is well on its way to becoming a **knowledge-based economy**, which implies **increased productivity**, manufacture of **high value-added** products, and **unleashing** the **creativity** of the Thai people" (BOI 2014). **The 10th NESDP (2007-2011)** "In order to **foster Innovation**, it is crucial to identify the **mechanisms** contributing to **sustaining** strong **economic performance**, and to facilitate private investment from both national and international companies" (NESDP, 2006) (Worasinchai, 2010). **The 11th NESDP (2012-2016)** "Thailand is to base its future development on **knowledge, technology and innovation**. Research and development of science and technology are major driving forces of the country's development" (NESDP, 2011). "Knowledge transfer defines as a process of **knowledge creation** and **application**, knowledge **mobilization** and **exchange**, **information search** & **transformation** as well as the **learning process** at and outside the workplace. The success of companies in a **knowledge-based economy** relies more on **knowledge and intellectual capital** than on other resources" (Abd Hair Awang 2008 Promoting KT in S & T). "Thailand needs to move toward an economy not only based on the cheapness of labour but

Country	United Kingdom (UK)	Thailand (TH)
	OST "Knowledge transfer is about transferring **good ideas**, **research results** and **skills** between universities, other research organisations, business and the wider community to enable **innovative** new **products and services** to be developed." (OST 2006) **DEL**[10] "Knowledge transfer activities are the processes by which **knowledge**, **expertise** and **skilled people** transfer between the research base and its user communities to **contribute** to **economic competitiveness, effectiveness of public services** and **policy**, and **quality of life**" (DEL Feb 2014).	also based on its **intellectual capital and innovation capability**. Hence, Thailand needs to attract **multinational corporations** that will contribute to **raising the research and development capacity** of the country" (Worasinchai & Bechina 2010).
Definition of KT (Summarized)	"Within the knowledge-based economy, knowledge transfer involves multiple stakeholders, such as universities, private, public and third sector, for the processes of knowledge creation and application, knowledge mobilization and exchange, information search and transformation as well as knowledge learning within and outside organization(s) whereas there would have role for the knowledge creators and users to play as distributors and receivers accordingly through those strategic mechanisms, such as Knowledge Transfer Partnerships (KTP) or Multinational Corporations (MNCs), for facilitating the transfer of tacit and implicit knowledge such as good ideas, research results, experiences and skills whilst enhancing the transfer of tangible and explicit knowledge such as increasing productivity, manufacturing of high value-added products, unleashing creativity, and transferring knowledge and technology. Purposes of knowledge transfer emphasize using research evidences to support policy-making, good practice building and develop innovative new products and services in order that economic competitiveness, effectiveness of public services and policies, and quality of life could be improved and sustained".	
Strategic Foci of KT Policy	**Knowledge Transfer Partnerships (KTP)**[11] KTP is a flagship policy of knowledge transfer which aims to "facilitate the transfer of knowledge through projects undertaken by recently qualified people under joint supervision from a business and an academic institution whereas business-based trainings for enhancing business and specialist skills will be provided. In addition, KTP is to increase interactions between businesses and academic institutions, and awareness of the contribution to business development and growth so as to supporting UK businesses wanting to improve their competitiveness, productivity and performance by accessing the knowledge and expertise available within UK Universities and Colleges.	**Multinational Corporations (MNCs)** Attracting MNCs to invest & share knowledge with Thai Societies & Universities for enhancing the knowledge sharing mechanisms cos studies confirm that MNCs *play crucial role in knowledge creation, technology diffusion and development of potential R&D* (Worasinchai & Bechina 2010).

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[10] Department for Employment and Learning (DEL), Northern Ireland. http://www.delni.gov.uk/index/further-and-higher-education/higher-education/role-structure-he-division/knowledge-transfer.htm

[11] Council for Industry and Higher Education (2012).

Country	United Kingdom (UK)	Thailand (TH)
	Each partnership employs recently qualified people to work on a project of strategic importance to the business, whilst also being supervised by the Knowledge Base Partner" (DEL 2012).	

Legend

* Thailand Investment Review (TIR), Board of Investment (BOI), Ministry of Industry (MOI), Thailand

** National Economic and Social Development Plan (NESDP)

*** UK Office of Science and Technology (OST), renamed as Office of Science and Innovation. Department of Business, Innovation and Skills (BIS), United Kingdom

Table 4 *Underlying context of KT in UK and Thailand*

			United Kingdom	Thailand
When	**Context**		Knowledge driven economy	Knowledge-based economy
Why	**Purposes**		1. Using research evidence to support policy-making and build good practice in organizations 2. Contributing to economic competitiveness, effectiveness of public services and policy, and quality of life **(Intrinsic value)**	1. To enable innovative new products, services and policies to be developed 2. To sustain economic growth **(Measureable value)**
Who	**Stakeholders**		1. Universities 2. Research organisations 3. Business 4. Third sector 5. Public sector / Government 6. Wider community	1. Universities 2. Industry 3. Multinational corporations 4. National & International Companies 5. Citizens 6. Societies
How	**Process (People-oriented)**	**Process (Action-oriented)**	1. Move between the knowledge sources to the potential users **(Distributors & Receivers)** 2. Knowledge, expertise and skilled people transfer between the research base and its user communities **(Creators & Users)**	A process of knowledge creation and application, knowledge mobilization and exchange, information search & transformation as well as the learning process at and outside the workplace **(Functional based & Action-oriented)**
	Key Mechanism		Facilitating through Knowledge Transfer Partnerships (KTP) **(Internal mechanism)**	Enhancing through Multinational Corporations (MNCs) **(External mechanism)**
What	**Results**		Transferring knowledge, good ideas, research results, experiences and skills **(tacit and implicit knowledge)**	1. Increasing productivity, manufacturing of high value-added products, and unleashing the creativity 2. Transferring knowledge and technology **(tangible and explicit knowledge)**

Table 5: *Role expectation, conceptual definition, general practices and strategies of KT*

Aspects and Themes (Derived from summarized definition of KT)		Locational Levels (i.e. Schools / HEIs)	
		University College London (UCL)	Mahidol University (MU)
KT Ideology / philosophy		1. Emphasizes "collective wisdom" over individual expert; 2. Stresses the importance of cross- and inter-disciplinary collaboration for addressing the world's major problems; 3. Research knowledge should be open access for increasing its impacts; 4. Develop academic entrepreneurship for the benefit of society; 5. Believes that technology transfer is a mean serving for societal benefit and impact to the end; 6. Knowledge created through thematic research should be applicable and realizable	"True success is not in the learning, but in its application to the benefit of mankind" (MU 2009).
KT Missions & Policies		"Committed to leadership in the advancement, dissemination and application of knowledge within and across disciplines while achieving maximum positive social, environmental and economic benefit through its achievements in education, scholarship, research, discovery and collaboration as well as tackling global challenges" (UCL 2011).	"To excel in health, sciences, arts, and innovation with integrity for the betterment of Thai society and the benefit of mankind" (MU 2009).
Role Expectation In the knowledge-based economy			
KT Practices	Involves multiple stakeholders	i.e. Cross-disciplinary collaboration	Collaboration amongst multiple stakeholders
	Knowledge creation and application	i.e. Creating knowledge through research, innovations, publications and KT strategic mechanism for useful and practical applications for wider society aiming for solutions.	"A strong emphasis is placed on research collaboration with public and private sectors as well as international institutions and agencies to develop innovative solutions to challenges for Thailand and the world" (MU 2013a p.7).
	Knowledge mobilization and exchange	Knowledge is mobilized and exchanged through the thematic research groups as an intellectual platform for interdisciplinary collaboration.	"To establish research clusters and centers with interdisciplinary research initiatives for breaking down traditional academic boundaries bringing together collaborative teams of experts to address major social issues" (MU 2013a p.7).
	Information search and transformation	1. Search through the Open Access movement for freely knowledge dissemination and visibility. 2. Enhancing research culture for the transformation of knowledge into applicable and practical services or products.	"Knowledge is prized as the foundation for thriving societies, and universities have become an institution of prime importance as a center for pursuing, gathering, creating, disseminating and preserving knowledge" (MU 2013b).

Aspects and Themes (Derived from summarized definition of KT)		Locational Levels (i.e. Schools / HEIs)	
		University College London (UCL)	Mahidol University (MU)
	Knowledge learning within and outside organization(s)	"UCL Advances helps anyone who wants to start, grow or learn about business through training, networking and support" (University College London, 2012).	"Actively collaborates with overseas academic and international agencies in research, curricula development and staff and student exchange" (MU 2013a p.14).
	Transferring tacit and implicit knowledge	"UCL Consultants offers consultancy work to ensure timely, high-quality delivery to meet clients' requirements" " (University College London, 2012).	"Mahidol university has been fully committed to the role of 'Wisdom of the Land', serving as an intellectual sanctuary that offers ideas and guidance to help steer Thai society on the right course" (MU 2013b).
	Transferring of tangible and explicit knowledge	"UCL Business invests directly in development projects to maximize the potential of the research and manages the commercialization process of technologies from the laboratory to the market-ready stage" " (University College London, 2012).	"Promoting research initiatives and projects that tackle a wide range of problems and issues confronting Thailand from water management, the drive to become 'Kitchen of the World', the problems faced by the elderly, social inequality to emerging diseases" (MU 2013b).
Purposes of KT	Using research evidences to support policy-making for enhancing effectiveness of public services and policies	"The UCL Enterprise School Knowledge Transfer Board Chairs in each school seek to support academic staff in their faculties to ensure knowledge is effectively transferred from the university into useful applications for wider society, whether that be through working with business, corporates or influencing government or other public bodies." ." (University College London, 2012).	NA
	Using research evidences to build good practice for improving and sustaining quality of life	"The aims of the Translational Research Office (TRO) are to enhance the culture of UCL which sees promising breakthrough research turned into therapies, techniques and medical products that benefit health." (University College London, 2012).	"As one of the nine higher education institutions eligible for the National Research University Project, MU is committed to contributing to social well-being" (MU 2013a, p.6).
	Using research evidences to develop innovative new products and services for enhancing economic competitiveness	"UCL Corporate Partnerships emphasizes the development and management of long-term relationships between industry and UCL through global leadership projects, high-value research initiatives and tailored partnerships so as to deliver innovation advantages to industry, enhance international competitiveness and generate sustainable income to UC" (University College London, 2012).	MU is committed to contributing to creating innovation" (MU 2013a, p.6).
KT Strategic Mechanisms		1. UCL Grand Challenges –	1. "Center for Innovation Development

	Locational Levels (i.e. Schools / HEIs)	
Aspects and Themes (Derived from summarized definition of KT)	University College London (UCL)	Mahidol University (MU)
	cross-disciplinary collaboration through collective wisdom to improve humanity's circumstances by focusing on global health, sustainable cities, intercultural interaction and human wellbeing.	and Technology Transfer is one of the centers under the Faculty of Medical Technology of MU who is placing an increased emphasis on the areas of health promotion and quality of life improvement" (MTMU 2010a).
	2. Institutional Research Information Service (IRIS) is strategically grouping research teams by themes to facilitate interdisciplinary collaboration addressed to the core global issues for enhancing the lives of people.	2, "MTMU has strong collaborations with partnerships worldwide to share professional knowledge and experiences which has been driven by staff and student exchange programmes" (MTMU 2010b).
	3. UCL's created knowledge is freely transferred via the UCL Discovery by adopting the Open Access principle to let the scholarly literature available on web without any barriers for increasing the impact of knowledge outputs. .	3. "Initiative such as the production of quality control materials and teaching aids by MTMU plays an important role in attaining self-sustainability of the society and improved economic competitiveness of the country through technology transfer" (MTMU 2010c).
	4. "UCL Enterprise provides structures for engaging with business for commercial and societal benefit via three units: UCL Advances, UCL Business and UCL Consultants" " (University College London, 2012).	4. "MTMU provides short training programmes both to local and non-local participants to raise the standards and competency of medical technologists working in the laboratory and to train well-rounded scholars whom are capable of understanding and have access to the latest in science and technology for solving encountered problems" (MTMU 2010d).
	5. "UCL Advances aims at nurturing entrepreneurship through training, networking and business support for staff, students and external entrepreneurs" " (University College London, 2012).	5. "The Faculty of Environment and Resource Studies (ERS) of MU has established a number of research centers in 2005, such as Wetlands Management Research and Training Center, Eco Industry Research and Training Center, Environmental Remediation Technology Research Center, aims at encouraging collaboration between academic staff, students and researchers in order to attain beneficial outcomes for the society like supporting industrial environment knowledge for education and industry purposes" (ERSMU 2010a).
	6. "UCL Business PLC is a leading technology transfer company, which supports and commercializes research and innovations arising from UCL (University College London, 2012)."	
	7. "UCL Consultants offers a one-stop office for academics wishing to carry out consultancy work, providing comprehensive contractual, tendering and administrative support, enabling UCL staff to ensure timely, high-quality delivery to meet clients' requirements (University College London, 2012)."	6 MU is one of the model universities in Asia for the establishment of technology transfer office (i.e. Applied and Technological Service Center) and IP policy for specifying regulations such as ownership of patents and copyrights, and rights and obligations for the parties involved etc." (WIPO 2007).
	8. "Corporate partnerships deliver innovation advantages to industry, enhance the international reputation of companies and generate sustainable revenue and benefits to the university (University College London, 2012)."	

Aspects and Themes (Derived from summarized definition of KT)	Locational Levels (i.e. Schools / HEIs)	
	University College London (UCL)	Mahidol University (MU)
	9. "The aims of the Translational Research Office (TRO) are to enhance the culture of UCL which sees promising breakthrough research turned into therapies, techniques and medical products that benefit health (University College London, 2012)."	7. International collaboration through workshops and training such as "University Technology Transfer and Knowledge Exchange", "Antimicrobial Use in Livestock and Antimicrobial Resistance in Foodborne Pathogens" (British Council 2014).
	10. "UCL Enterprise School Knowledge Transfer Board Chairs seek to support academic staff to ensure knowledge is effectively transferred into useful applications for wider society, whether that be through working with business, corporates or influencing government or other public bodies. (University College London, 2012)."	8. Actively participate in international collaboration projects such as the MAHEVA Scholarship Project (Health, Environment and Biodiversity) aims at linking EU universities' experiences with Asian universities through sustainable sharing of knowledge and exchange (MAHEVA 2014).
		9. Research is an essential KT strategic mechanism of MU since research is regarded as mission and primary activity of all MU faculties, particular in medical science (Virasa 2011).

Note. Adapted from the website of *University College London* (UCL) and *Mahidol University* (MU) http://www.ucl.ac.uk/enterprise/
UCL (2011) and MU (2009)

Analysis and Conclusion

At the locational level of institution, both UCL and MU are having the same status as a public research university whom are dedicated to knowledge transfer through a variety of research initiatives and activities, such as interdisciplinary research, cross-disciplinary collaboration, commercialization of technologies with applicability and using research knowledge for deriving practical solutions to address problems for the benefit of society.

As referring to the aspects and thematic comparison of role expectation, conceptual understandings, general practices and strategies of KT between UCL and MU (details at Table 5), there are principal commonalities embedded within the aspects of KT ideology, mission and policy as well as role expectation in the knowledge-based economy whereas knowledge transfer, either via research, technology transfer or other KT practices, emphasizes its solutions and application to the benefit of mankind, society and the world at large. They both expect to assume a leading role for change toward knowledge-based society at local and international levels through cross-disciplinary collaboration. Apart from similar motto, vision and mission of striking for excellence at local and global levels, the most obvious difference is their stage of development and achievement which UCL is recognized for its excellence internationally (i.e. ranked 4 at the global ranking) but MU is determined to become a world class university (i.e. ranked 283 at the global ranking).

Despite both have a long history of development for over 120 years or more, there are areas of differences between UCL and MU whereas the emphasis, maturity, comprehensiveness

and diversity of knowledge transfer strategic mechanism are incompatible with their different stage of development.

UCL KT strategic mechanisms are diversified with technology transfer of commercialized research and innovations for commercial/industry/university benefit and knowledge transfer of practical solutions and applications for societal benefit by addressing core national and global issues for enhancing the lives of people. Goals of KT are achieved through the establishment of agenda focus (i.e. Grand Challenges on global health and sustainable cities), cross- and inter-disciplinary collaboration for collective wisdom, formal structures (i.e. UCL Business, UCL Discovery) for enhancing capability and impact of knowledge outputs, entrepreneurship nurturing and the transformation of knowledge transfer culture into cost-effective and pragmatic orientation for wider society, including not only the business (i.e. economic benefit) and also the government or other public bodies (i.e. social benefit).

In fact, UCL's KT practices and strategic mechanisms are all-round with high degree of maturity, comprehensiveness and diversity in which they are inter-correlated with possible reciprocal relationship. For example, the UCL Enterprise, which comprises of three units: UCL Advances, UCL Business and UCL Consultants, "provides structures for engaging with business for commercial and societal benefit" whereas fostering of entrepreneurship, facilitating of academic consultancy and providing support for commercializing research and innovations (University College London, 2012) are interlinked through the units and across other mechanisms such as supports rendering for academic staff to transform knowledge into practical solutions and disseminate greater impacts for the wider society by the Translational Research Office and UCL Enterprise School Knowledge Transfer Board Chairs. The KT emphases of UCL are indeed sublimated solely from market- or economic-oriented to social responsibility trend while the benefit and priority level is extending from local to global. The differences are somewhat related to the development stage at the institution level and underlying context at the country level (i.e. developed economy versus developing economy or different years of higher education reforms) between UCL and MU.

In contrast to UCL KT emphases and strategies, MU's strong historical background of medical sciences and technology (i.e. 10 out of 17 faculties[12] are medical related) as well as existing situation with the underlying context of developing cum innovation-driven economy and higher education reform at the country level, the transformation of research strategies as the primary activity and emphasis of KT, or more specific as technology transfer (TT), is obvious through the process of documentary analysis. In fact, MU has increased her research outputs, particular in Scientific and technological publications, and ascertained the highest status for 5 consecutive years from 2002-2005 amongst universities in Thailand (Kumaravel, Seethalakshmi, Idhris & Manimala, 2013).

In addition, according to Brimble and Donor (2007) study that "most interactions between universities and industries in Thailand are through informal channels, such as personal contacts," that MU has established technology transfer and commercialization system in recent years, particular for responding to change when the Mahidol University Act was promulgated in 2007 that MU is transforming from public university to an autonomous

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[12] Mahidol University comprises of 17 faculties, namely as Dentistry, Medical Technology, Medicine Ramathibodi Hospital, Medicine Siriraj Hospital, Nursing, Pharmacy, Physical Therapy, Public Health, Tropical Medicine, Veterinary Science, Engineering, Environment and Resource Studies, Graduate Studies, Information and Communication Technology, Liberal Arts, Science and Social Sciences and Humanities (Website of Mahidol University 2014).

university (Virasa 2011). Though "MU categorizes its university-industry linkages (UILs) into three models which include training and education-related activities (i.e. training for industry researchers), research-related activities (i.e. UI collaboration research) and innovation-related activities (i.e. technology licensing), the commercialization of technology transfer intellectual property policy and patenting etc. are in the early-stage of development (i.e. less than 10 years of development) (Virasa 2011). Indeed, this kind of KT strategy is somewhat mirroring experience from those country with advance economy, like UK, whom have put much emphasis on teaching and research at an early stage of development in 80's.

Though MU's KT ideology and mission are aiming at the benefit of mankind through the creation and application of knowledge, her existing KT practices and strategies are more inclining to science and technology transfer, such as medical technology, environmental remediation technology, antimicrobial use in livestock, with priority in tackling local problems encountered by Thailand as well as to "improve economic competitiveness of the country through technology transfer" (MTMU 2010c).

Obviously observed from the comparison Table 5 between UCL and MU, their conceptual understanding of knowledge transfer, policies and practices are to a great extent have certain commonalities in principle from which the emphases and strategic mechanisms are different as in terms of different development stage whereas the level of maturity, comprehensiveness and diversity are varied.

However, as refer to Table 4 for the underlying context of KT in UK and Thailand, whereas interpretation analysis of the comparing themes were derived from the knowledge transfer concepts and definitions of UK and Thailand respectively, in particular from the government perspectives. The interpretation shows that the context, purpose, stakeholders, process, key mechanism and results of knowledge transfer have distinctive differences.

With regard to the context, UK is under knowledge-driven economy in which knowledge is independent to the economy whereas it drives the direction of economic development (i.e. knowledge becomes solutions to important socio-economic issues). In contrast, Thailand is under knowledge-based economy in which knowledge is dependent on the economy whereas it serves to develop a bloomed economy (i.e. knowledge transforms as intellectual property for enhancing the economic competiveness).

For the purposes of KT, differences between UK and Thailand are their nature of emphases whereas UK denotes an intrinsic value (i.e. contributing to quality of life) while Thailand shows a measureable value (i.e. enabling innovative new products) of the purposes of KT. Even the types of KT stakeholders have obvious differences between UK and Thailand since UK involved with a variety of stakeholders from different sectors while Thailand had put emphasis on the university-industry connection which industry, multinational corporations, national and international companies are her major KT stakeholders.

Apart from the purposes or policy intentions of KT, the process of KT and its key practice mechanism as well as the subsequent results between UK and Thailand are differed in the ways that UK's KT process is more people-oriented (i.e. transfer involves the important role of distributors/creators and receivers/users) while Thailand is more action-oriented (i.e. emphasizes the functional process of knowledge transfer). In fact, the key mechanism of KT practices have reflected the distinctive process orientation between UK and Thailand whereas UK is facilitating through Knowledge Transfer Partnerships (KTP) while Thailand is

enhancing through Multinational Corporations (MNCs). The former is more in line with internal mechanism (i.e. partnerships with reciprocal relationships) with the emphasis on tacit and implicit knowledge transfer. The latter, in contrast, is more relied on external mechanism (i.e. innovative technology by MNCs) for enhancing its knowledge-base with the emphasis on tangible and explicit knowledge transfer.

In respect of the differences between the underlying context of KT in UK and Thailand, it is somehow relevant to their stages of development, either economically or socially, that may exert influence on UK and Thailand for the interpretation of their role in KT whereas policy and practices of KT in UCL are more likely inclined to social responsibility and entrepreneurship while the economic-oriented approach is maintained. Contrastingly, policy and practices of KT in MU are still overwhelming by economic-oriented approach so as to help boosting the economy and competiveness of the country who is inevitably encountering the trend of globalization in the contemporary world.

In sum, the basic principles and philosophies of knowledge transfer policy and practices have certain commonalities between UCL and MU while the differences in KT strategic mechanisms and the ultimate goals are likely in line with their different stages of development as well as the underlying context of KT at the country level. Despite some may argue that "KT is more a product of neo-liberalism and new managerialism" (Adamson 2014), at least at the very beginning development of KT (or more accurate as Technology Transfer (TT)) from which government did have a bundle of mechanisms (i.e. innovation research fund for HEIs) for monitoring the behaviors or responses of university policy holders/administrators. However, can government assert absolute or certain level of control over universities through accountability system is a controversial matter that university's and academic leaders are most likely having self-initiative, high autonomy and professional judgment etc. whereas they may have some strategies for being accountable while they could eliminate certain degree of influences from the Government.

In this regard, it could be argued that starting from the very beginning, KT may be correlated with neo-liberalism and new managerialism but during the process of KT development, in particular for those universities (i.e. UCL) whom have ascertained experience in KT, there may have subtle changes in regard of their ultimate goals towards KT, such as deriving solutions to social problems, achieving sustainability for economic and social development. This is what we could describe as a sublimation of an organization's mission-vision. In fact, people always attempt striking balance between their response to "pressure" (i.e. accountability) and "conscience" (i.e. social responsibility).

In view of the study has adopted a comparative education approach with multilevel analyses and concentrated on those relevant KT aspects and themes for comparison that similarities and differences between UCL and MU were subsequently identified for interpretative analyses while the research questions could be answered accordingly. However, the study has applied the method of documentary-qualitative analysis with evidences from secondary sources only that it has limitation for observing any discrepancies between "what have been stated" and "what have been done and experienced" during the process of knowledge transfer by policy holders and stakeholders of UCL and MU respectively. Therefore, there are rooms for further studying through the methods of interviews, standardized short questionnaires and/or on-site observation etc. so as to triangulate the phenomenon with substantial proofs.

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Education decentralization and professional development of the principal in Hong Kong

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Abstract

The school principal plays a crucial role in school management. Its professional development is not only the key to successful school operation, but also reflects the government's understanding and expectation of the role of principals. In Hong Kong, however, little attention has been paid to the policies about the professional development of principals. To close the research gap, this study has thoroughly reviewed the relevant documents so as to trace trends in professional development of principals in the past 30 years.

From the textual analysis, several distinct trends are identified. First, both preparation and in-service programme aims to prepare for the challenge in the future, instead of the passive approach to problem solving in schools; Second, the government allows more diversity in professional development of the principal, from structured and systematic training course to different kinds of school-based analysis and personal reflection; Third, the professional community of in-service principals has taken over the dominant role of the government through their active participation in the pre-service preparation programme, as well as the mentorship for the novice principals.

Keywords: Principal preparation, Professional Development of Principal, School Leadership, Principalship

1. Introduction

In the past few decades, the education reform of school decentralization has swept the globe. The principals are granted greater autonomy than before, while the government has to bear more risk for the retreat of the direct control role of the state. It is important to build trust between the government and the schools, so that the government can ensure that the decentralized power is not abused or used impulsively. In this regard, the professional development of the principal serves as the key to establish this trustful relationship as it can equip the pre-service principal with the competence of managing schools, as well as exercising the autonomy via self-regulation (Bush, 2008).

In Hong Kong, the professional development of principal has gained importance in policy agenda since the 1980s and is manifested through the policy document and the professional development system. Through different levels of accreditation and training, it is expected that the principal can accomplish their tasks successfully with high autonomy. Meanwhile, the policy development also reflects different expectation on the principal and potential risk in schools in government's view. In order to understand the government's view of the role of school principal, as well as the expectation and potential risk of the school decentralization, this paper examines the related policies and documents of the principal's professional development, so as to figure out the intricate interactions of different concerns influencing principal' professionalism in local context and serves as a platform for further discussion on the principal's development.

2. Literature Review

2.1 School decentralization in Hong Kong

Education decentralization is the shift of administrative authority and decision-making power to the frontline schools, while the major education decentralization reform thrusts include encouraging schools to share more authority to different stakeholders (political decentralization) and promoting school-based management, granting schools more autonomy in terms of resource allocation and management structure (administration decentralization) (Rondinelli, 1999). In practice, the decentralization policies were implemented in the policy of school-based management since 1991 and the establishment of the Incorporated Management Committee (IMC) system since 2004.

In March 1991, the Education Department (ED) published the document "School Management Initiative: Setting the framework for quality in HK schools" and highlighted different problems of school administration, such as inadequate management structure, poorly defined roles and responsibilities of stakeholders, and the over-emphasis on cost control at the margins, rather than cost effectiveness and value for money. The document suggested that all schools should adopt a model of teaching and learning and a school-based, student-centered and quality-focused management framework (Education Department, 1991). ED's suggestion was further strengthened by the Education Commission. In 1997, the Education Commission Report No.7 (ECR7) also placed an emphasis on school-based management. It stipulated that all schools have to establish their own quality assurance system and appraisal system (Education Commission, 1997). The schools, being devolved more responsibilities and offered greater autonomy and flexibility in managing their operations and resources and planning for school development, are expected to provide quality education with own school characteristics (School-based management section, 2010).

Other than the administration decentralization, the government also encouraged the school to share its power with different stakeholders. In ECR7, it is encouraged to involve the representative of parent and teacher in the school board or the school executive committee. It showed a rising concern of parents and teachers, whereas their roles were not yet clear enough. It is because the school board has the supreme authority to make any decision, while the school executive committee is only responsible for the school management (Education Commission, 1997). In 2002, the Education Department has put forward the implementation of SBM by proposing the SBM Ordinance. It stipulated that all schools must establish the Incorporated Management Committee (IMC), which has the full discretion in goal setting, financial and human resource allocation, formulating the school policies, and evaluation (Education and Manpower Bureau, 2004). According to the ordinance, the IMC is constituted by at least one teacher manager (and one alternate teacher manager), one parent manager (and one alternate parent manager), one alumni manager, one independent manager and the principal, while the school-sponsoring body can nominate 60% manager in IMC (Legislative Council, 2004).

2.2 New requirement and challenge to the principal

Through the administration and political decentralization, the school system is expected to be more responsive to external changes and more efficient in management (Mok & Tam, 2004), while it also brought new challenge to the school leadership through the principal.

First, decentralization grants different stakeholders more authority to involve in the school administration. Glatter (2003) mentioned that decentralization involves the transfer of responsibilities to the lower level, while schools are viewed as part of a local educational system with reciprocal rights and obligation. The municipal may play a role in connecting schools to other community development. The school leaders may thus be also asked to play the leading role "beyond the school borders", which requires principal to become more effective in communication, co-operation and coalition building with various stakeholders (OECD, 2004).

Second, school autonomy increases the administrative and managerial workload of the school leaders. They gain the decentralized authority over curriculum, personnel and budgets in school-level, which makes the principal's job very different (OECD, 2004). They need to establish a school-based system for effective management, staff evaluation and development of school's characteristics. For gaining the legitimacy, they needs to negotiate between the top-down demands from the government, internal demands from teachers and students, as well as the external expectations from parents and the local community (OECD, 2004).

Since the education decentralization involves a complicated balance of relationship building, it brought a new requirement, as well as a new challenge to the principal. It is obvious that trust is the core of decentralization implementation, while principal's professional development is a major part in the foundation of decentralization reform.

3. Methodology

In policy analysis, different scholars have expressed their views while conducting research. Stuart Naggel suggested four key area of policy study: (i) Purpose; (ii) Measures; (iii) The relationship between measures and purpose; and (iv) The balance of the above three considerations (Nagel, 1986). However, different scholars place a different emphasis. For example, Dye placed his emphasis on the policy purpose and defined that "Public policy is whatever governments choose to do or not to do" (Dye, 1998, p. 2). All policies are the purposive intervention of the government, while several subjective meaning and value are implicitly embedded in the policy text. Stokey also focused on the government choice between different solution approaches. He suggested that the research has to give consideration to the social background, potential risks and the government view on the priority of different problems (Stokey, 1978), while it is usually dependent on the subjective preference of the policy maker. On the other hand, Parsons placed more emphasis on the relationship between measure and policy purpose. He thought that policy is the process of argumentation between the problem and the solution, which is necessary to establish legitimacy of the new policy (Parsons, 1995).

However, no matter what focus it is, both of them involve the subjective perspective of the policy maker, which has become a main focus of policy research. For example, Stephen Ball (1990) defined policy as the product of authoritative allocation of value, while the policy text is the operation guide to make the decision of policy makers to practice. Yanow further emphasized the importance of subjective judgment of policy maker. He suggested that all policies imply the value, feeling and belief of policy makers, while the policy itself is the platform for the intention to practice (Yanow, 1996).

From the above, it is clear that all policies have implied certain value preferences, which may also apply in the policy analysis of principal's development in Hong Kong. To understand the implicit value beyond the policy text, this article would follow the research questions below

and examine the official document of principal's development policy in the past three decades:

> *1. What traits would an ideal principal have in different stage?*
> *2. What strategies have been employed to equip such traits?*
> *3. How does the principal's programme change with the decentralization reform over the past decades?*

In policy research, the official document has kept a record of how the government persuaded different stakeholder for the legitimacy of the policy, while it also reflected the view of policy makers on the education issues in different period (McCulloch & Richardson, 2000). Therefore, this paper would use the primary data source from the policy text and government report. This paper does not aim to compare the efficiency of principal's development policy in different period, but to reveal the hidden belief and value beyond the policy text.

4. Finding & Discussion

4.1 The desired trait of an ideal principal

4.1.1 Experience-sharing and the problem-oriented approach

In the early age, the purpose of principal's development programme was simple and clear, which aimed to help principals and teaching staffs to achieve the best performance. As mentioned in the Llewellyn Report:

> *There should be a policy initiative concerning leadership training in the form of an intensive in-service programme for head teachers…… who can then assume greater responsibility for both the performance and development needs of their own staff (Visiting Panel, 1982, III.3.15)*

> *Morale can be stimulated and maintained through in-service education and thus is a contribution to the pedagogical process in itself...... it is important that heads of schools have access to ways and means of helping them perform their demanding leadership role (Visiting Panel, 1982, III.3.20)*

> *host seminars with heads of schools to discuss the role…… (can help) the Colleges in their training role and the induction of new teachers (Education Commission, 1984, 4.9)*

> *A degree course…… should be provided for the school heads to upgrade their performance as school heads and enhance their contribution to the education system (Education Commission, 1986, VII.4.6)*

From the above, it is clear that the primary purpose of the principal's development programme is to help principals better manage administrative tasks and to enhance the professional development of teachers. Principals are only required to develop essential managerial skills and extensive experience for their managerial role. They play a passive role in maintaining orderly school operation, rather than to develop their own school characteristics.

4.1.2 Theory and principle for establishing school-based system

In 1990s, the government show more concern on the principal's training. Other than the practical function, the principal's development is increasingly regarded as an incentive. For example, the Education Commission Report No.5 encouraged all principals to get a bachelor degree and stated that getting a degree can improve *"promotion prospects, and reduce staff problems which might arise with graduates serving under a nongraduate head"* (Education Commission, 1992, 4.37). In this stage, the university training is regarded as a mean of developing managerial skills, such as leadership skills or establishing the appraisal system, while upgrading principals to degree level is the main purpose of the government.

The degree is not only regarded as evidence of competence enhancement, but also a political concern for school management. It provides a upward mobility in teacher's career, while it can also solidify the legitimacy of the school leader, which is necessary for the stability of teaching staffs. Actually the relationship between university involvement and legitimacy is widely recognized in other countries. For example, Labaree (1992) suggests that accreditation of the university can enhance the professional status and autonomy, so called licensed autonomy. However, the development of moral character was still not the main issue on the government agenda. Although Education Commission Report 1 and 5 acknowledged the importance of professionalism and the sense of unity, however it has not given any definition for them.

After the return of sovereignty, Hong Kong government has initiated a series of reforms, such as school-based management and quality assurance mechanism (Education Commission, 1997, 3.1-3.6), while principal's development becomes the key to the successful implementation of relevant policies. ECR7 stated that the government should ensure the in-service principals have enough competence and skills to *"cope with changes in the school system brought about by quality school education initiatives"* (Education Commission, 1997, 6.6). Then, what is actual meaning of such school change? The report has the following description:

> *To enhance the professional status and the morale of the teaching profession, we recommend that in accordance with the spirit of school-based management, all schools should be required to put in place a fair and open performance appraisal system for principals and teachers...... A proper appraisal system will enable the school management to identify the strengths and weaknesses of its staff members, and provide timely counselling to help them develop their full potential (Education Commission, 1997, 6.10)*

> *Principals should exercise their power to handle under-performing teachers (Education Commission, 1997, 6.14)*

Different from the previous stage, the school-based appraisal system has replaced the principal's role in maximizing the potential of teaching staffs, as well as enhancing the professional status and the morale of the teaching profession. Other than the managerial role, the principal is also expected to be an evaluator, which raised a new requirement for principal, the moral character. As mentioned in the Education Commission Report No.7, a quality principal should have *"a strong sense of mission, appropriate personal attributes, adequate academic and professional qualifications"* (Education Commission, 1997, 6.1). Actually, these criteria represent the competence and attitude required to monitor and evaluate the performance of teaching staffs in school-based management.

Although the bachelor degree is still regarded as the evidence of managerial competence, the importance of principal's professional training is generally accepted and recognized as mean to ensure that all in-service and pre-service principal have a high moral and professional character.

In this stage, the purpose of principal's development has shifted from maintaining school operation to establishing a performance-based management system according to their own situation. Sharing information and experience are not enough for addressing the individual need of the school instead of accomplishing the individual task, a more systematic and scientific training is required to provide the guiding principle or scientific theories for establishing their own SBM system. Under this circumstance, the university involvement in principal's development has served as the basis for the SMI and SBM, the reform administration decentralization in the 1990s decade.

4.1.3 Own leadership style in the situational context

After 2000, school-based management is further implemented, which requires all schools to adopt a model of teaching and learning and a school-based, student-centered and quality-focused management framework. The schools, being devolved more responsibilities and offered greater autonomy and flexibility in managing their operations and resources and planning for school development, are expected to provide quality education (School-based Management Section, 2010), while it also made a significant impact on principal's development programme. The Task Group on Training and Development of School Heads was set up in January 1999 and published different documents about principal's training, such as "Leadership Training Program for Principals Consultation Paper" and the "Foundation of continuous professional development of principal", which defines the purpose of principal's development is to *achieve a paradigm shift and transform the principal from a hierarchical manager to a visionary leader"*. The candidate is required to have basic understanding of global education development and to establish aspiration for continuous professional development. The principal have to learn how to become *"a role model for staff and students…… and a change agent from the personal interpersonal, organization and global perspectives"* (Tai, 1999, 2.11). Obviously, "change" is regarded as the chief measure of school excellence. The purpose of principal's development programme is shifted from completing tasks or policy implementation to developing their own leading style.

The Guidelines for Principals' CPD reconfirmed the leading role of school principal, which stated that the principal is not only responsible to manage the policy implementation, but also plays a leading role in school changes. The principal are expected to build up the professional learning community with a sense of accountability (Education Department, 2002). The "Report on Review of Continuing Professional Development of Serving Principals" also suggested that the competence of principal is depended on whether they can "lead teachers and students in meeting the changes and challenges of the new millennium as well as in promoting collegial exchange" (Education Commission, 2006). The coordinating role of the principal is highlighted in the document, which echoed the mandatory establishment of incorporated Management Committee (IMC).

In 2002, the Education Department has put forward the implementation of SBM by proposing the SBM Ordinance. It stipulated that all schools must establish the Incorporated Management Committee (IMC), which has the full discretion in goal setting, financial and human resource allocation, formulating the school policies, and evaluation (Education and

Manpower Bureau, 2004). According to the ordinance, the IMC is constituted by at least one teacher manager (and one alternate teacher manager), one parent manager (and one alternate parent manager), one alumni manager, one independent manager and the principal (Legislative Council, 2004). Although the school-sponsoring body can nominate 60% manager in IMC, the principal have to coordinate and build up a common consensus among different stakeholders in IMC.

From the above review, it can be seen that the hard knowledge like leadership theory and administration skill are not sufficient anymore. The principal is now expected to take an active role in leading school change and promoting collegial exchange. In fact, it is also the most important skill for coordinating with different parties involved after the mandatory establishment of IMC. As mentioned before, all schools are required to establish the IMC and shared the decision-making authority with the parent, teacher, alumni and independent school manager. In this regard, not only the new principal's development programme prepare for the policy implementation, but the leading role for the challenge in the future, as well as the coordinating role between different stakeholders.

4.2 Strategies employed to train new principal

4.2.1 Bureaucratic training in school administration
In the early period, the principal's professional development is relied on the bureaucratic training programme. In 1982, the Llewellyn Report suggested that the purpose of principal's development is to help principals *"access to ways and means… (to) perform their demanding leadership role"* (Visiting Panel, 1982, 3.8.20). The Education Department (ED) thus started different types of training programme to meet the practical need of school leaders, such as 10-days administration course for pre-service principal followed by a 6-months practical project. ED also organized different workshop and conference on specific topics, such as school administration, curriculum development, special education, and information technology (Education Commission, 1984).

In this stage, the principal's development programme was organized by the ED in the form of short pre-service courses or refresher courses. It emphasized on the ways and means to accomplish different tasks and encourage the sharing of experienced principal. However it has not paid much attention on the individual school with special need. For example, Education Commission Report No.2 refused to organize the special education curriculum due to the resource limitation. Instead, it suggested subsidizing principals for oversea study in the related field (Education Commission, 1986). The centralized training was regarded as the most direct way to equip principals with the required competence for their role, whereas the individual need of principals and schools received less focus in the government agenda,

4.2.2 University training and the bachelor degree
In 1986, the Education Commission Report No.2 firstly emphasized the importance of leadership skill. The report criticized for over-emphasis on cost-effectiveness and ignored the inter-school diversity. It suggested the principal's development programme should focus on three major areas: curriculum research and development, educational administration and guidance and counselling (Education Commission, 1986, 7.4.3). It also suggested the ED to organize the elective course of secondary school administration, student counselling and teaching students with learning difficulties (Education Commission, 1986).

Besides, it is noteworthy that Education Commission Report No.2 firstly emphasized the importance of getting the degree and treated it as the major way to develop leadership skill. It stated that:

> *(Degree course can) develop their grasp of issues of both educational theory and educational management; and to provide more time for them to strengthen their leadership by trying out in their own schools the practical applications of their training (Education Commission, 1986, 7.4.4)*

This suggestion is echoed by the Education Commission Report No.5, which officially listed "upgrading principals to degree holder" as the primary objective of principal's professional development (Education Commission, 1992). The government further stipulated that all principal candidates must be a degree holder after 2004 (Education Department, 2002). At the same time, the university gradually took over the dominant role of principal's development from ED. For example, ED authorized the university to organize 30-hours principal's training programme, including school-based management, financial and human resource management, staff training and appraisal, reform management etc. This course soon became the mandatory requirement for all principal candidates (Education Bureau, 2007).

In this stage, trust in principal is not directly built on their training outcome, but the accredited institution. In fact, the university involvement is often regarded as a source of gaining public trust. Hargreaves (2002) examines different established profession in United State (US) and argues that university involvement in teacher training can legitimate the teacher's knowledge base as the public has generally developed more confidence in university researchers. On one hand, university researchers are often at the leading edge of education development and are armed with the most updated knowledge in universities. On the other hand, the quality of graduates can be ensured by the rigorous academic standard of universities.

4.2.3 Accountability & Appraisal

Accompany with the implementation of education decentralization, the demand for a quality principal continued to grow after 1997. ECR7 raised a series of process and outcome indicator for monitoring the school performance and the value-added of the student (Education Commission, 1997), while the quality of principal is regarded as the premise of quality education. The report pointed out that the high quality principal should have "*a strong sense of mission, appropriate personal attributes, adequate academic and professional qualifications*" (Education Commission, 1997, 6.1). However, although it highlighted the importance of moral character, it only gave concrete suggestion regarding how to strengthen the training of curriculum development, as well as the human and financial resource management for the public monitoring.

On the other hands, the report has a different view on leadership development of principals:

> *Leadership of principals is essential in promoting quality school culture. We recommend that the school sponsors, SMC and ED should monitor closely the performance of principals…… teachers should be given avenues for appeal against unreasonable management practices and decisions (Education Commission, 1997, 6.14)*

In this stage, although the government has not directly monitored the school performance, it definitely exerted an external control and counterbalance the supreme power of the principal

after education decentralization. The school-based management system is now much more important than the fragmented managerial experience for school improvement after the implementation of SMI. The university training, under this circumstance, is essential to provide the managerial theories and guiding principle to establish the SBM system according to the principal's situational context. Therefore, unlike the previous report, although ECR7 also emphasized the leadership development of principals, it stressed that the leadership skills can only be ensured by the close monitoring by multiple stakeholders, rather than receiving the academic training in bachelor programme.

4.2.4 Co-leading by "university – professional community"

Following the development trend, the principal's development also placed much emphasis on leadership skills. Other than the quality assurance, ED further highlighted the importance of continuous professional development of principal and stated that it is the only way to "*enhance school leadership and professionalism*" (Davis, 1999, p.2). For this purpose, ED strongly encourages the exchange between peers and with the university scholars, while the principal's development is not restricted to the training programme by the university. For example, ED has regularly held the workshop and conference in different districts since 1998 to facilitate peer-exchange and networking among principals (Davis, 1999). In 2001, ED appointed the experienced principals and educator to draft the plan of continuous professional development of principals and build up the professional network for the graduate of the pre-service principal's training programme (Education Department, 2002). Comparing with the previous stages, the government played an auxiliary role in facilitating peer exchange opportunities. Also it played a bridging role between academic and professional community, while the authority of principal's development is gradually shifted to professional community of experienced principals.

Furthermore, the Education Bureau also published the official document to clarify what goals, criteria, overall strategies, and approaches of principal's development are. According to the EDB Circular No. 31/2002, all in-service principals have to spent at least 150 hours on professional development activities, which includes systematic learning, practical learning and social service (Education Department, 2002). The individual works like book, journal article, research report and the educational counseling service in the community are also counted as "principal's professional development":

Table 1 *The development framework of principals' CPD*

CPD Activities	Max. CPD Hours to be counted per 3-year cycle	
	Per Activity	Total
Structured Learning		90
● Offshore study tours / conferences / symposia	90	
● Local seminars / workshops / conferences / courses etc.	90	
● Higher Academic Study (The study must be offered by an accredited tertiary institution and should be beyond the basic requirement for job qualification. CPD Hours will be counted on conferment of the qualification)		
Doctoral Degree	90	
Master Degree	60	
Bachelor Degree	45	
Certificate / Diploma (at least nine months of study time)	30	
Action Learning		90
● School-based projects I action study (in which SPs are taking a	30	

leading role and must be supported by written products or related documents)		
● Attachment Schemes Publications including books / professional	50	
● Journal articles or chapters in a professional book education articles for distribution to district networks, local and international professional associations. (@ 500 words per CPD Hour, round up / down to the nearest 500 words.)	45	
Service to Education and the Community		90
● Membership to each committee such as advisory committee I executive committee / working group etc. in the Education Sector	45	
● Membership to each education-related committee under other organizations agencies	30	
● Contribution to principal, teacher and other CPD Activities by serving as speakers / facilitators / assessors reviewers / mentors etc.	60	

Data from *Guidelines for principals' continuing professional development (CPD)* (Education Department, 2002), p.10

From the above framework, the boundaries of principal's professional development are much broader than before. Not only does it need to complete the administrative task in school and implement the education reform, but also encourage the diverse development outside the official training system.

The development programmes are held by professional community or individuals. Then how can the government ensure that the development programme is useful? To clarify the issue, ED has drafted the Guideline Note for Continuous Professional Development (CPD) of Principals and clarified the official principal of CPD. The guideline divided the principal's leadership into six areas: "strategic direction and policy environment", "learning, teaching and curriculum", "teacher professional growth and development", "staff and resources management", "quality assurance and accountability" and "external communication and connection to the outside world". These six areas covered the training content in previous stage. However it described the criteria for different levels of candidate (experienced principal, novice principal and vice-principal) instead of point-form bulletins. Not only does it provide the first official framework for reference, the support is extended to pre-service principal, as well as the potential candidate like senior teaching staffs in schools.

In conclusion, the strategies of principal's development have experienced dramatic change in the past decades. Before 1986, principal's development was directly leaded by the Education department in the form of refresher course for in-service principals. Only some general topics, like curriculum development and school management were covered and did not effectively meet the specific needs of individual schools and principals. From 1986 to 1997, the leadership skill of principal became the primary component in the principal's development and upgrading principals to degree holder was regarded as the main way to enhance the leadership skill. In this stage, the university played the dominant role in training. The principal's development programme aimed to address the administration difficulties faced by the principal. It introduced different managerial theories and sharing the experience of successful school leaders, whereas the candidate was still in passive role.

After 1997, the school-based management was mandatory implemented in schools, while the accountability and appraisal system, instead of the university training, were regarded as the

guarantee of improving principal's leadership. The government started to establish the network between the ED, university and front-line principals at different level and aimed to build a professional development platform. It also drafted the framework of principal's CPD, which recognized and encouraged the diverse CPD outside the official arrangement. The principal's CPD was also shift from the administrative problem solving to striving for excellence and brought the positive impact to the principal: First, the principal does not passively participate the top-down training programme, but becomes the main body of the principal's CPD; Second, the principal's CPD is not restricted by the systematic training programme, but would more rely on the peer-exchange, professional social network and other informal development activities after the official training programme; Third, the principal's CPD is more diverse than before. Other than the certificate of principal's training course, the book publication, journal article and social service are all included into the principal's CPD, which promotes a more comprehensive development of principals.

5. Conclusion

This article has investigated the purposes and the strategies of the principal's professional development. The early development programme was more problem-oriented, which aimed to help them with various administration tasks and maintain the smooth operation of the school system. After the initiation of SMI in 1991, additional requirement was needed to establish the SBM system according to the situational context, while the university involvement in principal's training was regarded as the mean to improve the leadership skills, to provide the guiding principles and theories for the need of individual schools. After 2000, the personal trait of the principal as a school leader became more significant, while the peer-exchange and continuous learning community are encouraged by the government as a mean of continuous professional development of the principal in recent years.

Other than the shift of policy purpose, we have also witnessed the change of development strategies in the previous decades. Before 1997, the professional development of the principal was mainly relied on the systematic training course of the government or the university, such as the 10-days administration course of the ED and the Preparation for Principalship (PFP) of the university. Those programme were more emphasized on the centralized training with little concern for individual needs. After 1997, the government realized the importance of the unofficial professional development of the principal, such as the regional sharing conference of principals and professional network. Also, the government has invited different stakeholders to formulate the competence framework. Not only could it be a clear indicator of drafting the principal's development programme, but also can help to recognize the non-systematic development tasks of the principal, which allows a more flexible and diverse way of continuous principal's development beyond the official training.

Third, the government and the principal have exchanged their dominant role. The principal is shifted from the passive candidate to an active one. They can now set their own objective for the principal's training according to their school context and achieve continuous professional development by active reflection and joining the professional network of principals. On the hand, the government retreated from their traditional role in providing training. It evaluates the quality of principal's CPD and encourages the establishment of peer-network, which was also a marked improvement in the professional status of principals in recent years.

In conclude, accompanying the trend of education decentralization, the government expectation on the principal and school have changed rapidly. There is a shifting role and function for the principal, as well as the government itself in the principal's training system.

The former is reflected in the change of CPD's purpose and the arrangement, while the latter can be found in the changing role of the government: From organizing the training course directly, to establishing and making provision for the regulation of principal's CPD after the official university training.

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Emerging Researches on Mathematics Education in Asia for the Last Five Years

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Abstract

This paper attempts to trace the emerging researches on Mathematics Education in Asia for the last five years (2008-2012). The purpose of this study is not to trace the fine details of the researches as it is impractical to do but to come up with the emerging themes for this period of time. Descriptive method was used in the study with the randomly selected seventy-five (75) researches per year across the twenty-six (26) Asian countries. Results revealed five emerging themes namely; pedagogy, curriculum, assessment, ICT Integration, and teacher quality in Mathematics education. The findings showed that pedagogy and integration of technology in Mathematics Education were the prevailing themes for the last five years. Researches on ICT Integration were combined to pedagogy, curriculum, assessment, teacher quality and a combination of these themes were also identified. Developing countries contributed to more research outputs. Single and collaborative researches were done between and across countries not just in Asian region but across countries all over the world. The themes in mathematics education researches confirmed the diverse needs of the country to access quality education, thus, significant in policy formulation and recommendation.

Keywords: Mathematics education, Pedagogy, Curriculum and assessment, ICT integration, Teacher quality

Introduction

Education systems face the challenge and opt to embrace substantial changes to the current state of mathematics education to bring into the values of quality mathematics education that contributes to scientific, economic, social development and personal fulfillment (Artigue, 2012). The challenges of quality mathematics education for all cannot be taken up without developing new knowledge through research. From 2008 to 2012, educational studies have been developing to suit the demands for growth in mathematics education. This essential development emanates from giving consideration to pedagogy, curriculum, assessment, teacher quality, and integration of technology in Mathematics Education.

Asia has produced breakthroughs in mathematics education for the last five years. The mathematical societies within Asia has organized and participated conferences regionally and internationally, and contributed scholarly papers for the betterment of the teaching and learning of Mathematics. Meanwhile, the development of technology for Mathematics has also flourished. These are made possible through mathematics organizations such as Southeast Asian Mathematical Society (SEAMS) which is composed of different mathematical societies from different countries in Asia such as the Chinese Mathematical Society (CMS), Tokyo Mathematics Society, Korean Mathematical Society (KMS), Hong Kong Association for Mathematics Education (HKAME) and SEAMEO Regional Centre for Education in Science and Mathematics (RECSAM).

The driving force of these mathematical activities is multi-faceted (UNESCO, 2012). However, these educational researchers and mathematical societies in Asia do not rest on their laurels. It has not only developed its local and regional influences but it has extended its influences in the national and international arena like International Journal of Science and Mathematics Education, International Commission on Mathematical Instruction and International Mathematics Education and Society Conference.

The works of mathematics education research community play an important role in the international level. An evidence of this claim is the sudden increase of the participating Asian countries in the International Congress on Mathematical Education (ICME). An example of this is Hong Kong at the ICME. The number of participants had gone up from 4 in ICME-7 to 22 in ICME-9. This shows that mathematics education is beginning to play an increasing role in the international stage (Wong, Leung, Tang & Chan, 2009). Eventually, the works of mathematics education research community in Asia gave useful changes to the underlying factors of Mathematics Education that are globally recognized by other countries. These modifications brought by educational researches that happened in the last five years are necessary in the search for Asian identity in Mathematics Education.

The mathematics education community within Asia has endeavored to find solutions for the past years (Asia Pacific Newsletter, 2011) – generally in the improvement of the teaching and learning of Mathematics (Leung & Li, 2010; Azlan & Zanzali, 2011). The power of research has been the most helpful tool for this development to take place. Educational researches in Mathematics contribute new ideas, concepts and developments which are important to those working in the field of mathematics education. It seeks to reflect both the variety of research concerns within the field and the range of methods used to study them. It deals with didactical, methodological and pedagogical subjects rather than with specific programs for mathematical instruction (Presmeg, 2012).

A study on research in mathematics education in Hong Kong in the past twenty-five years was done by Wong, Leung, Tang and Chan (2009) outlined an emerging shape of a local community of mathematics in Hong Kong. A research study by Woodward (2004) on historical presentation of the current state of mathematics education in the United States had mentioned three themes namely; 1. broad socio-political forces, particularly highly publicized, educational policy statements; 2. trends in mathematics research; and 3. theories of learning and instruction. It was further stated that the account for developments in special education and general education should also be investigated. In our case, we only focus on the research themes and collaboration in mathematics education that has been carried out for the last five years in Asia.

Literature Review

Quality mathematics education reflects the diversity in the different contents of mathematics encountered by students and teachers (Artigue, 2012). The learning of Mathematics is a complex and dynamic process involving interaction between previously 1acquired levels of understanding and the conceptualization and incorporation of new ideas and concepts. Due to the tremendous changes as a result of national initiatives in the teaching of Mathematics, the focus is more on the process involved (Idris, 2006). Consequently, this emphasis has encouraged teachers to expand their repertoire of teaching methodologies (Idris, 2006; Li & Kaiser, 2011).

Mathematics is a good indicator of student's intellectual ability according to Wong, Lam, Mok, and Wong (1999) as cited by Chan and Sun et al. (2009). It is with this belief that pushes the scholars, designers and practitioners in Asia to produce new developments in research, curriculum, and assessment for the betterment of mathematics education. They have made researches that were analyzed carefully to carry out their goals and participated in conferences locally, regionally, or internationally. All of these efforts are done to meet the challenges or issues in line of mathematics education

The ultimate purpose of educational research is the betterment of teaching and learning Chan et al., (2009). Student teachers' performance in student teaching is significantly correlated with their performance in their content and methods courses (Sonza, 2008). Hence, having a strong foundation of doing Mathematics becomes a pre-requisite of teaching the complexity of the course.

In 2009, the intricacy of teaching proofs and proving were focused by Mathematics education researchers. Learning of proof is significant in Mathematics Education (Tikva, 2009). According to Healy and Hoyles (1998) proof is at the heart of mathematical thinking and deductive reasoning as cited by Ying and Fou (2009) and Sun and Chan (2009). Moreover, justification is a central component of mathematical reasoning. In justifying a mathematical statement, Kidron and Dreyfus (2009) used Abstraction in context (AIC) (framework to show, by means of three examples, the utilization of combining constructions of knowledge will lead to the learner's enlightenment and to enhance the explanatory nature of the justification.

A pedagogical study of proofs was conducted by Miyazaki and Yumoto (2009) while Feng, Fang and Ting (2009) introduced three aspects for analyzing qualities of proofs for their study and revealed that many students could catch the properties teachers taught. On the other hand, Kunimune, Fujita, and Jones (2009) said that 'Generality of proof' can disturb students' beliefs about experimental verification. These challenges the way of teaching it to be tapped (Lavy & Shriki, 2008). A collaborative study claimed that we need to learn from the teaching of proof in geometry at the lower secondary school level across countries in the East and in the West and consequently develop new pedagogic principles to verify mathematical statements (Jones, Kunimune, Kumakura, Matsumoto, Fujita, &Ding, 2009).

Another body of research talks about teaching styles in the form of *bianshi* (which literally means variation of style) teaching which was experimented in both primary and secondary schools (Wong, 2008) and Pair-Dialogue (P-D) teaching approach which was experimented in kindergarten and secondary teachers (Tsamir &Tirosh, 2011).

The use of games in teaching linear measurement in Indonesia showed that students can possibly acquire the concept of a standard unit of measurement through conflicts of fairness

while playing the game (Wijaya, Doorman & Kiejze, 2011). Likewise, Lin (2009) of Taiwan used the game of hex to students in showing the power of proofs by contradiction. Isoda and Sakamoto (2011) make use of the concept of *origamics* as hands-on activity in teaching Abstract Mathematics but, no actual experimentation was done to verify the claim.

Lavy and Shriki (2008) said that changes in Mathematics teaching and learning should be done by Mathematics educators. In connection, a body of research was done on the way students learn Mathematics, breakthroughs in learning it and what influences their learning for these changes to take place. Both Skemp (1986) and Fischbein (1999) argue that organization of mathematics they learn into a workable form is crucial for learners as cited by Yee and Lam (2008). In addition, study by Widjaja, Dolk, and Fauzan (2010) showed that contexts have a powerful role in student's rich mathematical understanding.

Kai and Fou (2009) concluded that a holistic perspective of listening, speaking, reading, writing and doing mathematics should be integrated for mathematics proofs learning for all learners of different ages. The study of Koichu (2009) found that secondary students displayed sensitivity to the role of teachers in improving the students' proving skills and to cognitive and social aspects of proving. In addition, scaffolding students' in appreciating the validity of assertions can enhance their competence in understanding logical reasoning (Hui et al., 2009). Thus, when their logical reasoning is enhanced, their proof conceptions will be enhanced as well.

In China, it was emphasized that the concepts of "algorithmic mathematics" and "dialectic mathematics" go together when engage in proof and proving (Man, 2009). Leron and Zaslavsky (2009) devised a method called generic proving to help students access difficult proofs easily and they showed that this method is effective in aiding teachers and learners bridge the difficult gap from common sense to formal mathematics. While these academics established methods and concepts that help in the students' learning of proofs, Erh, Chi, and Fou (2009), investigated Taiwanese junior high school students' proof conceptions in Algebra.

Another line of study was on students' learning of problem solving. For students to improve their problem solving skills, clarification of ambiguous problems is an effective tool for this according to Sibbaluca (2009). But according to Ghazali, Arrias, Aliffin, and Aryub (2010) and Mabilangan, Limjap, and Belecina (2011), students have a high level performance in the problem solving tasks when they were allowed to employ different problem solving strategies.

Environment and language factor influence the students' learning of Mathematics. San Jose (2011) revealed that Creative Pedagogical Environment enhanced and developed the students' mathematical ability and mathematical creativity. However, language factor was negated by the results of the study of Singh, Raman, and Hoon (2010). Their study revealed that the usage of English or English/Bahasa Malaysia will not give the Indonesian students an advantage in Mathematics tests.

In a technology-oriented and information-rich society, Mathematics is a powerful means that aid students acquire the ability to communicate, explore, conjecture, reason logically and solve problems using a variety of methods (Curriculum Development Council and the Hong Kong Examinations and Assessment Authority, 2007). Hence, careful and proper crafting of the curriculum in Mathematics should be of utmost consideration. In Mainland China, current curriculum modification reflects a dramatic change that goes beyond the scope of content to include all aspects of teaching and learning mathematics (Leung & Li, 2010). Impliedly,

mathematics education curriculum in Asia should never refuse to changes suitable and significant (Azlan & Zanzali, 2011) for the sake of progress.

Leung and Li (2010) said that there have been curriculum reforms in practically every system of the world. An increasing research interest about the curriculum modification in Mathematics Education has been done along with the development of learning about curriculum (e.g., Li, 2000; Li & Lappan, 2002; Usiskin & Willmore, 2008) because Mathematics has become one of the most important subjects in the school curriculum during this century (Artigue, 2011).

The main problem in curriculum development being faced by the curriculum developers is basically the selection and decision of what is suitable mathematics for students to learn (Marsch, 2009). In Malaysia, the study of Azlan et al. (2011) traced the development of their mathematics curriculum from the psychological, content and pedagogical perspectives in relation to the frequent issues. Curriculum has been continuously restructured; varied approaches have been used, however the approach or method used in structuring the school curriculum changes each time the curriculum is modified with respect to the changes and needs of the current mathematics education. With a focus of providing quality school education for all children, the curriculum reform also emphasizes the accessibility of school mathematics to all students and not just the elite few (Leung & Li, 2010).

Assessment is essential in mathematics education, both formatively – to guide learning incrementally and summatively – to compare the results obtained with those expected and then to evaluate the difference between actual achievements and the curriculum set (Artigue, 2012). In Singapore, Har (2010) argued that assessment particularly national test is not a hindrance to bring about good instructional practices. The study concluded that, indeed, national test can possibly result to good instructional practices. Furthermore, that is if the test items are of high quality, if there is a support system for professional development to help institutions and teachers find innovative ways to help each other student maximize his or her potential, and if good instructional materials such as readily available textbooks.

Comparative studies show how Asian countries outperformed their western counterparts (Leung, 2002) as proven by the results of Program for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS). PISA 2009 results revealed that Korea performed highest among OECD countries and the top three performing partner countries of the global assessment were from Asia namely Shanghai-China, Singapore, and Hong Kong-China respectively (Organisation for Economic Co-operation and Development, 2010).

TIMSS 2011 selected 63 countries around the globe wherein Asian countries were also chosen and it showed that students from East Asian countries outperformed students from selected group of European countries around the world in Mathematics. Furthermore, these top-performing East Asian Countries were identified as Singapore, Korea, Hong Kong SAR, Chinese Taipei, and Japan regardless of their ranking based from the report (Mullis, Martin, Foy, and Arora, 2012).

Another important factor of this study is on teacher quality. Basically because teachers implement the curriculum crafted by the school or educational experts and assess the students' learning. In Malaysia, Subramaniam and Cheong (2008) explore the emotional intelligence of Form One mathematics and science teachers. Comparatively, they found that there was significant difference in emotional intelligence between mathematics teachers and science

teachers for the subscale of regulation of emotion. On the other hand, Widjaja, Stacey, and Steinle (2008) studied the pre-service teachers' content on density of decimals. The written tests, group discussions and teaching experiments of the study evidently showed that understanding the density property of decimals was a challenging task for the teachers and further indicated that their misconceptions about density of decimals can possibly be eradicated.

Yong and Saleh (2008) focused on the mathematical problem-solving process of trainee teachers in a teachers' training institute. The study revealed that the problem-solving process of the trainee teachers moved back and forth with the earlier phases of problem solving in a cyclical nature but did not progress in a linear manner. In the study of Sun (2009) student teachers the experience are necessary for effective instruction of proofs and proving and the results revealed that their own proof constructions were enhanced through "one problem multiple solutions". Tabach, Barkai, Tsamir, Tirosh, and Tommy (2009) made another study where half of the high school teachers' mastery of verbal proofs rejected correct verbal justifications.

Initially, Shriki and Lavy (2008) stated that teachers need to attend professional development programs due to the recent reforms in mathematics education. In Israel, Leikin (2009) claimed that Multiple Proof Tasks (MPT) is a didactical tool for teachers' professional growth. The study concluded that teachers are more flexible and sensitive when they are familiar with MPTs and aware of the significance of PMTs for students' learning as mentioned from Leikin and Dinur (2007).

The changes in novice and experienced Malaysian mathematics teachers' questioning techniques by Ong, Lim, and Ghazali (2010) concluded that changes over multiple lesson study cycles happens when participants built mathematical knowledge and questioning. Mathematics teachers' perception of Lesson Study improves their teaching skills (Sharen, Suhaili & Khalid, 2011). These researches call for the expansion of the Mathematics teachers' repertoire of teaching methodologies (Henning, Stone &Kelly, 2009) since they still play a key role in Mathematics classroom learning despite the various advocates of student-centered learning according to Wong (1993) as mentioned by Chan et al. (2009).

Learning mathematics is the main focus of educational institutions at all levels. In a number of researches, it has been reported that there is a gap between what is taught and what is learned in mathematics in traditional modes of teaching (Kwon, 2008). More effective teaching method should be explored by the teachers and one of these is to use technology integration which is an important teaching tool specifically in the field of mathematics (Ayub, Sembok, & Wong, 2008).

In Singapore, the use of scientific calculators in the curriculum for students in upper primary grades is a mandate for it served as a catalyst for enhancing students' mathematical achievement (Carter, Ferrucci, & Yeap, 2008). Moreover in Japan, they have utilized video conference wherein their web site taught 38 first-grade high school students. They also employed the ARCS model, online pre-testing and post-testing which were used to evaluate the motivation for mathematics learning and to survey the usability, eagerness and motivation of the students (Behnoodi, & Moriyama, 2008).

These technological tools are found to provide educators and students with more opportunities to teach and to learn mathematics in new ways. The use of multimedia interactive courseware with its ability to visualize concepts kept the learners totally engaged in mathematical activity and helps lecturers explain concepts, which previously, cannot be illustrated through the conventional

method of teaching (Ayub, et al., 2008). Thus, integration of technology in the teaching and learning of Mathematics is also a vital factor that should be taken into consideration because it will definitely allow us to expand our knowledge in mathematics (Asian Technology Conference in Mathematics, 2011).

Methodology
The study made use of descriptive method with the 375 researches on mathematics education. Seventy-five (75) published mathematics education researches were randomly selected per year from research/academic/professional journals and conferences across the 26 Asian countries. These selected countries were classified as developed, developing, and less developed based from a classification list provided by the World Economic Situation and Prospects (2012) and World Bank Country Classification System (2011). Authorship and collaboration of research studies were also classified. Furthermore, the emerging themes of the researches in mathematics education for the last five years were identified and analyzed.

Data were gathered using the academic and professional research journals and research conference proceedings both print and electronic copies from 2008 to 2012. Among these proceedings and journals are International Congress on Mathematical Education (ICME), Journal of Science and Mathematics in Southeast Asia, Alipato: A Journal of Basic Education, International Journal of Science and Mathematics Education, Asian Technology Conference in Mathematics (ATCM), Canadian Mathematics Education Study Group, International Commission on Mathematical Instruction and International Mathematics Education and Society Conference, UNESCO, World Economic Situation and Prospects (WESP) and World Bank Classification System.

Results and Discussion
The graphical presentation shown in figure 1 presents the percentage of the number of researches of developed, developing, and least developed countries (classification list provided by 2012 World Economic Situation and Prospects and 2011 World Bank Classification System) across Asian countries for the last five years.
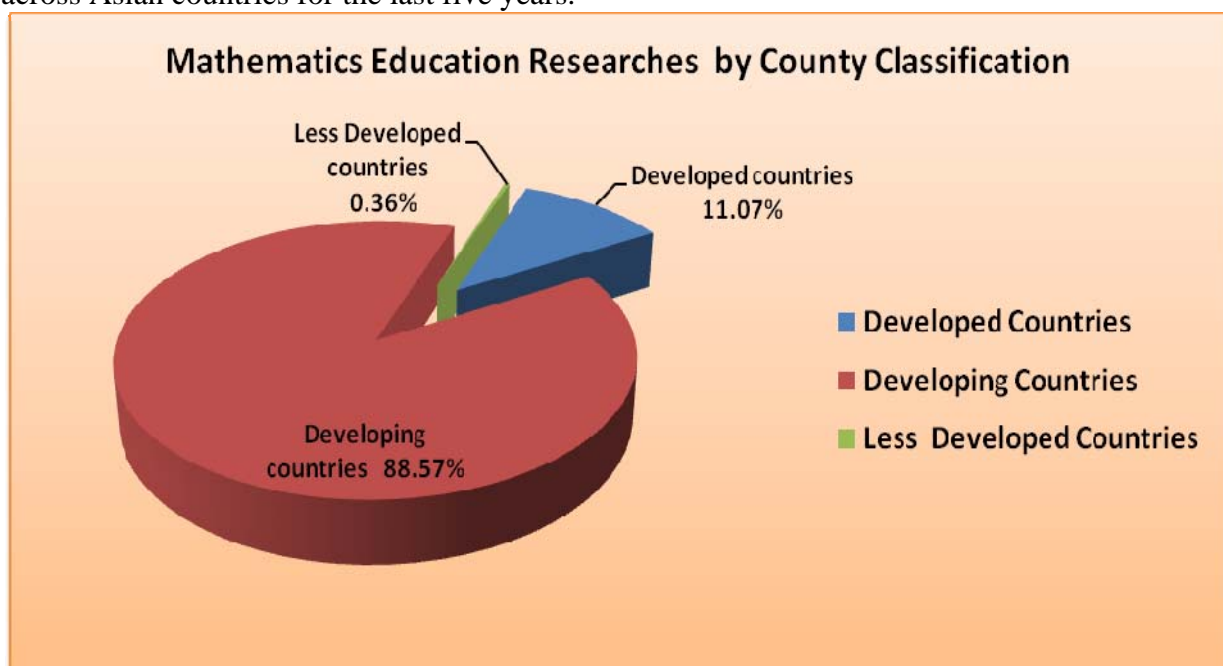

Figure1 Percentage of Mathematics Education Researches in Asia by Country Classification

One would logically say that developed countries in Asia produce more mathematics education researches. Figure 1in our study negated this expectation when developing countries contributed much to the number of researches in math education in Asia. Highly industrialized and developed countries saw the need to help the poor countries in their struggles (Lobry, UNESCO). Mathematics organizations such as the International Congress on Mathematics Education (ICME) and International Mathematics Union (IMU) - Commission for Developing Countries (CDC) had awarded grants and research supports to developing countries to improve mathematics education. However, there is still a need to identify and explore major challenges to mathematics education research in developing countries and   attempts to deal with them (Borba, Smida, Li, Ellerton & Villarreal, 2008).

Mathematics education research collaboration was done by single author, two or more authors of the same university, two or more authors of the same country but different universities and two or more authors from different universities and different countries.
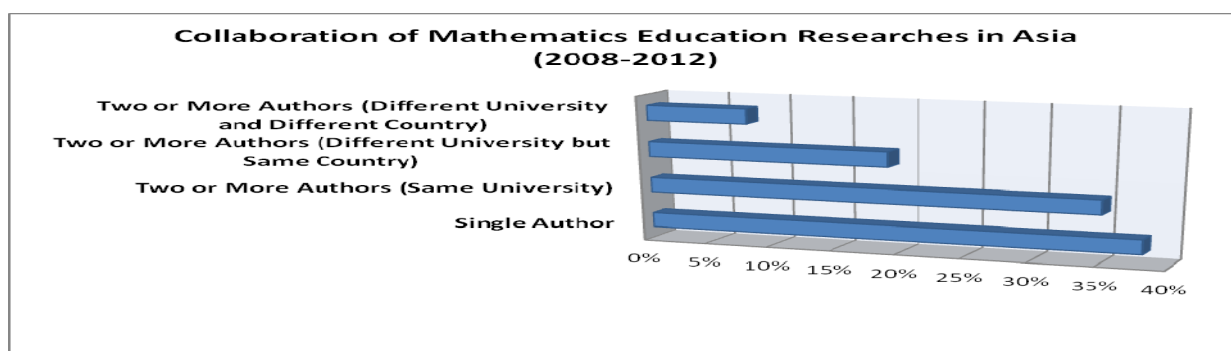

Figure 2. Collaboration of Mathematics Education Researches in Asia

Our study reveals that 38% of the researches was done by single authors. Designing and conducting research in mathematics education is the first step for post graduate students especially if it is a requirement of the degree. Sixty-two percent of the researches were done in collaboration. This shows that mathematics education researchers in Asia recognize the importance of collaborative work. Some researchers associate with colleagues with the same university or outside their country throughout the world to engage collaboratively in the production of knowledge and innovation. The collaboration among people of different backgrounds is much more important than competition (Bishop, 2006). Collaboration also allows the Asian researchers the sharing of facilities and access of data which results to sharing and developing expertise for internationalization or globalization of math education.

The emerging themes in mathematics education in Asia for the last five years are shown in figure 3 below.
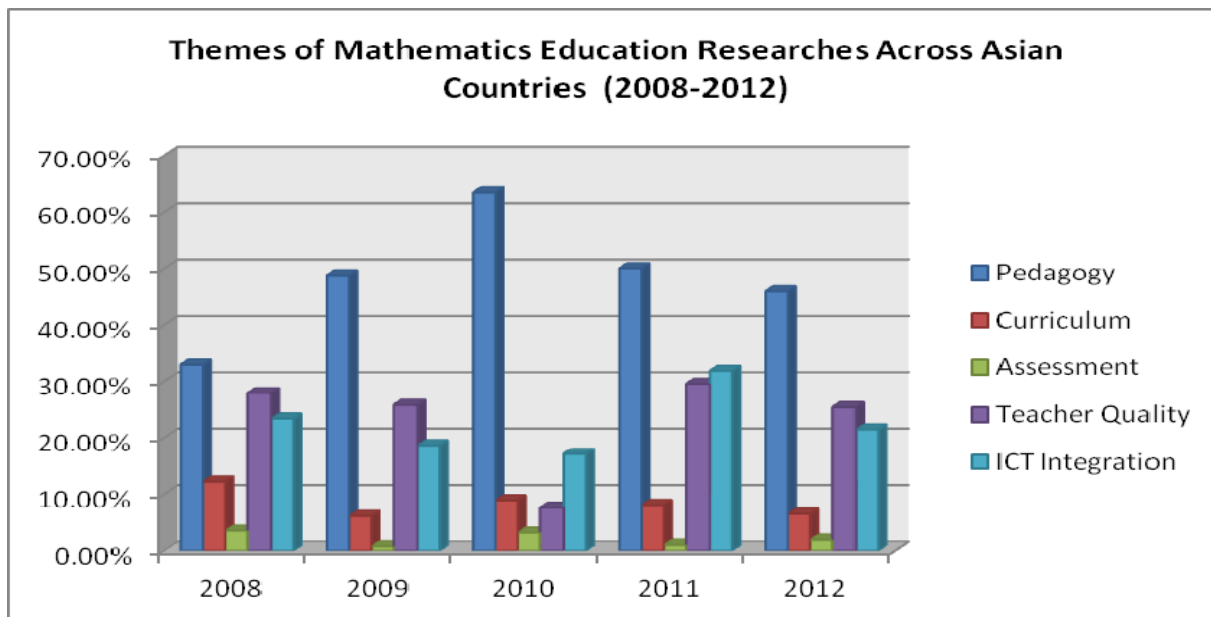
Figure 3. Emerging Themes of Mathematics Education Researches in Asia from 2008-2012

Mathematics education researches in Asia for the last five years reveal that pedagogy in teaching and learning mathematics is consistently highest from 2008 to 2012. In quest for excellent mathematics student performance and effective mathematics teaching, researches are focused on this theme. More than 50% of the randomly selected researches per year except 2008 across Asian countries focuses on the ways in which teachers help their students understand, be able to do and use mathematics that are necessary to quality teaching. Researches done on pedagogy were innovations and interventions. Designing novel approaches and techniques, models and instructional materials with varied psychological and pedagogical theories in teaching specific topics in Mathematics help improved mathematics performance of the students.

Mathematics curriculum is considered essential to improve mathematics instruction. For the last five years, researches in math education on curriculum ranks second from the lowest percentage to assessment. Much of the research on curricular coherence comes from the international comparative research examining curriculum, teaching and student performance. In Asian countries that perform well on mathematics assessments (like the Trends in International Mathematics and Science Studies, TIMSS), there is often a standard, well-organized curriculum that uses core concepts as a way to help students anchor their new knowledge, and mathematics is presented as a coherent set of ideas related in logical ways (Charles, 2005).

Assessment has a vital role in effective teaching of mathematics. Usually teachers' experiences with methods of assessment are limited to the more traditional "testing and measurement" strategies provided through a pre-service course. This theme emerges as the lowest percentage of the researches every year for the last five years in Asia. With the growing awareness and efforts for change, there is a strong need to integrate the understanding and use of alternative methods of assessment as an ongoing topic throughout the teachers' educational life. There is a need for teachers to evaluate and communicate this information to students, parents, and others in a school district to provide feedback of a more formal kind that indicates students' understanding of mathematics.

Another emerging theme of researches done in Asia that is identified is the quality of teachers. This is also consistent among the researches done in Asia. Quality of teachers depends much on the quality of the teacher education or preparation offered by the educational system concerned. The measures of teacher preparation and certification correlates student achievement in mathematics and policies regarding teacher education, certification, hiring and professional development make a significant difference in the qualifications and capabilities that teachers bring to their work (Darling-Hammond, 2000). The report of the Educational Testing Service (2004) stated that teachers who have majored in the subject they teach are better teachers.

Research study by Ball, Hill and Bass, (2005) suggests that the greater teacher content knowledge is a contributing factor to improve student learning. Teachers in Asian countries have stronger mathematics knowledge and more training, on average, than teachers in the United States, and students in Asian countries typically perform better than students in the U.S. on International Math Assessments as noted by Ball (2003), Siegel (2004) and Stevenson (2004).

In Asia, several studies dwell on teacher quality like Singapore, Hong Kong. Japan and Korea talk about teachers' entry requirement during hiring. In Hong Kong, teaching is ranked relatively high in occupational stature by senior secondary students above accountants, engineers, doctors and artists (Lai et al, 2005). However, the quality of new entrants to teaching has been a matter of concern due to lower academic achievements (University of Hong Kong, 2007). As cited by Montalbo and Pogoy (2010), Chang and Wu (2007) noted that beginning math teachers felt more comfortable and confident in their instruction once receiving active care and assistance from experienced teachers that influenced student performance.

Lastly, another emerging research theme in Asia that is also identified is the ICT integration. Rapid developments have been triggered by technological change, particularly the growing of accessible online resources and the support and encouragement for collaborative work. There is certainly new scope for designing and disseminating resources and setting new requirements for teacher education as noted by Gueudet and Trouche, (2009).

Researches in ICT integration were not only concerned with calculators but spreadsheets, dynamic geometry software and micro worlds such as Logo and other soft wares used in the teaching and learning mathematics. As shown by the second ICMI study on the subject (Hoyles & Lagrange, 2009), these technologies have undeniably enriched opportunities for experimentation, visualization and simulation and have modified relations with calculation.

Another studies on ICT was done by Wong and Tang who made a web-based resource package StatNet to facilitate the teaching and learning of statistics in primary and secondary schools in Hong Kong (Wong & Tang, 2000). Later, Tang and Wong (2002) made further enhancement of the existing web-based statistics resource package. Hong and Su (2007) did a preliminary study on a microworld for learning probability; whereas Leung (2008) explored the pedagogical potential of SmartBoard**TM** to study deductive reasoning in a classroom. Technology brings school mathematics closer to the world by making it easier to process more complex data and to handle more realistic problems. However, in spite of their unquestionable potential for enhancing the teaching and learning of mathematics and their many positive achievements, the issue of widespread effective use of these technologies in basic mathematics education remains for the moment unresolved.

The emerging themes that prevail in the last five years in Asia from 2008 to 2012 are pedagogy in teaching and learning mathematics, teacher quality and ICT integration, Mathematics curriculum and assessment. The themes on pedagogy in teaching and learning, mathematics curriculum and assessment show the diverse needs of the country to improve quality education. In the Philippines, the change of the curriculum for basic education of ten years to thirteen years (K-12 curriculum) was implemented to improve quality and at par with other Asian countries (Magno, 2011). This policy was implemented through Republic Act 10533 last May 15, 2013 to improve the students' performance. Meanwhile, ICT used in teaching and learning inspired researchers to study the teachers' difficulties encountered in their classroom practices as mentioned by Drent and Melissen (2008) and Hsu and Sharma (2008). A comparative study done by Idris (2005), had revealed that countries such as Malaysia, Vietnam, India, Indonesia, Australia and Philippines had developed their policies on ICT with the objective to improve mathematics teacher competencies to improve the quality of teaching and learning of mathematics.

Conclusion

For the last five years, pedagogy, teacher quality, curriculum, ICT integration and assessment in mathematics are the emerging research themes in Asia from the period 2008 to 2012 in Mathematics education. Developing countries in Asia contributed more research outputs in Mathematics with the support of developed countries. Single and collaborative researches were done between and across countries not just in Asian region but globally. The themes in mathematics education researches confirmed the diverse needs of the country to access quality education, thus, significant in policy formulation and recommendation.

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Ethnic Minority Students' Education in Hong Kong: Rhetoric, Issues and Priorities

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Abstract
In 2013 the newly elected Chief Executive of the Hong Kong Special Administrative Region (HKSAR) of the People's Republic of China delivered his first Policy Address. Among other things, it highlighted the issues of education for ethnic minority students in Hong Kong focusing on Chinese language difficulties. This paper reviews the Chinese language issues for ethnic minority students as well as other issues and challenges that have been raised. It draws on education reform documents, available policy documents from the Education Bureau (EDB) and other departments regarding the educational provision for ethnic minorities, the Race Discrimination Ordinance (RDO), census and statistics reports including the recent '2011 Population Census, Thematic Report: Ethnic Minorities', existing literature and newspaper articles. While the focus of the discussion is on the challenges that ethnic minority students are facing inside the school, the issue of the 'out of school' or 'dropout' phenomenon for such students is also highlighted. The paper concludes by suggesting that an exclusive concern with Chinese language education misses other significant issues that impact on the education of ethnic minority students in Hong Kong.

Keywords: Ethnic minority education, 'Out of School' children, Dropping out, Non Chinese speaking students, Chinese language education

Introduction
The newly elected Chief Executive of the Hong Kong Special Administrative Region (HKSAR) delivered his first Policy Address in January 2013. Among other things he highlighted the needs of ethnic minority students in Hong Kong with a commitment for further support:

> *Many ethnic minorities in Hong Kong were born and brought up here. Some of them are less successful in integrating into the community because they are unable to read and write Chinese. To provide an opportunity for ethnic minority students to learn Chinese more effectively, we will enhance support measures in schools. We hope that it will help nurture a new generation of people who call Hong Kong their home regardless of origin, race and religion.* (Hong Kong Special Administrative Region, 2013, p. 45)

While the Policy Address focused only on Chinese language difficulties for ethnic minority students it largely ignored a number of other issues and challenges that have been raised in a growing literature (Bhowmik, 2013; Bhowmik & Kennedy, 2013; Chong, 2011, 2006; Gao, Park, Ki, & Tsung, 2011; Hong Kong Unison Limited, 2009, 2010, 2011, 2012a, 2012b; Hue, 2011; Kapai, 2011; Kennedy, 2011a, 2011b; Kennedy and Hue, 2011; Kennedy, Hue, & Tsui, 2008; Ku, Chan, & Sandhu, 2005; Loper, 2004; Novianti, 2007, Yang Memorial Methodist Social Service, 2000) including popular media articles (e.g. Benitez, 2011; Bhowmik, 2012; Cheng, 2011; Deng, 2011a, 2011b; South China Morning Post, 2006; Thapa, 2012; Zhao, 2011). It seems from the Policy Address that the government is only concerned with the

Hong Kong born ethnic minority children, but many ethnic minority students join schools in Hong Kong in the late primary years or in secondary school as a form of reunification with their parents who have been ordinarily living in Hong Kong for some time. Obviously, as argued by Ku, Chan, and Sandhu (2005), these students are in a more vulnerable position than Hong Kong born ethnic minority students in coping with Hong Kong schooling and society.

Despite growing literature at macro level there is little evidence available examining the magnitude of the educational issues facing ethnic minority students at different micro level, those born here and those who come to join their parents. The complexities may not be as simple as depicted in the Policy Address. Therefore, this paper reviews a broader range of issues that confront ethnic minority students and raises the question of whether an exclusive focus on Chinese language education obscures the bigger picture of ethnic minority education in Hong Kong. It draws on education reform documents, available policy documents from the Education Bureau (EDB) and other departments regarding the educational provision for ethnic minorities, the Race Discrimination Ordinance (RDO), census and statistics reports including the recent '2011 Population Census, Thematic Report: Ethnic Minorities' (Census and Statistics Department, 2012), existing literature and newspaper articles.

Ethnic Minority Population in Hong Kong
The general discourse encouraged by the HKSAR government about 'ethnic minorities' refers to 'people from non-Chinese ethnicities' (Census and Statistics Department, 2007, 2012, p. 2) [hereafter referred to as The Census]. According to The 2011 Census (2012), about 6.4% (exact figure is 451183) of the total population of HKSAR were ethnic minorities mainly belonging to the ethnic group of Indonesians, Filipinos, Indians, Pakistanis, Nepalese, White , Japanese, Thais, Pakistanis, Koreans, Bangladeshi etc. The 2006 by-census reported about 5% (exact figure is 342198) of the total population of HKSAR were ethnic minorities which means an increase of the total number of ethnic minority population by 31.8% over 5 years. In 2011, South Asians collectively represented 14% of the total ethnic minority population increasing by about 20000 compared to the 2006 by-census (Census and Statistics Department, 2012).

Although Whites, Koreans and Japanese have been classified as ethnic minorities by the census reports in terms of their non-Chinese ethnic status they mostly belong to a higher socio-economic group than other ethnic minority groups (Census and Statistics Department, 2007; Census and Statistics Department, 2012; Heung, 2006). Filipinos and Indonesians usually have a temporary status as foreign domestic helpers (Bell and Piper, 2005). Yet, the presence of 7.0% young Filipinos (6.6% in 2011, 7.6% in 2006) under the age-group below 15 cannot be fully explained by their temporary status. Those left are mainly South Asians including Indian, Pakistani, Nepalese, and Bangladeshi.

While the various census documents use 'ethnic minority' as a broad terms to cover all non-Chinese speaking residents of Hong Kong, the issues I am raising in this paper are probably more applicable to South Asians. The reason for this is that census data shows that the median incomes for the South Asians are among the lowest of all major ethnic minorities in Hong Kong excluding foreign domestic helpers (Census and Statistics Department, 2007; Census and Statistics Department, 2012). My assumption is that social well being expressed through indicators such as socio economic status (SES) has a strong link to school success (e.g. Brown and Park, 2002; UNESCO Institute for Statistics and UNICEF, 2005). I am aware, however, that there are also other factors in addition to SES that can influence school failure (Hunt, 2008; Rumberger, 2011).

The 2011 Census (2012) reported that a total of 13.3% of the total ethnic minority population were born in Hong Kong, which is higher than 11.1% of Hong Kong born ethnic minority population reported in 2006 by-census (2007) and 10.3% in 2001 census. It means that 20.2% (22024 in number) of the increased ethnic minority population were born in Hong Kong between 2006 and 2011 and the rest (86961 in number) of the increased ethnic minority population after 2006 were probably new arrivals.

Table 1 shows that 16.6% (7352) of ethnic minority population below the age of 15 resided in Hong Kong for less than one year and another 28.2% (12515) below 15 between one and four years. This may potentially mean that about 45% of the under 15 age-group, that is school going ethnic minorities were new arrivals after 2006. There were also 22.9% (7955) and 31% (10788) of the age-group 15-24 residing in Hong Kong for less than one year and between one and four years respectively.

Table 1 *Ethnic minorities by duration of residence in Hong Kong and age, 2011*

Duration of Residence in Hong Kong	< 1 year	1 - < 4 years	4 - < 7 years	7 - < 10 years	10 years and over	Total
Age						
Under 15	7352	12515	8224	6993	9236	44320
15 - 24	7955	10788	2295	1609	12121	34768
25 - 44	45821	95276	54027	32239	59741	287104
45 - 64	2882	6465	5575	6886	53273	75081
65 and over	139	326	194	403	8848	9910
Total	64149	125370	70315	48130	143219	451183

Note. Data from *Census and Statistics Department*, Hong Kong Special Administrative Region. http://itable.censtatd.gov.hk/UI/Report/Report.aspx?lang=en-US]

Since there is no age specific information for the under 15's and there appears to be no new arrival information in the public domain, it is not possible to be specific about the numbers of new arrivals compared to those born in Hong Kong, the destinations from which they arrive or their specific ages. It is possible, for example, that some ethnic minorities born in Hong Kong are included in the numbers for those residing for less than a year. Nevertheless, there is a strong possibility that Hong Kong continues to see significant numbers of new school age arrivals even though it is not possible to be more specific on this point. It is also clear from the literature (e.g. Ku, Chan & Sandhu, 2005; Loper, 2004) and from my field work of the larger project in which I am involved that many ethnic minority young people came to Hong Kong either in late primary or early secondary school ages to reunite with their family.

Another noteworthy statistic from The Census (2012) is that only 42.4% of the total ethnic minority population have resided in Hong Kong for about 7 or more years meaning they are likely to have permanent residence status. At the same time, this also means that over 50% of the ethnic minority population does not have any permanent resident status in Hong Kong. Thus ethnic minority children eligible for entry to Hong Kong's education system have different statuses in relation to residence and especially citizenship. While this paper will not address these issues specifically it is important to note that they are important issues that may affect the ways in which students and their parents regard school.

In summary, the ethnic minority population in Hong Kong is increasing, those born in Hong Kong appear to be a minority, and the majority of ethnic minorities have been living in Hong

Kong for less than seven years. And it is also important to note that there appears to be a number of ethnic minority young people who are new arrivals whose needs are not recognized in Chief Executive's Policy Address that highlighted only the needs of the Hong Kong born ethnic minority students.

The remainder of this paper will analyze in some detail the numbers of ethnic minority students based on new census data and the educational challenges that confront them.

Ethnic Minority Students – The Problem of Multiple Data Sources
The numbers of ethnic minority young people in below 15 and 15-24 age-groups are 44320 and 34768 respectively which is about 37.3% higher and 17.1% respectively less than the corresponding figures for the year 2006 (Census and Statistics Department, 2012). About 9.8% (about 44320) of the total ethnic minority population belongs to the age-group below 15. Of them 37.1% are of South Asian ethnicities (Indian, Pakistani, Nepalese etc.) and 6.9% are from Japanese and Korean ethnicity (Census and Statistics Department, 2012). There are about 7.7% (about 34768) ethnic minority population are under 15-24 years of age. South Asian ethnic minority population accounts for 21.9% of these where Japanese and Korean are 1.9%.

Educational statistics on ethnic minority students are not readily available and there are significant inconsistencies in ethnic minority data not only in education (Bhowmik, 2013; Kennedy, 2011a) but also in other areas (Chung and Leung, 2011). The Equal Opportunities Commission (2011) has also asserted the need for using the 2011 population census to capture the information for ethnic minority population in general, and school age young people in particular in order to formulate appropriate education policies and support measures. Although there was an urgent call for more, consistent, disaggregated and better quality data in this area, yet, it seems that the 2011 census data has not brought any major differences. The inconsistencies in data set are still prevalent about the number of ethnic minority students who are in school where there are different sources of information available.

For example, the Education Bureau (EDB) reported the number of pre-primary, primary and secondary ethnic minority students in 2011was 11570, 7703 and 6373 respectively (personal communication, 1 June 2012 with Mr. C. Yeung, School Development Officer, Education Commission, EDB), whereas The 2011 Census reported these numbers 8517, 17467 and 13590 respectively (Census and Statistics Department, 2012). Similarly, the number of ethnic minority young people enrolled in primary and secondary schools in the year 2007-08 were 5583 and 3272 respectively (personal communication, 24 September 2010 with Mrs. P. Y. Shek, Education Officer, Education Commission, EDB), whereas another source (Hong Kong SAR Government, 2008) reported this figure 5671 and 3097 respectively. And the 2006 figure reported by by-census data in the previous year was just double of the mentioned 2007-08 data set, 12879 and 7036 respectively (Census and Statistics Department, 2007). While we see the inconsistencies in ethnic minority students' data it is important to note that no further information is available either from EDB or other sources on how many of them were born in Hong Kong or new arrivals. To some extent it may explain why Chief Executive's Policy Address only mentioned Hong Kong born ethnic minority young people.

Issues and Challenges inside School
Literature and newspaper articles are continuously reporting on the issues and challenges that ethnic minority students are facing in Hong Kong schools. The following sections describe the main issues and challenges centered in the areas of admissions, Chinese language, assessment,

curriculum, teaching, resource support, supervision and monitoring, and overall policy towards multicultural education in Hong Kong. Ethnic minority children are labeled as 'Non-Chinese Speaking (NCS)' children by the Education Bureau in Hong Kong although Equal Opportunities Commission (EOC) called them ethnic minority children (Equal Opportunities Commission [EOC], 2011). However, this NCS labeling has been questioned as whether it is right to recognize them by only their lack of skill in a particular language (Kennedy, 2011a).

Admissions

Although the parents of ethnic minority students are free to choose any type of school for their children's enrolment at Primary One or Secondary One there is an increasing tendency that the number of schools receiving special support for ethnic minority students is increasing. While the number of such schools was 15 in 2006/07, it has now reached 31 (Education Bureau [EDB], 2012).The Education Bureau had previously invited schools to be 'designated schools'[1] mainly to develop expertise among a pool of schools in dealing with ethnic minority students and sharing their experience with other schools. Perhaps it is easier for the EDB to provide support and resources there. Yet this designated schools concept has been highly criticized as a discriminatory approach itself mainly because of it reinforces segregation rather than integration (EOC, 2011; Hong Kong Unison Limited, 2011). Moreover, it has been evidenced that starting school in a 'designated' primary school limits opportunities for the ethnic minority students to get admission into a mainstream better secondary school in later stage due to inadequate Chinese language proficiency (Hong Kong Unison Limited, 2009; Novianti, 2007). The Equal Opportunities Commission (2011) asserted that this practice of mainstream schools refusing ethnic minority students' admission because of their language deficiency is an indirect discrimination and violation of Race Discrimination Ordinance (Home Affairs Bureau [HAB], 2008). The optimistic side is that recently EDB stopped using the word 'designated school' on their website and changed it to 'schools provided with recurrent funding and school-based professional support for non Chinese speaking students' (EDB, 2012). Yet, the very essence of segregating ethnic minority students in these schools, in whatever name it takes, is still in practice.

Chinese Language

Learning Chinese language has always been the issue for the ethnic minority students in Hong Kong schools. In spite of repetitive requests from all the concerned parties to introduce an alternative Chinese language curriculum for ethnic minority students or Chinese as a second language curriculum, the EDB has been always reluctant in their response. Instead EDB continuously emphasized that their 'The Supplementary Guide to the Chinese Language Curriculum for NCS Students', needs to be adopted by schools in order to meet the specific needs of the ethnic minority students. This approach has been criticized publicly since the Guide is only a framework and direction for teachers and nothing to deal with day to day teaching, and by adopting this approach EDB has actually shifted their responsibility towards teachers (Hong Kong Unison Limited, 2011). Nevertheless, just recently the Chief Executive made a commitment in his 2014 policy address that from 2014/15 academic year government will implement 'Chinese language curriculum second language learning framework' (2014 Policy Address, 2014). In relation to this the commitment was also made to provide related learning and teaching materials, assessment tools as well as support for teachers through school based professional support programme and in service professional development programme.

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[1] Designated schools are pre-dominantly catering for ethnic minority students in Hong Kong.

Ullah (2012), a victim of not having been taught Chinese language education in Hong Kong school, conducted his PhD study reviewing critically Chinese language education provision for non Chinese speaking students (NCS) in Hong Kong with a view to illustrating the problems encountered by the ethnic minority students while learning Chinese especially after 2004 when Chinese language education has been available in Hong Kong schools. While a literacy test was administered and a survey was conducted for the quantitative part of the study, qualitative part included observations, documentary review and in-depth interviews.

Although NCS in sampled schools were doing well in international Chinese examination such as GCSE in the year 2007-2010, the result of the literacy test administered in the study was not satisfactory and far from the societal expectations. In fact the students performed very poorly. The author provided a number of reasons to explain students' lower performance. Firstly, the students had a lower rating for the proficiency of Chinese in their languages list especially in the areas of writing and speaking command. They rated the most proficient in English, then their home language as second and the Chinese as third. Secondly, Chinese language utilization pattern of NCS is very low in their daily life which only accounted for 8% where the usage of English accounted for 68%. And NCS usually do not use Chinese outside their lesson which was coined by the author as 'pigeonization syndrome'. Thirdly, most of the NCS are geared for sitting for the GCSE Chinese examination in which they normally do well and they become satisfied but the skill they achieve is much lower than the societal expectation. Therefore, they are given false hope about their Chinese literacy and do not feel the need for 'unpigeonizing' themselves beyond the classroom lessons. Fourthly, there is a poor linkage between primary and secondary Chinese curriculum and students are victimized due to the frequent school based curriculum evolution. Lastly, a number of unfavorable conditions are the obstacles for the effective learning of Chinese, such as the differences between their first language and Chinese cannot make cognitive transfer easy while acquiring a higher level of Chinese and this is not helped by the practice of heavy reliance of English as the medium in Chinese language instruction. There is also the lack of authentic texts for enhancing their literacy level.

In terms of current implementation of the school based NCS Chinese curriculum Ullah (2012) identified a number of anomalies. Firstly, there is a mismatch between different levels of curriculum planning in incorporating central Chinese curriculum framework (CCCF) in school based Chinese curriculum for NCS. Secondly, teachers have inadequate language teaching competency and language teacher education competency in order to develop and implement a fully school based Chinese curriculum for NCS. Thirdly, the contents and the role of school curriculum guide (SCG) are not adequate and it is also illusive. It only helps new designated schools to organize their curriculum. It also lacks important contents such as teaching approaches or methodological perspectives to assist frontline teachers.

A recent survey (Hong Kong Unison Limited, 2012b) on kindergarten education for ethnic minority students in Hong Kong is specifically recommending actions for the sake of early integration of ethnic minority students to the Hong Kong society through acquisition of learning Chinese right from the beginning of kindergarten. But there is as such no research evidence found whether this approach is right for them. Ethnic minority children have the challenges of learning two foreign languages (Chinese and English) in Hong Kong kindergartens at their age of three to five. Is that a right policy to teach them two foreign languages when their home language is completely different? How difficult is learning two foreign languages for kindergarten students? Is there any risk factor associated with this which can result in losing their motivation from education? What are the policies of other

countries like UK, USA, Australia, Canada, Singapore, and South Korea in this regard? These are some really important questions need to be answered both theoretically and practically in order to formulate strong support measure for the ethnic minority kindergarten students in Hong Kong (Bhowmik, 2012).

It is positive that the GCSE Chinese qualification for ethnic minority students (with some conditions) has now been recognized to gain access into higher education or the job market. Yet there is still concern that individual departments require higher proficiency which limits the choices of ethnic minority students. Because of the level gap between GCSE Chinese curriculum and Hong Kong School examination Chinese curriculum, some have proposed to develop an alternative Chinese examination which will actually benefit ethnic minority students to reach a certain level of Chinese language proficiency and recognized qualification for better access to higher education institutes and job market (Hong Kong Unison Limited, 2011; Ullah, 2012). Another potential support measure has been suggested in the Equal Opportunities Commission document (2011) that a Chinese Proficiency Programme and Testing System (CPPTS) can be developed so that it could be used as a benchmark for higher education institutes and workplace. Although this particular language issue has been argued for ages, no pragmatic solution has yet been seen.

Assessment

The Equal Opportunities Commission (2011, p. 8) has labelled as 'unfair' the need for ethnic minority students to reach the same level of Chinese proficiency. The report also asserted that the existing assessment tools for identifying children with special needs were developed mainly for Chinese students. And it has not considered cultural factors and language deficiencies of the ethnic minority students. As a result ethnic minority students with special needs are facing double challenges. There is a General Research Fund project entitled 'Exploring Cultural Diversity in Chinese Classrooms: Can Assessment Environments Cater for the Needs of Ethnic Minority Students in Hong Kong', [GRF-HKIEd840809] funded by the Hong Kong Research Grants Council. Recent results made available at a conference suggested the need for a different assessment environment for ethnic minority students with 'more feedback' and 'praise for achievement' that are valued by the students (Kennedy, 2011a). It also looked at the factors affecting ethnic minority students' learning motivation.

Curriculum

The need for alternative or second language curriculum for Chinese language has been discussed in one of the previous sub-sections and also acknowledged the recent commitment from the Chief Executive. In addition, a strong demand for development of teaching and learning materials focusing on Chinese language needs of ethnic minority students has been well argued (EOC, 2011; Hong Kong Unison, 2010, 2011). One more issue is whether the existing curriculum is culturally responsive towards ethnic minority students has not been well researched yet which is another area to explore. Nevertheless, Hue's (2011) work provided cross-curricular experiences of ethnic minority students in Hong Kong Schools, and Hue and Kennedy (2012) examined teachers' views of ethnic minority students' cross-cultural experiences in order to understand teachers' conceptualization of a new rationale for cultural responsiveness and management of diversity in Hong Kong secondary schools in relation to the creation of culturally responsive school and classrooms respectively. The study revealed that teachers struggled to conceptualize a new rationale for responding to cultural diversity (Hue & Kennedy, 2012).

Teaching

It is imperative that Hong Kong teachers feel higher efficacy while teaching ethnic minority students compared to Chinese students and both groups can equally be engaged (Kennedy, Hue & Tsui, 2008). However, it has been reported that teachers in Hong Kong struggle in several areas related to ethnic minority students' education i.e. in fulfilling the diverse needs of students, developing partnerships with ethnic minority students' parents, broadening educational and career aspirations of ethnic minority students (Hue, 2011). Hong Kong teachers need   to rethink in creating the kind of learning environments and modifying them in order to meet the needs of ethnic minority students has been well emphasized (Kennedy, 2011a).

Resource Support
EDB (2011a; 2011b) has reported that they are providing grant support to both designated and mainstream schools to support ethnic minority students mainly in improving their Chinese language. But, while designated schools are given grants to run schools-based support measures for the ethnic minority students, mainstream schools are given grant only for running after schools Chinese learning. Moreover, it has been reported that sometimes EDB's fund disbursement differs from school to school without justifiable and clear reasons (Hong Kong Unison Limited, 2011).

Supervision and Monitoring
It is clear that resources have been put in place to support ethnic minority students in Hong Kong schools (EDB, 2011a, 2011b). But their appropriateness and adequacy are yet being highly criticized by many interested parties. One of the reasons behind has been identified by Equal Opportunities Commission (2011) is the lack of quality assurance and central support from the EDB. Therefore, EOC (2011) urges EDB to establish a central quality assurance system so that the resources being deployed to schools can be effectively monitored.

Overall Policy towards Multicultural Education in Hong Kong
It has been argued that the Confucian philosophy of social justice informing educational policy in Hong Kong is at odds with the needs and expectation of the parents of the ethnic minority students as well as the views of some other stakeholders including community groups and researchers in this area (Kennedy, 2011b). This has meant that existing Government policy is only moving towards mono-cultural education according to Skerrett and Hargreaves (2008) framework of educational orientations to diversity (Kennedy, 2011b), while multicultural education has been highly recommended for a multicultural society (Banks, 2008; Gay, 2000; Ladson-Billings, 1994; Ladson-Billings, 2007; Nieto, 2008; Pajares, 2007). But it is not necessary to adopt the western notion of multiculturalism (Kennedy, 2011a) as it has been well argued that Asia has its own distinctive type of traditions related to the diversity and the importance is given to developing local approaches to multiculturalism (Kymlica, 1995, 2007; Kymlicka & He, 2005). One such has been argued 'social resilience' instead of 'multiculturalism' (Kennedy, 2011a) following the suggestion made in the context of Singapore (Ramakrishna, 2008).

'Out of school' Phenomenon
Hong Kong's Equal Opportunities Commission first recognized the disproportionately low participation rates of ethnic minority children in upper secondary and post-secondary education compared to the majority ethnic Chinese children (EOC, 2011). Earlier in 2009, a Hong Kong Legislative Council (Leg Co) discussion paper raised concerns about the academic performance of ethnic minority students by indicating that less than 50% met the minimum requirements to be admitted into Form Six in 2008/2009 with only 24 students

sitting examinations in the final year that is Form Seven of senior secondary (Hong Kong Legislative Council, 2009). Leg Co recommended that the government should consider conducting research on ethnic minority students' academic performance. Earlier literature also highlighted many issues and challenges that ethnic minority students are facing in their education in Hong Kong that to some extent also shed some light about the 'out of school' issue for ethnic minority students (Ku, Chan & Sandhu, 2005; Loper, 2004).

More recently, Bhowmik (2013) focused on the extent of 'out of school' ethnic minority children in Hong Kong by employing two important frameworks i.e. 'Five Dimensions of Exclusion' by UNICEF and the UNESCO Institute for Statistics (UNICEF and the UNESCO Institute for Statistics, 2010) and 'Seven Zones of Exclusion' by Consortium for Research on Educational Access, Transitions and Equity (CREATE) (Lewin, 2007) and analyzed 2006 by-census data (Census and Statistics Department, 2007). The findings suggested that a good number of ethnic minority children were 'out of school'; this included the pre-primary, lower secondary, upper secondary and post-secondary age-group young people. Kennedy (2012) also suggested similar kinds of phenomenon. Moreover, Bhowmik & Kennedy (2013) raised this 'out of school' phenomenon for ethnic minority children as a new issue about access and equity in Hong Kong's education system which has failed to meet the requirements of one of 'no-loser principle' of Hong Kong's most recent education reform (Education Commission, 2000).

It is my intention in this paper to make an effort to analyze the maiden ethnic minority educational data from 2011 population census published in a thematic report on ethnic minorities in late 2012 (Census and Statistics Department, 2012). And I also feel the necessity to reiterate the original conceptual frameworks that I drew on and the rationale behind the extension of them to understand the picture holistically in the context of Hong Kong. The conceptual frameworks 'Five Dimensions of Exclusion' by UNICEF and the UNESCO Institute for Statistics (UNICEF and the UNESCO Institute for Statistics, 2010) and 'Seven Zones of Exclusion' by Consortium for Research on Educational Access, Transitions and Equity (CREATE) (Lewin, 2007) are very similar in understanding 'out of school' phenomenon. Despite the former has 'five dimensions' and the later has 'seven zones' they can be summarized in three large categories, firstly, the pre-primary, primary and lower secondary age-group children who have never been to any schools; secondly, the dropout students of primary and lower secondary level; and thirdly, the primary and lower secondary students who are in primary or lower secondary school but at risk of dropping out. It appears that both frameworks consider 'out of school' construct for the students up to the end of lower secondary level. Perhaps their most usages in the context of development might be one of the reasons for that. Yet, drop out discourse in the context of USA considers students until the achievement of high school diploma (Rumberger, 2011). While there are two different upper limits we see from the literature, I will generally use the construct here to identify 'out of school' ethnic minority young people all through from pre-primary to post-secondary level of education in Hong Kong.

Although there was an urgent need for more, consistent and better quality data in this area, however, The 2011 Census data for ethnic minority education seems again not to be very helpful. The data source (Census and Statistics Department, 2012) raises issues about the consistency of student attendance at school. Here school attendance rate means the percentage of population attending full-time educational institutions in the respective age groups (Census and Statistics Department, 2012). In the year 2011, about 13.1% ethnic minority children were not attending to school in their pre-primary ages while this rate for whole population

was 8.7%. The school attendance rates for ethnic minority students and whole population in the age-group 12-16 were 98% and 98.6% respectively. There is also considerable gap in the school attendance rates of ethnic minority students in the age-group 17-18 compared to the whole population, being 75.7% is for the former and 86% for the latter. The most important statistic is the school attendance rate for ethnic minority students at the ages 19-24 was only 13.8% where the rate for whole population was 43.8%. These age groups (17-18 and 19-24) are the time for potentially attending upper secondary and post-secondary education. It indicates that 24.3% and 86.2% of ethnic minority young people were out of full time education by the time they reached to upper secondary and post-secondary education respectively.

The analysis above indicates the possibility that a good number of ethnic minority children are 'out of school' in Hong Kong which includes the pre-primary, lower secondary, upper secondary and post-secondary age-group young people. This is pretty much same what Bhowmik (2013), and Bhowmik and Kennedy (2013) suggested in their previous analysis drawing on ethnic minority educational data from the 2006 by-census report. Unfortunately, despite all the optimism about 2011 Census data, it is clear that there has not been enough data yet available in public domain to identify the right number of 'out of school' ethnic minority young people. Even if where data are available there are significant inconsistencies found in some cases. Therefore, I further urge for more, consistent and better quality data in this area and that data need to be disaggregated so that the extent of 'out of school' phenomenon for both Chinese and ethnic minority young people can be determined. In addition, in-depth understanding on the reasons for being 'out of school' young people and exploring what their 'out of school' life looks like are even more important for varieties of social, political, economic and cultural reasons.

Conclusion

Despite the expectation of all parties the 2011 population census (Census and Statistics Department, 2012) helps little in providing useful data to understand ethnic minority young people and their participation in education fully in Hong Kong. Not recognizing ethnic minority students at different micro levels such as Hong Kong born and new arrivals does not help view the entire ethnic minority educational issues holistically as we only see a partial view from Chief Executive's Policy Address. It can be seen as an ongoing debate that is gone on now for over a decade between government and the other stakeholders concerned for the education of ethnic minority students in Hong Kong. Yet little progress has been made. On the one hand the government is investing arguably a significant amount of money mainly for enhancing Chinese language skills of ethnic minority students. On the other hand literature does not suggest any impressive evidences that the investment is paying off. Moreover, the other challenges reported in other handful literature require much attention from the government if the entire educational issues of ethnic minority students are to be appropriately addressed. For instance, if we do not understand the factors affecting ethnic minority students for not participating meaningfully in Hong Kong classrooms or the factors affecting their learning motivation or the tradition and culture of their home Country's education system, rather relating everything only to the Chinese language learning difficulties, runs a big risk of not understanding their sufferings from a broader perspective that undoubtedly narrows down the support systems set up for. While the support measures from the government side indicates its positive attitude for breaking up the barriers in education of ethnic minority students, the rhetoric in identifying issues and priorities set up by the government does not seem to be much helpful in properly raising up generations of ethnic minority students in the Asia's world city Hong Kong. Nevertheless, the optimistic side is that their educational issues

are drawing much attention lately compared to the beginning of this century when they were largely invisible at the starting of Hong Kong Special Administrative Region government although ethnic minority people were living in this territory since early days in British rule.

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Hong Kong Senior Secondary English Language Curriculum: An Analysis with respect to Multicultural Education

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Abstract

Hong Kong is an international metropolis with a combination of Chinese and western cultures. The curricula of Hong Kong also reveal such a unique feature of this vibrant city, laying emphasis on multiculturalism. Multicultural education aims at achieving two goals, first of which is to maintain pedagogical equality amongst students with discrepant cultural backgrounds, providing equal opportunities for all students to strive for excellence academically. Another goal is to hook the multicultural awareness of students, assisting them in embracing and appreciating cultural diversity in society. English being an international language linking people with distinct cultures, such an educational belief of multicultural education is incorporated into distinct components of the Hong Kong senior secondary English language curriculum, exhibited through a range of curriculum ideologies and pedagogical methodologies proposed by educationalists.

Keywords: Multicultural education, English language curriculum

Introduction

Having been implemented since 2009, the *English Language Curriculum and Assessment Guide* (Secondary 4-6) is a senior secondary English language curriculum proposed by the Hong Kong government. Compared to a musical score guiding musical performances, a curriculum guides the instructional design in a genuine classroom context (Schrag, 1992). Traces of numerous curriculum ideologies as well as pedagogical methodologies are observed in the senior secondary English language curriculum, all of which aim at providing directions for teachers to instruct the three-year English course. However, it is not uncommon to see inconsistencies between the implemented curriculum, which is the genuine curriculum designed and adopted by teachers in reality, and the intended curriculum out of the myriads of factors such as the implementation of school-based curricula by individual schools or teachers (Morris & Adamson, 2010). This essay will start with a review on multicultural education, chiefly zeroing on the article written by Gay (2004). The principal segment of the paper will be divided into several sections, each of which will analyze the incorporation of the concept of multicultural education in different aspects of the senior secondary English language curriculum in Hong Kong from the perspectives of both intended and implemented curricula. Each section will eventually end by the provision of some suggestions targeting on the problems encountered in the implementation of multicultural education in Hong Kong English language classrooms.

Literature Review

Multicultural education lays emphasis on the equality amongst students with discrepant cultural backgrounds in the learning process. Gay (2004) denotes multicultural education as an interdisciplinary program, rather than a specific and discrete subject, aiming at "serving the educational needs of culturally diverse student populations" (p. 32). Culturally pluralistic

societies, which comprise numerous minority groups such as the ethnic minorities, the hybrids living "in the hyphen", the impoverished and the physically disabled, are prevalent everywhere in the modern era (Nakagawa, 2005). Being distinct from the mainstream, people from these minority groups may confront with severe problems of discrimination and racism. More importantly, students from the minority groups may encounter problems with their studies out of discrepancies in certain abilities between them and the mainstream. The ignorance of modern people about cultural diversity as well as a desperate need to educate people to be more representative of and responsive to the culturally diverse group brings about the emergence of multicultural education (Gay, 2004). Multicultural education being an abstract and complicated ideology and concept, different scholars have proposed copious different definitions for it. Most of them have even been modified at times by their proposers as substantial sociological changes took place, and a consensus on its textbook definition cannot be reached amongst multiculturalists.

For all the existence of multiple perspectives in theorizing multicultural education, multicultural education serves two main purposes on the whole. Endeavoring to combat such the discrimination problems faced by students from the minority groups, multicultural education first stresses the importance of pedagogical equality, providing equitable chances for students from diverse cultural groups and of discrepant abilities to excel academically and learn efficaciously at school (Gay, 2004). Besides ensuring that all students, whichever cultural group to which they belong, enjoy quality education, multicultural education also aims at assisting students in cultivating a multicultural awareness, attitude and value in a bid to recognize, embrace and appreciate cultural diversity in modern society (Gay, 2004). It eventually hopes to attain an ultimate aim of social transformation and reformation, reconstructing an equitable, humane and just society where all cultural groups are treated equally (Gay, 2004). Being a rather abstract notion, seldom is multicultural education explicitly stated in a curriculum document but its attributes and traces are exhibited through various curriculum ideologies and educational methodologies. The following sections of the paper will analyze how those two major aims of multicultural education mentioned above are reflected and addressed in the Hong Kong senior secondary English language curriculum in different ways.

Rationale

First and foremost, it is a no-brainer that the rationale behind the designation of English language as a core subject in the education system in Hong Kong is in line with the concept of multicultural education. Only is a decision on curriculum reformation made by the government when weaknesses or limitations of the contemporary curriculum are identified, resulting in a desperate need for modifications of the curriculum (Morris & Adamson, 2010). Multicultural education can be reckoned to be one of the reasons accounting for the decision of designating English language as a mandatory subject for Hong Kong students. English language being an international tongue that is common to people from all over the globe, the mastery of English language facilitates "global communication", enabling students to "[maintain] meaningful relationships with people" (CDC & HKEAA, 2007, p. 2). Communication lays the basis of the understanding of another culture as only by acquiring a language that facilitates communications with different cultural groups can Hong Kong students understand and appreciate other cultures. Enhancing the exposure of Hong Kong students to English language, the designation of English language as a compulsory subject for Hong Kong students facilitates communication amongst discrepant cultural groups, which plays an essential role in helping Hong Kong students embrace and appreciate cultural diversity, eventually interpreting the interdependence amongst various cultural groups (Rizvi,

2007). Such a rationale is not only adopted in Hong Kong but also in many parts of the world such as mainland China, in which enhancing the cultural awareness of students is one of the aims of raising the English proficiencies of students (Hu & Adamson, 2012). Apart from that, in accordance with the theory of linguistic relativism, language is influential in the ways in which people perceive the world (Formkin, Rodman, & Hyams, 2013). Originated from the west, English probably influences people to perceive the world from a more liberal perspective so the acquisition of English language probably assists Hong Kong students in embracing cultural diversity. Attributed to the above reasons, multicultural education can be perceived to be one of the momentums for the designation of English language as a compulsory subject for Hong Kong students.

The rationale behind the designation of English language as a core subject in the education system of Hong Kong is to enable students to embrace cultural diversity, which is one of the aims of multicultural education, yet whether this aim can be successfully attained in reality is unequivocally dependent on how the curriculum is instructed and how English teachers present this subject to students. It is observed that plentiful Hong Kong senior secondary English teachers nowadays direct students to view the acquisition of English from a neo-liberal imaginary perspective, encouraging students to put effort in learning English merely by emphasizing the significance of a high English proficiency in the workplace under globalization (Rizvi, 2007). Therefore, barely do students learn English for the sake of conversing with people from the minority groups but solely for gaining a better prospect in the workplace instead. In this way, by no means can Hong Kong students acquire a better understanding and more comprehensive knowledge of diverse cultural groups even if English language is designated as a compulsory subject for them, equipping them with the abilities to communicate internationally.

As a result, it is suggested that English teachers ought to promulgate multicultural attitudes and values to students so as to ensure that the rationale for designating English language as a mandatory subject can be fully achieved. For instance, not only should English teachers encourage students to improve their English proficiencies in order to benefit their future prospects, they should also remind them of the importance of making use of English language as a tool to embrace the cultural diversity in society through communications with the minority groups, in particular the ethnic minorities in Hong Kong who are incapable of conversing with others in Chinese. Teachers can also incorporate teaching materials associated with multiculturalism into lessons in order to arouse students' awareness of making connections between English learning and the appreciation of cultural diversity. A splendid instance is the movie *Slumdog Millionaire* directed by Danny Boyle, which depicts the story of an Indian boy. The incorporation of this English movie into English lessons certainly enables students to have an opportunity to understand other cultures in the course of English learning. It is believed that these suggestions can help bring the rationale behind the senior secondary English language curriculum, which is to enable students to embrace cultural diversity, into practice.

Curriculum Framework
The curriculum framework of the senior secondary English language curriculum provides a comprehensive picture of the program goals of this curriculum. Educational purposes are reckoned to be the overriding element in curriculum and instructional design as other components such as leaning activities and modes of assessments are derived from the aims or objectives set (Tyler, 2009). It is no question that the learning objectives of the senior secondary English language curriculum have been set on the basis of multicultural education.

The program goals of the curriculum can be categorized into subject knowledge, generic skills and values and attitudes, each of which represents a domain of objectives stated in the Bloom's Taxonomy (CDC & HKEAA, 2007). Derived from the nature of subject field, learning objectives in the category of subject knowledge expect learners to acquire the essence or heritage of English language, all of which are behavioral objectives explicitly and specifically stating the expected manifest performances of students (Brandt & Tyler, 2011; Eisner, 2002). Moreover, they symbolize the cognitive objectives in the Bloom's Taxonomy as they comprise expected behaviors requiring discrepant levels of cognition, ranging from those demanding students to remember and understand to those demanding learners to evaluate and create (Krathwohl, 2002). For instance, the learning objectives of reading skill, which belongs to one of the four basic language skills, involve various levels of cognitive abilities. "[Relating] cause to effect" involves a rather fundamental level of cognitive ability as only does it require students to recall factual information whilst "[evaluating] critically views and attitudes" involves a higher level of cognitive ability as it demands learners to understand the entire text and make judgements (CDC & HKEAA, 2007, p. 25). Targeting on discrepant levels of cognitive abilities, learning objectives in the domain of subject knowledge encompasses the concept of multicultural education as they provide opportunities for students of varying linguistic abilities to perform. Even if some students possess a relatively lower level of linguistic competence, they are still capable of scoring success in achieving learning objectives involving lower levels of cognitive abilities instead of failing to achieve anything at all, which is a piece of evidence proving that the design of learning objectives in the curriculum actually caters for students from diverse cultural groups possessing varying levels of linguistic competence.

Learning objectives under the domains of generic skills as well as values and attitudes are believed to symbolize the psychomotor and affective objectives in the Bloom's Taxonomy respectively. Derived from the nature of society, objectives under these two domains reflect certain social values inasmuch as they represent the essential skills as well as virtuous values that modern society demands learners to possess (Brandt & Tyler, 2011). One of the generic skills is creativity and students are expected to "cultivate and demonstrate free and open attitudes" towards discrepant cultures, which complies with the concept of multicultural education in the sense that opinions expressed by both the mainstream and the minority groups should be valued and treated on an equitable basis and that everyone has an equal chance to voice out in various activities (CDC & HKEAA, 2007, p. 134). Concerning values and attitudes, students are expected to be appreciative, appreciating "the relationship of Hong Kong to other … cultures" in English learning activities such as group interactions, implying that students should learn to appreciate opinions expressed by different students even if those opinions contradict their own opinions (CDC & HKEAA, 2007, p. 147). From the above, it is clearly manifested that concepts of multicultural education are incorporated in the learning objectives under all the three domains in the intended curriculum.

For all the ideal design of learning objectives in the curriculum document in a bid to embrace multicultural education, the program goals set in all the three domains are undoubtedly confined merely to behavioral objectives. Being extremely specific, behavioral objectives are easy to be observed and evaluated so it is necessary to incorporate behavioral objectives in every curriculum. Meanwhile, such objectives are often criticized for certain demerits such as driving teachers to evaluate the performance through prescribed standards (Eisner, 2002). As the desired performances of students are explicitly and clearly stated in behavioral objectives, teachers may tend to evaluate students strictly in accordance with the descriptions in the learning objectives like the inspection of machines in factories. Thus, students tend to learn

for the sake of reaching standards in lieu of exploring and discovering knowledge. It is also believed that barely are behavioral objectives appropriate for the domains of values and attitudes, which are rather abstract and intrinsic and so difficult to be observed through apparent behaviors. For instance, it is plausible for students to demonstrate an appreciative attitude through numerous means so it is inappropriate to tell whether students have demonstrated such an attitude through behavioral objectives. On the basis of the above discussion, limiting all or most of the learning objectives to behavioral objectives is undesirable for learners.

In practice, even if behavioral objectives are provided in the intended curriculum, it is recommended for teachers not to assess the learning progress of students strictly based on those behavioral objectives but attempt to use a combination of behavioral and problem-solving objectives. As opposed to behavioral objectives, barely do problem-solving objectives expect students to achieve certain prescribed performances but to resolve problems by any means instead so solutions can be infinite (Eisner, 2002). For instance, even though the intended curriculum expects students to "use a variety of tenses, modals … to participate in and follow group discussion", it is unnecessary for teachers to stick to this objective strictly in order to assess the learning progress of students (CDC & HKEAA, 2007, p. 21). Instead, teachers can simply arrange a group discussion activity for students such as planning an activity in the English week and the learning objective of this activity is not any desired behavior but to solve this problem assigned. Provided that students can eventually succeed in planning the activity, this has definitely implied that they are capable of mastering appropriate phrases in group interactions as only by doing so can they eventually come up with a conclusion. It is thereby observed that the adoption of problem-solving objectives in the implemented curriculum can supplement the behavioral objectives in the intended curriculum. Multicultural education emphasizing catering for student with different needs, the adoption of a combination of the two different kinds of learning objectives in the curriculum to evaluate the performance of students can also help the curriculum better address the idea of multiculturalism.

Curriculum Structure
The senior secondary English language curriculum comprises a compulsory part, to which approximately three-fourth of the lesson time is devoted, and an elective part, which covers the rest of the lesson time (CDC & HKEAA, 2007). Suffice it to say that the content of both parts of the curriculum embodies concepts of multicultural education.

Compulsory Part
Organized in terms of modules and units, the compulsory part of the senior secondary English language curriculum enables students to learn English thematically. The units within the same module, each of which is presumed to cover all the four skills as well as associated vocabulary and grammatical items, are interrelated, which enables learners to make connections amongst the knowledge they learn in various units (CDC & HKEAA, 2007). Such a module-based curriculum structure can be perceived to be a transformative pedagogy, which is characterized by the transformation of the prior knowledge and real-life experience of students into new or more in-depth knowledge, as well as literacy fusion, which merges the learning process with the interests of students (Millard, 2006). For all the provision of suggested modules in the intended curriculum, English teachers are encouraged to design alternative modules or units in a bid to "suit the interests … of their particular group of learners", implying that the interests of students are addressed in the course of curriculum planning as the teaching material and content are supposed to cater to the interests of students

(CDC & HKEAA, 2007, p. 53). Enabling teachers to select or design modules that cater for the cultural diversity of students, this arrangement is consistent with the concept of multicultural education. For instance, provided that there are a lot of ethnic minorities in the class, modules like "customs around the world" and "intercultural communication" can be designed for the class. In addition, such a molecular approach in curriculum organization highly encourages students to "link classroom learning to real-life experience", recollecting their related prior knowledge or past experience and making connections with the module that they are learning at the moment (CDC & HKEAA, 2007, p. 56). For instance, intimately entwined with the everyday life of students, suggested modules in the intended curriculum like "Study, School Life and Work" and "Nature and Environment" do not only pique the interests of students in learning but also activate their prior knowledge more easily (CDC & HKEAA, 2007, p. 28-29). Students with diverse cultural backgrounds can even contribute special prior knowledge to the modules by virtue of their unique personal experiences, which enables the entire class to understand how people from different cultural groups interpret the same issue and eventually to achieve the ultimate aim of embracing cultural diversity. Hence, the compulsory part of the senior secondary English language curriculum adopts the concept of transformative pedagogy, in which traces of multicultural education are incorporated.

Nevertheless, conservative English teachers may not be open-minded enough to accept distinct opinions expressed by students with diverse cultural backgrounds. Even if English teachers ask questions or invite students to share their personal experience on certain issues in class, they may have a so-called correct answer in their mind or have predicted what kind of personal experience students will share. For instance, when "what kind of sport games do you like?" is asked as a lead-in question in the suggested unit "The World of Sports", teachers may expect students to name any of the sport games such as badminton or tennis (CDC & HKEAA, 2007, p. 29). Provided that a student answers "I do not like playing sports", some conservative teachers may be dissatisfied with such an answer, which is discrepant from the predicted answer in their mind, so they will probably ignore this answer and simply ask other students to share their opinions. In this way, even if students from diverse cultural groups are given the opportunities to express their opinions or share their experience, their answers and experience may not be embraced unless they fulfil the expectations of the teachers. Feeling that they are neglected, students from the minority groups may no longer be eager to share their experience to the whole class in the future. Despite not being prevalently found in the genuine classroom context, such an atmosphere undeniably discourages the expression of diverse opinions and thereby hinders the achievement of the aim multicultural education, which is to enable students to understand and appreciate cultural diversity.

In a bid to ensure that the aim of multicultural education can be achieved, it is proposed that English teachers, in particular those who have been teaching for long, to alter their attitude towards teaching. When Hong Kong has already thrived into a knowledge-based society, not only are students required to be diligent and obedient, they also need to possess extra abilities like creativity (Morris & Adamson, 2010). Consequently, teachers no longer ought to expect students to answer questions in a prototypical manner by giving fixed or routine answers but more creative and innovative answers should surely be encouraged and accepted. In the previously-mentioned case, when a student answers "I do not like playing sports", rather than neglecting his/her answer, teachers may attempt to encourage him/her to continue elaborating his/her answer like explaining why s/he dislikes sport games so much. Not only can this provide more chances for the student to practice their English speaking skills, it can also demonstrate that innovative answers and ideas are totally accepted in the classroom, which further encourages the minority groups to voice out in class. Students can thereby have the

chance to listen to the personal experiences shared by minority groups in order to have a better understanding on them, which is one of the ultimate goals of multicultural education.

Elective Part
The elective part of the senior secondary English language curriculum comprises eight modules, four of which are associated with language arts whilst the other four are not, and students are required to opt three to study in three years. It is beyond the doubt that the elective part of the intended curriculum addresses multicultural education by adopting the curriculum ideology of cognitive pluralism, which is on the basis of the theory of multiple intelligences. In accordance with the theory of multiple intelligences, the human mind possesses seven distinct intelligences, which are somehow irrespective and independent of each other, and so it is of paramount importance to design individualized way for each learner to learn the same subject out of their unique profiles of intelligences (Blythe & Gardner, 1990; Gardner & Hatch, 1989). Built on the basis of such a theory, the ideology of cognitive pluralism conceptualizes knowledge as a range of symbols, implying that the same knowledge can be represented by various symbols and so can be acquired through distinct means (Eisner, 2002). Such a means through which knowledge is conceptualized is celebrated in the elective part of the senior secondary English language curriculum as it advocates the learning of English through numerous means in lieu of adopting the traditional grammar-translation approach, aiming at "broadening students' learning experience and catering for their diverse needs and interests" (CDC & HKEAA, 2007, p. 29). Students having a flair for different intelligences and possessing diverse interests are allowed to select the modules that resonate with them to study. For instance, students who excel in bodily-kinesthetic intelligence, who are probably interested in sports, may opt to study the module of "Learning English through Sports Communication" whereas those who are good at logical-mathematical intelligence, who are likely to master reasoning well, may choose to study the module of "Learning English through Debating" (Blythe & Gardner, 1990; CDC & HKEAA, 2007, p. 30). Only do the eight modules differ in the themes and learning activities provided but they are consistent in terms of the ultimate aim, which is to provide chances for students to apply English in discrepant contexts (CDC & HKEAA, 2007). Possessing strengths in different domains of multiple intelligences, students from diverse cultural and socio-economic backgrounds may not benefit most if only is linguistic intelligence stressed in the English learning environment. On the contrary, the provision of choices in the elective part of the curriculum caters for students from all walks of life in the sense that students can enjoy and excel in their English learning by learning in a way that suits them most, which directly caters for learner diversity and explicitly addresses the idea of multicultural education.

Nonetheless, only can the aforementioned rationale be brought into practice when students are allowed make their own choices of which three modules to study in the elective part of the curriculum. It is observed that the overwhelming majority of mainstream schools in Hong Kong do not allow students to select the elective modules at will but choices are made by English teachers at school. For instance, Wa Ying College, which is a band-one secondary school in Kowloon City District in Hong Kong, assigns the modules of "Learning English through Short Stories", "Learning English through Popular Culture" and "Learning English through Social Issues" to all students to study (Wa Ying College, 2013). In this way, the curriculum document offers choices for students, which complies with the theory of multiple intelligences and the concept of multicultural education yet most students in Hong Kong are actually not allowed to make their own choices in accordance to their own interests and strengths. As a consequence, the implemented curriculum may be inconsistent with the

intended curriculum and so by no means can the cultural diversity of learners be catered to in reality as students in the same school may be forced to study the same modules assigned by teachers in spite of possessing diverse cultural backgrounds, needs, strengths and interests. The implemented curriculum thereby unquestionably fails to address multicultural education in the elective part of the curriculum.

On account of the need to cater for learner diversity and address multicultural education so as to fulfil the rationale behind the design of the elective part of the senior secondary English language curriculum, English teachers are advised not to choose the elective modules for students but to provide the freedom for students to make their own choices in accordance with their needs. The concern about the incapability of teaching some of the modules out of a lack of professional knowledge is assuredly believed to be one of the chief reasons why teachers assign elective modules that they are capable of teaching to students rather than letting students select the modules on their own. For instance, lacking experience of partaking in drama activities, English teachers may be worried about teaching the module of "Learning English through Drama". In practice, the concern can indeed be resolved at ease as a great deal of supporting resources as well as training workshops are provided by the government in order to provide teachers with sufficient guidance and equip teachers with related knowledge and skills to teach unfamiliar modules.[1] With the assistance of these resources, the concern of teachers about the unfamiliarity with and lack of professional knowledge on some elective modules can easily be alleviated, which provides an impulse for English teachers to offer choices of elective modules for students instead of assigning fixed modules to students. The implemented curriculum can subsequently cater for learner diversity and address multicultural education as suggested by the intended curriculum.

Teaching Approach

It goes without saying that co-construction is one of the mainstays of teaching approaches adopted senior secondary English language curriculum, which enables students with diverse cultural backgrounds to construct knowledge collaboratively. The entire class is viewed collectively as a "learning community" and students are expected to contribute and partake actively in the learning process by "[negotiating] areas of study" with their peers in order to construct knowledge together whilst teachers act as facilitators of the co-construction process (CDC & HKEAA, 2007, p. 71). For instance, learning the format of an argumentative essay using the co-construction approach, students may create their own knowledge, which is the structure as well as tone of an argumentative essay, through retrospection of previous experience of reading argumentative essays and exchange of ideas with their peers in small groups. It is expected that the "products" created by different groups may be somehow different from one another, especially when the class comprises students with diverse cultural backgrounds, as students from discrepant cultural groups may contribute distinct experiences to the creation process so it is unreasonable to expect the same "product" created by different groups in the co-construction process (Alesandrini & Larson, 2002). The co-construction process thereby complies with multicultural education in the sense that students are provided with opportunities to appreciate and embrace ideas contributed by people with distinct cultural backgrounds during the co-construction process, which does not only provide a chance for students to better understand distinct cultural groups but also provides novel perspectives for them to look into the same issue. Furthermore, it is proposed by social

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[1] Supporting resources and information on training workshops of the elective modules provided by the Hong Kong Education Bureau can found in the sections "*References and Resources*" and "*Professional Development Programmes*" on the website http://www.edb.gov.hk/en/curriculum-development/kla/eng-edu/index.html respectively.

constructivists that social interactions with more capable students in the zone of proximal development provide peer scaffolding for weaker students, meaning that more capable students can assist the less capable students in accomplishing the learning goals (Cobb, 2005). This signifies that students of diverse abilities can enjoy an equal chance to learn and achieve the learning targets in the co-construction process. Such a co-construction teaching approach is thereby beneficial to students from diverse cultural groups.

The significance of social interactions in the co-construction process doubtlessly reveals that the quality of the interactions amongst groupmates highly determines the learning efficacy of the entire group in the co-construction process. It is suggested by a prominent saying "birds of the same feather flock together" that adolescents of similar interests or abilities may tend to get together, whether in learning or leisure time. Provided that the stronger students and the weaker students form two separate groups while participating in group activities in English lessons, it will be less likely for the more capable students to assist the weaker students in their learning so hardly can peer scaffolding be exerted in the learning process. For the group consisting of students of relatively lower English proficiency, the quality of the interactions amongst group members is probably low as the students may not be willing to express their ideas in the group without the assistance and guidance of more active and knowledgeable students. Learning chiefly takes place in interaction process so the learning progress of students in the entire group may be substantially hindered if all of them are passive and reluctant to express their ideas. Therefore, the classroom setting, which directly correlates with the quality of social interactions amongst students, largely determines the effectiveness of the co-construction teaching approach in catering for the cultural diversity of learners.

As the classroom environment plays such a crucial role in the co-construction process, it is suggested that English teachers absolutely ought to create an environment that is favourable for students with diverse cultural backgrounds and of distinct abilities to learn efficaciously. For instance, English teachers should pay careful attention to the grouping of students while carrying out co-construction activities. It would be better to separate students of similar English proficiency and have every group composed of members of discrepant language abilities in a bid to ensure that peer scaffolding can take place, enabling the strong students to assist the weaker students in learning and encourage those students to express their ideas in the group. Such a classroom condition can be viewed as an environment of apprenticeship, in which the weaker students are like apprentices who learn not only from the teacher but also from stronger students in the group through communications during co-construction activities. This learning method has been proven to be effectual in boosting the learning progress and consolidating the knowledge of the "apprentices" (Kafai & Ching, 2004). It is thereby observed that a desirable classroom environment such as a balanced distribution of students of discrepant abilities in different groups can really enhance the quality of social interactions amongst students and also beef up the learning efficacy of students, in particular the less capable students, in co-construction processes. Facilitating the less capable students to excel academically in their English learning, a desirable classroom environment helps attain one of the goals of multicultural education.

Learning Activities
A host of learning activities are suggested in the senior secondary English language curriculum, all of which aim at supplementing the learning objectives and curriculum structure as well as guiding English teachers to carry out instructional design. Amongst these learning activities, two of them will be discussed in the following section, focusing on their relationship with multicultural education.

Task-based Learning

Task-based learning is one of the most prevalently-adopted learning activities in the compulsory part of the senior secondary English language curriculum, which is designed in a molecular approach, as each module is composed of an array of tasks. Needless to say, being target-oriented and placing emphasis on the final creative products produced by students, task-based learning encompasses attributes of emergent curriculum albeit scarcely is the entire curriculum equivalent to an emergent curriculum. Task-based learning provides "purposeful contexts" for students to apply their language knowledge in an "integrative and creative" fashion and go through the process of "genuine communication" with other students in a bid to "lead towards a product" at last (CDC & HKEAA, 2007, p. 73-75). For instance, when students are required to plan a proposal with their classmates, they are provided with very specific information of the task such as the assigned role and the target readers as if they were really asked to write a proposal in a real-life situation. For all the significance of the final product in task-based learning, the processes prior to the completion such as interaction and collaboration with other students are indispensable segments as these are the processes when learning actually takes place (Wien, 2008). Also, it is crucial to note the significance of the provision of real contexts in task-based learning as only by simulating real-life experience and allowing learners to solve real problems does the learning process make the most sense to them (Wien, 2008). Added to the above, task-based learning is aimed to "foster [the] inter-cultural awareness and understanding" of students, which can be achieved by incorporating multicultural themes in the tasks assigned to students (CDC & HKEAA, 2007, p. 74). For instance, when a task of acting a drama scene entwined with the lives of ethnic minorities in Hong Kong can be assigned to students, the multicultural awareness of students can be aroused in the processes of searching for related information, scriptwriting and even rehearsal of the drama. As a result, it is clearly seen multicultural education is incorporated in task-based learning and students can develop a better understanding of cultural diversity when the themes of the tasks assigned to students are correlated with multiculturalism.

Yet, arousing the multicultural awareness of students through task-based learning is irrefutably easier said than done by virtue of limitations stemming from the exam-oriented education system in Hong Kong. Even if task-based learning is adopted by English teachers as one of the learning activities in the implemented curriculum, it may not be plausible to carry out large-scale tasks such as the aforementioned drama activity, which involves a lot of procedures and probably requires a lot of time, out of the tight teaching schedule and limited teaching hours of the curriculum. Instead, only can tasks of smaller scales such as process writing tasks with a piece of written work as the final product created be carried out in class. These small-scale tasks may not provide much room for students to demonstrate their creativity as some guidelines are usually provided for students to follow. It may also be difficult to arouse the multicultural awareness of students through these tasks even if they are associated with multiculturalism. For instance, when students are assigned a task of writing an expository essay depicting the difficulties encountered by new immigrants in Hong Kong, which evidently possesses a multicultural theme, teachers may spend a lot of time on the organization and genre of the essay instead of encouraging students to explore the theme of the essay as the former aspects are the marking criteria of the writing paper of the public examination. Not spending time on exploring the theme of this writing task, students fail to have their intercultural awareness raised even after having completed a writing task with a multicultural theme. The exam-oriented education culture of Hong Kong is thereby perceived to be the root of the failure of fostering the multicultural awareness of students through task-based learning.

Realizing that limitations of time is obviously the root of the failure of carrying out large-scale tasks in class to arouse the intercultural awareness of students, teachers are recommended to strike a better balance between the breadth and depth of the tasks carried out. With a tight teaching schedule and limited teaching time, it is inevitable for teachers to solely carry out small-scale tasks instead of large-scale ones in a bid to cover as many types of tasks as possible. However, it is indeed unnecessary for teachers to cover so many tasks in class as students can indeed carry out self-learning themselves using the task-based learning approach to explore more knowledge whenever they have acquired the skills to do so. The main focus of English lessons at school is to equip students with skills to conduct "lifelong and life-wide" task-based learning with their peers (CDC & HKEAA, 2007, p. 76). In this way, the number of tasks carried out in class can be reduced but teachers are strongly encouraged to go into each task with students in a bid to ensure that students really understand how to initiate an entire process of task-based learning on their own. Going through each task with students in great depth in class, English teachers can focus more on the theme of the task, which enables them to arouse the multicultural awareness of students through tasks related to multiculturalism more easily. When the multicultural awareness of students is raised in class, they may acquire the initiative to explore more about various multicultural issues while undergoing task-based learning on their own. Thus, it is desirable to reduce the tasks conducted in English lessons but to enhance the depth of each task covered in class in a bid to help students acquire the ability to conduct self-initiated task-based learning, which can raise the multicultural awareness of students.

Language Arts
Unlike task-based learning, which is chiefly adopted in the compulsory part of the senior secondary English language curriculum, language arts are largely adopted in the elective part of the curriculum as four of the eight modules in the elective part are entwined with language arts. The incorporation of language arts in the curriculum is indisputably targeted on multicultural education as cultural enrichment is an all-important objective of the study of language arts. Multicultural education lays emphasis on the understanding of cultural diversity, and the interpretation of the language spoken by a cultural group is reckoned to be a prerequisite for understanding its culture. Having been promulgated to discrepant parts of the globe, English is spoken by a multitude of people in the world but people in different places have created localized forms of English possessing their own unique accents, vocabulary and slangs by mingling English with their own native tongues (Bragg, 2012). Study English language arts such as short stories, poems and plays produced in different parts of the world. Students can subsequently develop a more comprehensive understanding of the unique forms of English adopted by speakers in different places by having a better knowledge on the "shades of meaning and allusions in the words and expressions" used by discrepant speakers (CDC & HKEAA, 2007, p. 87-88). Language arts in the senior secondary English language curriculum can thereby expand the world vision of students and equip students with a tool to explore the cultural diversity of the globe.

What is more, the selection of language arts materials in the curriculum also addresses multicultural education from another perspective. It is implausible for a person to know all the facts in the world as facts are infinite in number, so are language arts (Poincare, 2001). Hence, it is of utmost importance to select the language arts materials adopted. The language arts materials used are expected to "[vary] from one group of learners to another" out of the distinct needs and interests of diverse cultural groups in the class (CDC & HKEAA, 2007, p. 88). The criteria for selecting language arts materials suggested in the intended curriculum

such as "appropriateness of content" and "level and clarity of language" are indeed in sync with the general criteria for selecting subject matter (CDC & HKEAA, 2007, p. 88; Doll, 1992). Only by observing the needs, interests, language proficiencies and even cultural backgrounds of students meticulously are teachers capable of making a wise selection of materials to cater for the cultural diversity of learners (Doll, 1992). Selecting language arts materials that cater for cultural diversity, teachers can provide equal chances for students with diverse cultural backgrounds to learn effectually.

Regarding the adoption of language arts to reinforce the ability of students to embrace cultural diversity, the practicality of this aim apparently depends on whether the interests of students in studying language arts can be piqued. Provided that teachers manage to pique the interests of students in studying language arts, students will probably be absorbed in the language arts materials, striving to understand more about the texts and interpret different cultural features revealed in the texts. The ability of students to appreciate and embrace cultural diversity can then be enhanced through the study of language arts. Nevertheless, it is observed that quite a large proportion of Hong Kong students find language arts dull and fail to cultivate an interest in studying various genres of language arts, which can probably be accounted for by the teaching approach adopted by teachers. Myriads of English teachers tend to teach the language arts materials in a way of teaching English Literature, which goes far beyond the guidelines in the intended curriculum. For instance, only does the intended curriculum expect students to accomplish simple targets like developing an ability to "understand the major features of short stories" upon completion of the module "Learning English through Short Stories" whereas English teachers tend to go beyond this aim by carrying out close reading of texts with students and analyzing every minor detail of the texts (CDC & HKEAA, 2007, p. 33). In-depth literary analysis of the short stories, which is probably beyond the ability of senior secondary students, may cause students to find language arts dull and challenging, which hampers their interests in reading and studying these texts, so it is difficult to drive students to embrace cultural diversity through language arts.

With the hope of piquing the interests of students in language arts so that they can learn to explore and embrace cultural diversity by reading language arts materials, it is proposed that English teachers pay special attention to the way they present language arts to students. In practice, some suggestions of incorporating language arts in the curriculum in more fascinating and engaging ways are provided in the intended curriculum. English teachers are strongly encouraged to take them into consideration albeit they need not strictly follow the suggestions provided. Even if teachers find that the suggested activities do not fit their students, they can still have a brief idea of the types of activities that can be incorporated to pique the interests of students in language arts. For instance, teachers may invite students to carry out "discussion of photos [or] pictures related to the text", which serves as an interactive lead-in activity, and "role-play [or] simulation", which acts as a follow-up activity after reading the text (CDC & HKEAA, 2007, p. 89-90). "Jigsaw reading", which is reading bits and pieces of significant excerpts of the lengthy texts, is also reckoned to be a better option than textual analysis of every detail of the texts as the former is incontestably a lot simpler and relaxing, being capable of piquing the interests of students in studying language arts (CDC & HKEAA, 2007, p. 90). Only when students have an interest in studying language arts can they really have themselves absorbed in and attempt to explore cultural diversity through those texts. Consequently, while planning language arts lessons, not only should English teachers select appropriate materials for students, they also ought to adopt activities that can really strike the chords and pique the interests of students, which provide motivations for them to explore more about cultural diversity through language arts.

Assessment

The internal and public assessments of the senior secondary English language curriculum can be viewed as formative and summative assessments respectively. The former serves as a segment of the "ongoing learning and teaching process" throughout the three-year English language course whilst the latter acts as a conclusion "summarizing how much learning has taken place" of the three-year course (CDC & HKEAA, 2007, 110-11). The objectives of both internal and public assessments are "[aligned] with the learning objectives" stated in the curriculum inasmuch as the staple purpose of assessments is to find evidence supporting whether the desired or expected behaviors of students have been achieved upon the completion of the curriculum (CDC & HKEAA, 2007, p. 113, 117; Tyler, 1981). Both forms of assessment manifestly demonstrate concepts of multicultural education by catering for the needs of students with diverse cultural backgrounds and of discrepant abilities. For internal assessments, not only are teachers expected to assess the learning progress of students through standardized tests, they are also expected to conduct their assessments through a wide range of practices, all of which are much more comprehensive than standardized tests and so cater for the needs of students with diverse cultural backgrounds. A splendid instance is profiling, which is a "collection of a learner's work", providing "information of progress in the development" of learners (CDC & HKEAA, 2007, p. 116). This mode of assessment is described as much more holistic than standardized tests as it provides a more detailed description and account of all aspects of the achievements of students, revealing the strengths of students on a more comprehensive basis (Kelly, 2009). Only do standardized tests assess students in limited aspects whilst profiling enables students to demonstrate abilities as well as strengths in discrepant aspects of English language, which is an evident example of formative assessment catering for discrepant types of learners.

As for the public assessment, which is the Hong Kong Diploma of Secondary Education (HKDSE) Examination, despite being a standardized and high-stake test, the entire assessment attempts to cater for the needs of diverse learners. A wide range of question types such as "multiple-choice questions, short questions [and] open-ended responses and essays" are set in the written tests, which are the reading, writing and listening papers, whereas both group interaction and individual response are assessed in the speaking test, which try to assess learners in a more comprehensive way and provide opportunities possessing distinct strengths to demonstrate their English proficiencies (CDC & HKEAA, 2007, p. 119). The practice papers of the HKDSE Examination are adopted as instances for illustration. In the reading paper (Paper 1), questions ranging from multiple choices questions like "What is the main idea of paragraph 1?" (Question 1), which assesses the ability of students to identify main arguments of a paragraph, to open-ended questions like "Discuss which [of the two opposing views] you find most convincing and why." (Question 23), which assesses the ability of students to formulate arguments on the basis of information in the text, are asked (HKEAA, 2012, p. 4, 7). The two types of questions mentioned above aim at testing different levels of comprehension ability of students and enable students with distinct strengths to demonstrate their abilities. Multiple-choice questions may favour students who are not good at expressing ideas through words whilst open-ended questions may favour those who are good at logical presentation of ideas. As a consequence, discrepant types of questions appearing in public examinations attempt to address multicultural education by catering for learner diversity, enabling distinct types of learners to demonstrate their abilities.

For all the suggestion of a wide range of practices that can be adopted as internal assessments in the intended curriculum, seldom are they really adopted in the implemented curriculum but

standardized test remains as the most prevalently adopted type of internal assessment. As the performance of students in the public examinations may reflect some aspects of the work of the school, every school plainly yearns for assisting students in excelling in public examinations (Kelly, 2009). Therefore, schools tend to adopt standardized tests simulating the format of the HKDSE Examination in lieu of the various types of formative assessment stated in the curriculum document as internal assessments with the hope of familiarizing students with the format of public examinations. Provided that standardized tests are adopted as internal assessments, even though students can be more familiar with the format of the public examination, which may help them perform better in the HKDSE Examination, the entire assessment becomes much less comprehensive in providing a full account of the English abilities of students. Other than that, students who fail to perform well in standardized tests may not have chances to demonstrate their English abilities so neither can such a mode of internal assessment address multicultural education nor cater for learner diversity.

It is believed that the aforementioned problem can be addressed by slightly modifying the structure of the HKDSE Examination, in particular the component of school-based assessment (SBA). Accounting for 15% of the total score of the HKDSE Examination, SBA, which comprises three speaking assessments conducted at schools and marked by internal English teachers, aims at "[enhancing] the validity of the speaking assessment" (CDC & HKEAA, 2007, p. 119). Nonetheless, it appears that such a format of SBA is not comprehensive enough in the sense that only is it confined to assessing the speaking ability of students. Indeed, it is advised to replace the current format of SBA with a profiling assessment scheme, which may embody assessments of all the four skills. It is observed that such an assessment practice appears to be kept out of consideration by English teachers in spite of its benefits merely by virtue of the fact that such an assessment cannot help students excel in public examinations. As a result, provided that a profiling assessment scheme is adopted as the format of SBA, it will be mandatory for schools to adopt such an assessment practice as internal assessments as it is one of the requirements of the HKDSE Examination. This can benefit students in the sense that their English proficiencies can be assessed more comprehensively, better catering for learning diversity and addressing the multicultural needs of students.

Learning Resources

Myriads of resources that enable students to extend their English learning beyond the classroom are discussed in the senior secondary English language curriculum, and information technologies, which are instances of these resources, are capable of enhancing the multicultural awareness of students. Information technology is reckoned to be an "effective tool for promoting language learning" as it can serve various "language learning purposes" (CDC & HKEAA, 2007, p. 125). Amongst numerous information technologies, social networking sites are adopted for illustration of how the adoption of information technology in English language learning is correlated with multicultural education. Social networking sites such as Facebook and Ning are websites enabling netizens to publish and share their personal profiles, which may comprise basic personal information as well as posts and audio-visual materials shared by the users, with other people (Cook & Pachler, 2012). Such websites are pedagogically beneficial to learners in the sense that they establish web communities that facilitate interactions amongst learners, providing platforms for students to interact with other netizens and share useful online English learning resources as well as their own English learning experience (Callagan & Bower, 2012; Collins & Halverson, 2010). Engaging learners to extend their English learning beyond the classroom by actively interacting with other learners in English online, social networking sites are capable of

promoting self-directed learning (Callagan & Bower, 2012; Collins & Halverson, 2010). More importantly, social networking sites can enrich the cultural experience of students and enhance their global awareness inasmuch as the Internet connects people from all over the globe so it is plausible for Hong Kong students to interact with people everywhere through social networking sites (Davis, 2010). This enables them to have a better understanding of diverse cultural groups in the world as well as the one-of-a-kind English learning cultures in distinct corners of the globe. Interactions with other netizens in English are thereby reckoned to be one of the "language learning purposes" brought about by the incorporation of information technology in English language learning (CDC & HKEAA, 2007, p. 125). Not only does information technology provide a chance for students to learn English beyond the classroom, it also enables students to enhance their own multicultural awareness, having a better understanding of cultural diversity.

Although information technologies, in particular social networking sites, provide superb self-directed learning resources for students, the encouragement and promotion of such a learning approach by teachers pave way for its success. It has been investigated that some less self-motivated learners may not participate in self-directed learning on social networking sites when their activities online are utterly uninvolved by teachers, proving the significance of the involvement of teachers in this learning activity (Callagan & Bower, 2012). It is also observed in Hong Kong that seldom do students carry out self-directed learning online without the motivation of their English teachers despite possessing a habit of surfing the Internet for entertainment every day. Aside from the lack of motivation of students, another difficulty of implementing self-directed online English learning is that students may have difficulty selecting trustworthy and useful online resources that can really help them practice their English and improve their English proficiencies efficaciously. Selecting an undesirable social networking site, not only do students fail to enjoy the benefits brought by these self-directed online learning activities, they are even in jeopardy as their personal information may be hacked for illegal purposes. These two difficulties are probably factors that hinder the implementation of such a mode of self-directed English language learning using information technology.

The two difficulties mentioned above can indeed be resolved at ease. To begin with, English teachers are highly advised to get themselves involved in the self-directed learning activities of students on social networking sites. Having themselves involved does not imply that they have to assess the online activity of students as what teachers usually do in class but they are encouraged to interact with students online. For instance, when a student shares a listening resource that s/he enjoys using on a social networking site, the teacher can appreciate his/her sharing simply by leaving a comment on the link, which can demonstrate to the student that his/her posts are actually appreciated by the others and can motivate him/her to continue being active on the site. Additionally, workshops can be organized to students in a bid to facilitate their self-directed learning. Topics of the workshops may embody distinctive features of good online self-learning platforms such as "[involving] good models of English use" and "[promoting] the integrated use of language skills as well as netiquettes, which are social conventions or rules of conduct that students have to comply to while interacting with other netizens online (CDC & HKEAA, 2007, p. 126; Drazenovic, 2010). Not only can the ability to select appropriate websites and the possession of virtue netiquettes facilitate the self-directed English learning process, they can also ensure the safety of this online learning activity. All said and done, it is believed that the involvement of teachers in the online learning activities of students as well as the organization of workshops are effectual in

helping students utilize information technology to learn English, which can enhance their multicultural awareness concurrently.

Conclusion

By and large it is in evidence that the aims of multicultural education, which are to enhance students' understanding of cultural diversity and to provide equal chances to students with diverse cultural backgrounds and of distinct abilities to excel academically, are incorporated in various aspects of the intended senior secondary English language curriculum through discrepant theories, ideologies and pedagogical methodologies such as multiple intelligences, cognitive pluralism and constructivism. Being an ideal plan of the curriculum, hardly can the intended curriculum be exactly transferred to genuine classroom contexts as difficulties or challenges may be encountered when the principles of multicultural education stated in the curriculum document are put into practice, which accounts for the discrepancies between the two curricula. Nevertheless, these discrepancies can always provide directions and suggestions for English teachers in Hong Kong to improve and optimize their teaching as well as making their implemented curriculum become compatible with the intended curriculum to a greater extent. It is hoped that the aforementioned suggestions can help give relief to the problems encountered and facilitate the incorporation of multicultural education in the implemented English language curriculum.

Indeed, by no means is multicultural education a novel notion in the English language curriculum as not only is this concept stressed in the senior secondary English language curriculum, which has been implemented for only a few years, it is also embraced in the *English Language Education Key Learning Area Curriculum Guide (Primary 1 – Secondary 3)*, which has been implemented for long. The goals of multicultural education emphasized in both curriculum documents are in sync with each other as the primary and junior secondary English language curricula also lay emphasis on catering for learner diversity by means like "[employing] a variety of teaching methods" and "[making] use of flexible grouping", both of which are also seen in the senior secondary English language curriculum discussed above (CDC, 2002, p.100-101). Primary and junior secondary students are also provided with chances to have themselves exposed to cultural diversity in English lessons by means like studying a module about "Cultures of the World" (CDC, 2002, p. 25). Thus, the senior secondary English language curriculum can be perceived to be a continuation of multicultural education of the primary and junior secondary English language curricula, enriching and optimizing the multicultural principles adopted in the previous key stages of education. Multicultural education is thereby said to be manifested in all stages of English language curriculum in Hong Kong.

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Multigrade Instruction in the Selected Countries in Asia

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Abstract
The study examined the multigrade instruction in the five selected Asian countries namely India, Nepal, Indonesia, Malaysia, and Philippines. A descriptive analysis was used to determine and compare multigrade instruction in terms of policy, curriculum, teachers' training, resources and teacher- pupil ratio. Results revealed that Multigrade schools provided significant access to education specifically in developing countries in Asia. The selected countries offered national curricula and utilized strategies to carry out multigrade instruction. However, of the five selected countries, Malaysia had shown a strong commitment, in terms of policy, curriculum, teachers' training, resources and teacher- pupil ratio, in achieving access and quality education that has led to the phase out of multigrade schools in the country. On the other hand, inadequate teachers' training, limited learning resources and high teacher-pupil ratio persisted as a great challenge in achieving quality multigrade instruction in the other selected countries in Asia.

Introduction
The right to education become one of the top priorities of international communities. To exemplify this universal pursuit, the *Education for All* was established during the Jomtien World Conference on the year 1990 and set the goals of the universal primary education for all and were reaffirmed on the 2000 World Conference on Education in Dakar, Senegal

(UNICEF, 2007). In addition, the leading international community and development institutions agreed to the Millennium Development Goals, embedded in Millennium Conference, and promised to provide accessible and quality education in all levels to children by the year 2015 (UNICEF, 2007). This commitment gives strength to government in establishing schools in isolated areas of the different countries. Most countries adapted multi-grade teaching as a temporary adjustment to the international and national commitment for *Education for All* (Bajracharya, 2003). Little (2004) stated that for millions of children worldwide, the only type of schooling to which they will gain access, if they gain access at all, will be multigraded. The prevalence of multi-grade is an important answer in the relation to EFA goal of access and the Millennium Development Goals to fight poverty.

Multigrade teaching exists when one teacher teaches two or more grades situated in a single, unified classroom in a graded system of education (Berry, 2001). It is very common in small elementary schools. It is widespread in developing countries in Asia and surprisingly frequent in some industrialized countries such as Japan and United States. Little (2006) estimates that around 200 million children experience their primary education in small, multigrade schools worldwide and that number would increase to around 270 million children. Brunswic and Valerien (2004) speculated that commencing multi-grade classes is often established as a result of necessity and based often on political or educational rationalization. Moreover, lack of classrooms, lesser number of enrolees to organize a single grade class and shortage of teachers, funds and school facilities are some other factors considered in the implementation of multi-grade classes. It is a cost effective means of providing quality education in difficult to reach areas (Berry, 2001).

Promoting Quality and Equity Education is a common policy for countries in Southeast Asia region regardless of their different levels of development (Sandiman, 2004). The countries belonging to the region in the Pacific had a long run in providing access to education to remote, disadvantaged and marginalized learning communities through multi-grade teaching (SEAMEO, 2010). The demographic and geographical features of the region call for the realization of multi-grade classes. For some instances lack of teachers and inadequate educational resources add to these reasons.

Quality education is a constitutional right of every Filipino citizen as affirmed in Article XIV, Section I of the 1987 Philippine Constitution, that the state shall protect and promote the rights of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all. The pursuit of quality and accessible education for all has been the continuous goal of the Department of Education in the Philippines in the issuance of DECS Order No. 38 issued by DECS Sec. Armand Fabella in 1993. Furthermore, the setting up of multi-grade classes in the Philippines is the government's response to the problem of pupil's incapacity to go far away mono-grade schools and the educational sector's contribution to people empowerment of the government thrust in education of former President Fidel V. Ramos' Philippines 2000 (Navarrosa, 2000).

Positive findings on the reduction of anxiety levels, the maturity of friendship patterns, on personal and social adjustments, self-concept, self-esteem and attitudes of multi-grade pupils to school were commenced in the study of Little (2005). Moreover, multi-grade classes have a positive family atmosphere in which children thrive and grow in a healthy and balanced way. Berry (2001) concluded in his data analysis on the reading scores of the primary school students in Turks and Caicos Islands that multi-grade pupils performed well than in mono-grade schools but this advantage was greatest for the low-achieving children. Moreover,

Little (2004) cited other researches that show significance regarding the students' performance in their cognitive achievement with the mono-grade students. In addition, Education Policy Consortium (2011) conducted a quantitative study on South African multi-grade students and result showed high performance and promotion rates.

On the other hand, there are countries that negatively face multi-grade (Brunswic and Valerien, 2004) despite of the studies that show students' achievement in multi-grade. In Cambodia for instance, parents, students, community members and even the authority misunderstood the concept of multi-grade class. They look at it as a second-rate necessity for students do not have fair educational benefits as the single grade class. Likewise, in Philippines, low priority in terms of funding and resource allocation, inexperienced teachers and limited resources are pointed as the relative reasons of disadvantages of multi-grade education compared to regular schools (SEAMEO, 2010). Similarly, in Namibia, multi-grade teachers faced diverse challenges in multi-grade teaching such as, insufficient time of instruction, organization and lesson planning, classroom management, overcrowded classrooms and lack of resources and support (NIED, 2011). Other related studies confirm that multi-grade teachers face more challenges than mono-grade teachers and suggest that multi-grade teachers and planning requirements need to be revised for multigrade context (EPC, 2011).

Considering that multigrade instruction is a common educational feature in developing countries specifically in Asia, five countries namely India, Nepal, Indonesia, Malaysia and Philippines have been selected to provide information about the state of implementation of multigrade instruction. This study examines the multigrade instruction in terms of policy, nature of the curriculum, teachers' training, the available resources and the teacher-pupil ratio of the selected countries.

Review of Related Literature
Education is the child's basic human rights. Articles 28 and 29 of the Convention on the Rights of the Child promote and encourage international cooperation in matters relating, in particular with the aim to contributing to the elimination of ignorance and illiteracy throughout the world. In this view, particular reason shall be taken of the specific needs of the developing countries (UNESCO, 1989). To further achieve this global commitment to quality basic education for all children, Education for All (EFA) movement is established at the World Education Forum. This commitment gives strength to government in establishing schools in isolated areas of the different countries. Most countries adopted multigrade teaching as a temporary adjustment to the international commitment for Education for All (Bajracharya, 2003).

Multigrade refers to the combination of two or more adjacent grades with only one teacher who studies different curricula (Brunswic and Valerien, 2004). It is called differently as "combination class", "multi-age class" or "mixed-grade level". The first government schools in Europe and North America in 1900s were multigrade in nature. At present, multigrade teaching perseveres in Asia-Pacific, Latin America and Africa. Multigrade classes are important in remote areas in different countries that are isolated by geography and social differences. Unfortunately, some areas were expecting low and declining enrollments and facing shortages in terms of teaching-learning resources and basic infrastructure (SEAMEO, 2010).

Curriculum must be flexible to accommodate multiple abilities of the students and to allow teachers to organize and adjust instruction in multi-class schools (Bajracharya, 2003). In a learner and material-centered curriculum, independent and interdependent learning activities among students are given priority in a multigrade class and they were supported on the learning materials. The strategies were created by the teachers (Little, 2004). In Sri Lanka, current strategies have emerged that serve as the six dimensions to be considered in multi-grade teaching: (1) selection and organization content, (2) management of time in the classroom, (3) designing developing and utilizing teaching learning materials, (4) organizing and grouping pupils for learning activities, (5) teacher behavior and pupil behavior, (6) and use of physical space (Hargreaves et al., 2001).

In terms of resources, only four (4) small schools implemented multigrade instruction due to lack of classroom in Malaysia (Ahmad, 2010). Their classrooms are well-arranged and they have adequate facilities and resources (SEAMEO, 2010). In Peru, school textbooks and workbooks were printed and distributed widely to all the grades. Using these materials is difficult in multi-grade classrooms where the teachers struggle to manage students of different grade levels in which each group has different materials (Ames, 2000). They have deficiencies with regard to the infrastructure, access to services, availability of classroom furniture, equipment and materials for teaching, and educational support (Hargreaves et al., 2001).

The development of a specialized in-service training program for teacher in multi-grade school is important to meet the needs of the teachers. The program includes training on the methodological approaches applying to the multi-grade school environment. In addition, the program focuses on the familiarization of teacher with the use of ICT as an assisting tool for multi-grade teaching. The training program also includes extended presentation of case studies and example of good practice on how teachers have to face the particularities of the multi-grade school environment (Berry, 2006).

All multigrade teachers in Vietnam have gone through a college-based initial training which varies in length depending on the level of basic education with which they enter. A lack of teaching experience is a problem of all teachers training, and trainees frequently complete their courses without having any practical experience (Aikman and Pridmore, 2001).

Research Methodology
The subject of this study is the multi-grade education in Asian countries, particularly, India, Nepal, Indonesia, Malaysia, and Philippines. This study utilizes the descriptive analysis in exploring and interpreting data and facts of multigrade instruction in terms of policy, curriculum, teachers' training, resources and teacher-pupil ratio.

Policy refers to the existing international, national or constitutional mandates, and national plans that address the special educational need of implementing multigrade schools in the country.

Curriculum refers to the content areas, strategies and assessment utilized in the implementation of the multigrade program. Curriculum content is the central of the course that consists of the different subjects offered and the teaching-learning processes. In other words, this variable refers to what and how of multigrade instruction.

Teachers' Training denotes the quality of pre-service and in-service preparations on multi-grade instruction. Lectures, teacher training programs, workshops, follow-ups and demonstrations provided and appropriate for multi-grade teaching are given emphasis in this variable.

Resources refers to the physical environment of the school that includes number of classrooms, learning centers/areas, multi-levelled learning materials, furniture and equipment, ventilation and lighting, school facilities and outdoor space.

Teacher-pupil ratio refers to the specific number of pupils per teacher in a multigrade class.

Results and Discussion

A. Status of Multigrade Instruction in Selected Countries

1. India

Significant feature of the educational landscape in India is the presence of Small Schools which were established in direct response to its commitment to Jomtien Declaration on Education for All (EFA) in 1990, the Delhi Declaration on Education for All in 1993 and the Millennium Development Goals (Blum & Diwan, 2007). Small Schools characterized an important part of efforts to improve access to primary education for the marginalized groups. Moreover, Universal Elementary Education is a national policy in India as stipulated in Article 45 of the Constitution which mandated the state "to provide within a period of ten years from the commencement of this constitution, for free and compulsory education for all children until they complete the age of fourteen years."

In 2005, there are approximately 78% of primary schools having three or fewer teachers to attend to all grade levels, and more than 55% primary schools with 100 or fewer students (DISE, 2006). These small schools are found in the impoverished rural communities which are isolated by geography and social differences and marginal social groups who may lack any meaningful access to education. In many cases, small schools are the only ones available to children in rural areas. India's need for a multigrade set-up is due to low enrolment, too few teachers to cover the required grade levels and a scarcity of resources and support. However, many rural schools are multigrade with one or two teachers managing five classes, thus, teacher-pupils ratios are also high (Ramachandran, 2005).

Teachers adhered to the mandated state curriculum for multigrade instruction wherein its content was often totally foreign to students in terms of the language/dialect used, and their experiences of life in the local content. Multigrade teachers commonly used a highly teacher –directed teaching style which focus on mastery of information in the approved textbooks, and which left little room for individual learning speeds and learning styles among students (Blum & Diwan, 2007). Teachers claimed that it did not cater to their needs (Ramachandran, 2005).

Efforts to improve in-service training were established as part of the National Policy on Education 1986. One of which was on self-training module on multigrade management (NCERT, 1995). The government's Janshala Programme, which started in 1992 to 2005 with active assistance from five UN agencies, for instance, took a particular emphasis on improving multigrade teaching and learning in small schools (NCERT, 2007). Efforts as part of the program included exposing teachers to existing NGO multigrade initiatives, developing

locally-appropriate classroom materials, and encouraging peer-to-peer and group learning activities (NCERT, 2007). Teachers use the theory-based modules as recommended by NCERT. Moreover, there are several non-government organization initiatives that provide trainings on multigrade teaching (Blum & Diwan, 2007).

As to pre-service training, trainee teachers generally receive a large theoretical and conceptual understanding of the profession through government-accredited schemes. Practice teaching experience is relatively of short duration and is commonly conducted in urban settings near the sites of the training courses and not in the rural areas. Likewise, pre-service program neglects to provide training regarding the specific managerial needs and requirements of small rural schools or of multigrade settings. As a result, teachers are often left to use whatever strategies and techniques they are able to devise by themselves (NCERT, 2006).

Of all primary schools nationally, 35% have two classrooms, while nearly 15% have only one classroom, and 10% have no classroom at all (DISE, 2006). The minimum facilities available in school are often quite limited, including availability of drinking water, toilets, electricity, books, computers, blackboards and library resources. The mandated teacher-pupil ratio in a multigrade class in India is 1:40, however, in populated rural schools it is 1:60.

2. Nepal

As cited by Suzuki (2009) the Ministry of Education reports that approximately 60% of schools in Nepal required multigrade teaching. Multigrade Instruction is part of the National Primary Curriculum wherein the basic subjects are emphasized. Strategies in carrying out teaching and learning processes include the use of self-learning activity (SLA) for self-learning class and the use of whole class teaching with one teacher and groupings of pupils are based on grade level.

The government of Nepal has been providing several in-service teacher training and multigrade teaching is included in the Basic Primary Teacher Training , a ten-month in service primary school teacher training provided by the National Centre for Educational Development (NCED) and Multigrade Teaching Training, a ten-day in-service teacher training developed by the Primary Teacher Training Unit (Suzuki, 2009). Moreover, multigrade teaching training was organized from 1992 to 1999 and expands from the initial four pilot districts to all 40 districts. Moreover, pre-service primary teacher training package in Nepal was developed on the year 2003. A training curriculum for pre-service teacher is provided in a semester wherein five (5) hours session is given for multi-grade teaching. Training handbook and materials were provided to all teachers. In 2001, districts are given the option as to the selection of trainees and distribution of training packages based on local need and demands of each district.

A variety of instructional aids are prepared by teachers in the classrooms. For participatory and interactive learning in the classroom, multi-grade classes were provided with clean classrooms, collection of instructional materials and adequate desks and benches and accessible seating arrangement. The teacher -pupil ratio in Nepal is 1:40.

3. Indonesia

In 1994 Indonesia executed the compulsory education from primary to junior secondary school and established a policy of education that requires all families and communities to send their school-aged children either to formal or non-formal education institutions (Noor, 2010). A Ministry of Education and Culture Decree was issued to develop small-island,

border, and remote schools in support for multigrade classes, of which 66% of the total number of schools in remote area is multigrade in nature due to lack of teachers (Noor, 2010). A total of 3,899 schools outlying, outer small islands and border areas are also multigrade schools.

In an effort to eradicate illiteracy, reduce dropout rate and to attain compulsory education goals, the Ministry of Education and Culture (MoEC) together with the three other government agencies developed three different stages of multigrade teaching approaches for primary education. All stages are aimed to overcome the shortage of teachers in populated as well as remote areas with difficult contexts and to educate a small number of students in remote places.

The first ever Multigrade training was conducted in East Java on March 6-9, 2006. As cited by Noor (2010) on her paper on Realizing Compulsory Education through Multigrade Teaching in Indonesia, Mainstreaming Good Practices in Basic Education (MGP-BE) put up a website (http://www.mgp-be.depdiknas.go.id) and a monthly bulletin on multigrade teaching in order to further disseminate the project. Such training paved way to the development of school-based curriculum. Cooperative Learning Method is used to multigrade classes with pupils of different grade levels and mixed ability groups. She further states that schools often implement a strategy of teaching small groups as an effective way for multigrade teaching. Because of the poor social status of the students, the local community extended help by sharing skills and expertise on entrepreneurship. Parent-School associations provide support by collaboratively working with the school management.

Multigrade School have materials, movable facilities and equipment for multigrade instruction. The government also provides textbooks, compact discs, radios, modules and teacher manuals based on content standards as implemented by the National Standard of Education (NSE).   Multigrade class has a teacher-pupil ration of 1:32.

4. Malaysia

Primary education is mandatory for Malaysian children, thus under-enrolled schools guaranteed that every child has the opportunity to get free education wherever they are. As such, multigrade classes were implemented. Moreover, there are several education policies that support the multigrade instruction in Malaysia. These include the Education Act of 1996, the National Philosophy of Education, Vision 2020, and the Education Development Master Plan 2006-2010 (SEAMEO, 2010).

Mohammad as cited by Ahmad (2010) stated that in 1992, Malaysia had 2,406 under-enrolled schools, 738 of which are located in remote areas had implemented multigrade instruction. As stated by Ahmad (2010) on his paper entitled Educational Access and Efficiency Beyond Multigrade Instruction, over the past 20 years, the number of multigrade schools in Malaysia drastically declined and are gradually being phased out as the Ministry of Education continues to increase the number and quality of teachers and provide adequate learning facilities in each school.

The Teacher Training Curriculum for Conducting Multigrade Classes guides the teachers as well as student teachers in the conduct of multigrade classes. Several in-service courses were conducted to ensure continuous professional development for teachers in under-enrolled schools. Remote rural schools were provided with VSAT technology which enabled them to connect to SchoolNet nationwide. Pupils are grouped into same or mixed-ability groups or

individual work. Ability grouping is used in Math, Malay and English subjects. Timetable is the same as what is used in monograde classes (SEAMEO, 2010).

Furthermore, the Malaysian government provides Special Model Schools for student housing, Poor Students' Trust Fund, Tuition Voucher Scheme and Additional Food Program (Rancangan Makanan Tambahan). All these government funds are invested in under-enrolled schools in Malaysia to ensure that all children have access to quality basic education. As specified in Education Development Master Plan (PIPP), the teacher-pupil ratio in under-enrolled schools is 1:17 (Ahmad, 2010).

5. Philippines

The Philippine Constitution (Section 1 Article XIV) mandates that the state shall protect and promote the rights of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all. In 1989, Pres. Corazon C. Aquino declared 1990-1999 as the Decade of Education for All (EFA). Department of Education Order No. 33 and No. 96 provide improving access to elementary education by providing complete grade levels in all public elementary schools through combination or multigrade classes.

As cited by Villalino (2010) there were 12, 225 or 36% multigrade schools out of the 37,697 total public elementary schools in 2008-2009 and of the 12,574,506 total enrolment, 866,296 or 8% pupils studied in multigrade schools that were located in farthest-flung and most disadvantaged barangays in the country. Such schools had limited resources and inexperienced teachers as compared to regular schools. Moreover, multigrade teachers had higher teacher turnover rates due to physical demands of working in hard-to-reach barangays and multigrade schools had low priority in terms of funding and resource allocation.

Several training workshops on multigrade teaching were conducted by the Department of Education (DepEd) in the national, regional and district levels. At present, only few of the skills needed by multigrade teachers are taught in Teacher Education Institutes. Using the National School Curriculum as a guide, multigrade school community-based instructional scheme was implemented. Module-Based Learning Matrix, Textbook-based Lesson Guide and Teach-Learn Packages were utilized in the teaching and learning process instead of lengthy lesson plans. Cooperative Learning Process and Interdisciplinary Learning Approach were practised in the delivery of the daily lessons. Mixed-Ability groups by grade level exist. To date, the teacher-pupil ratio in a multigrade class in the Philippines is 1:35 (Villalino, 2010).

Table 1 *Multigrade Instruction in terms of Policy, Curriculum, Teachers' Training, Resources and Teacher-Pupil Ratio in Selected Countries in Asia.*

Country	Policy	Curriculum	Teachers' training	Resources	Teacher-Pupil Ratio
India	Jomtien EFA 1990	Mandated state curriculum	Theory-based module as recommended by the NCERT	School buildings, facilities and number of teachers are not enough in sustaining their multi-grade education.	1:60
	Delhi EFA 1993	Teacher-directed teaching style			
	Millennium Development Goals				
	Mandated by				

		Constitution, Article 45			
Nepal	EFA	National Primary Curriculum Self-learning activity (SLA) and whole class teaching	Ten-month government training Pre-service training on multigrade teaching	Variety of instructional aids prepared by pupils and teachers in the classrooms. Multi-grade classes were provided with clean classrooms, collection of instructional materials and adequate desks and benches and accessible arrangement.	1:40
Indonesia	EFA Compulsory Primary & Junior Secondary Education, 1994.	School-based curriculum Cooperative Learning Method	Multigrade training was conducted in East Java in March 2006 which restructured the planning and teaching-learning instruction.	The use of materials, laboratories, movable facilities and maximum spaces. The government also provides textbooks and reference materials, compact discs, radios, modules and teacher manuals.	1:32
Malaysia	EFA Education Act of 1996 National Philosophy of Education Vision 2020 Education Development Master Plan 2006-2010	National Primary Curriculum Pupils are grouped into same or mixed-ability groups or individual work depending on the subject.	It includes plan and organization of short-term courses, seminars and conferences for teachers to enhance teaching abilities, personal and professional development and as well as increase of knowledge.	The Ministry of Education offers courseware, learning packages and apparatus and free books. Remote rural schools are provided by the VSAT Technology that uses two-way satellite for internet connection. Classrooms are well-arranged and have adequate facilities and resources.	1:17
Philippines	EFA Constitutional Mandate, Article 14, Sec. 1 DepEd Order	National Primary School Curriculum Cooperative Learning Activities	National, Regional, District Training Workshops	Multigrade Teach-Learn Packages are provided for teachers Multi-grade schools have limited	1:35

No. 33 & No. 96.	resources in terms of teacher- pupils, textbook-pupils and classroom-pupil ratio.

B. *Discussion on the Selected Variables of Multigrade Instruction*

1. Policy

Multigrade instruction in the selected countries is a direct response to the international policy of Education for All (EFA) to universalize primary education. Each of the five selected countries, implemented multigrade schools and multigrade instruction to provide access to education through constitutional mandate, education acts, decrees or orders issued in each country. Multigrade classes were primarily put up in remote, thinly populated and marginalized areas to provide full educational services to children (Thomas & Shaw, 1992). Majority of the Asian countries implement multigrade instruction as a matter of necessity rather than choice. This is well demonstrated in the case of India where rural schools are often high populated by socially and economically marginalized groups. Provision of multigrade schools could play an important role in uplifting poverty and inequality (Blum & Diwan, 2007). The extent and importance a government attaches to its obligation to realize EFA shapes the kinds of multigrade instruction a country has (SEAMEO, 2010).

2. Curriculum

Curriculum is an integral part of an instruction as it contains the content areas and the strategies used by the teachers. To make the curriculum locally relevant and accessible to all students, it should be built on students' existing knowledge and varying backgrounds (ACER, 2012). Among the five countries, Nepal, Malaysia and the Philippines follow the National Primary School Curriculum that have the same curriculum with the mono-grade class and is subject-based and grade-oriented. Meanwhile, Indonesia uses the school-based curriculum which is based on the needs of the school and the pupils. India, on the other hand, adhere the mandated-state curriculum that focused on the language or dialects used in their life experiences.

In terms of strategies, Indonesia, Malaysia, and Philippines commonly used the cooperative learning method where teachers divide the class into small groups by age or by mixed-ability groups. They often use teaching small groups because it is the most effective way in teaching multi-grade. Moreover, multi-grade teaching in Indonesia involves inviting local community to give their expertise in arts, culture, handicrafts, language, history and religion. Nepal on the other hand, used the modular approach through of Self-learning activities. Meanwhile, teachers in India usually implemented a highly teacher-directed teaching style that focused on the mastery of the given textbooks. As such, teachers adapt specific lessons using different strategies.

It is evident that most of the multigrade classes in Asia follow the countries' respective national curricula although these are allowed with a certain amount of flexibility (SEAMEO, 2010). It is evident that curricula are integrated in a way that common topics are taught to combined-grade levels even if the students are assigned different tasks, depending on their respective levels (Soe, 2010). They adopt and design specific lessons on their own that integrate varying designs (Huong, 2010). Multigrade classes can utilize several grouping strategies that range from combining several grade levels under the direction of a single teacher to having a completely non-graded environment (Thomas and Shaw, 1992). As such,

the so-called "jump-jump approach" is commonly practiced in the selected countries. However, Guskey and Lindle (1997) noted that it is not how you group students for instruction, but what you do within those groups that are important to learning. It is evident that pedagogies in multigrade teaching appeared to be a sole responsibility of the multigrade teacher. Thus, more innovative and a good range of teaching initiatives and practices should be developed in school level for effective use of multigrade teachers (Berry, 2001). Blum and Diwan (2007) reported that intentional multigrade strategies can provide learning experiences in small, often rural schools and in turn, provide future learning opportunities for students living in impoverished circumstances.

3. Teachers' training

Teacher's training is a direct means to enhance the quality of teaching and pupil achievement (Suzuki, 2009). Countries like India and Indonesia do not specify the means of their pre-service training, however, in India, a theory-based module in multi-grade strategies integrated in teacher training curriculum is recommended by NCERT. On the other hand, Philippines and Nepal's pre-service programs include training in multi-grade instruction in teacher education institutions. However, pre-service and in-service trainings are being implemented in Malaysia that includes plan and organization of short-term courses, seminars and conferences for teachers to enhance teaching abilities, personal and professional development as well as increase of knowledge in multi-grade instruction.

To fulfil the need to improve the multi-grade instruction, the selected countries offer different training packages. In India, government provided in-service training and support, access to range teaching and learning resources and close supervision which also stated by Blum and Diwan (2007). The first ever multi-grade in-service training in Indonesia was held in East Java for four (4) days in the year 2006. On the other hand, two types of in-service training are offered in Nepal – the Basic Primary Teacher Training comprises of ten-month in-service training provided by the National Centre for Educational Development and the Multi-grade Teaching Training, a ten-day in-service training developed by Primary Teacher Training Unit. In addition, in-service training workshops in Philippines were developed in which teachers reflect on their experience and developed the materials to be used by the pupils.

All the selected countries consider teachers' training as imperative in instruction. Benveniste and McEwan (2000) concluded that capacity-building through in-service training is an important determinant on the way teachers approach their task. This is because multigrade teachers play a variety of tasks – managing the teaching-learning process, establishing relationship with parents and the community, and developing learning materials (Soe, 2010). Multigrade teachers work under unique circumstances, thus special demands of teaching require special preparation, training, and support for multigrade teachers in order to function effectively (SEAMEO, 2010). In Indonesia, a unique teacher support mechanism is provided by establishing a website and monthly bulletin for multigrade teaching experiences. Pre-service trainings in higher education institutes provide practicum experiences for pre-service teachers to learn the science and art of teaching multigrade. Exposing pre-service teachers to a variety of teaching-learning experiences e.g. specialized schools (multigrade schools) provide a greater grounding in the field (Pogoy et.al, 2010). Correlatively, a series of pre-service training on curriculum and lesson planning on multigrade teaching have abated the student teachers' inadequacies and even given them the confidence to handle multigrade classes (Montalbo et. al, 2005). Blum & Diwan (2007) recognizes that most of the newly assigned multigrade teachers in remote areas do not have previous training on multi-levelled techniques, thus pre-service and in-service training is significant.

4. Resources

Providing an environment that is conducive for learning is a factor in achieving success of teaching-learning process. The school works to create an attractive and stimulating physical environment that supports and encourages learning (ACER, 2012). It is ideal for multigrade schools to have a spacious area that can accommodate combined or mixed grade classes, learning centers and equipment in good condition (SEAMEO, 2010). This is supported by Thomas and Shaw (1992) as they revealed that an environment without distractions and interruptions is crucial for multigrade instruction. For multigrade learners to grow well, a child-friendly school environment should be established (Sopheak, 2010). To meet the learning and wellbeing needs of all students, learning spaces are organized for whole group work, small group and individual work (ACER, 2012). However, most of the multigrade classrooms of the selected countries have the same environment as mono-grade classes. Open spaces are being utilized in India, Nepal and Indonesia. In far-flung areas in the Philippines, multigrade schools are dilapidated and without electricity (Villalino, 2010). School learning spaces tend to be used traditionally, with limited flexibility to support different kinds of learners and learning (ACER, 2012).

Government and non-government organizations provided teaching materials and school facilities for the multi-grade schools and pupils in countries like India, Indonesia, Malaysia, Nepal and Philippines. In Indonesia, non-government organizations (NGO's) provide financial aid and material support. The government also provided textbooks and other reference materials, compact discs, radios, modules and teacher manuals. On the other hand, Malaysia's Ministry of Education is committed to quality education that more classrooms are built and offered courseware, free textbooks, learning packages and apparatus to multi-grade classes. Remote rural schools are provided by the VSAT Technology that uses two-way satellite for internet connection. This initiative demonstrates that technology and physical spaces are used effectively to maximize student learning (ACER).

However, countries like India, Indonesia, Nepal and Philippines have limited resources in terms of school buildings, classrooms, textbooks, furniture, chairs and even multi-grade teachers despite the fact that they are provided by the government. In fact, DISE data in India revealed that many cases a "school" has been launched, but there were no establishment for a building, water and toilet facilities as stated by Blum and Diwan (2007). It appeared that the progress of student results does not appear to be the major consideration in the provision of school learning resources. In multigrade schools, lack of teachers, textbooks, and learning materials can impair their ability to effectively perform therefore, resources are essential to ensure educational quality (UNESCO, 2005). Learning materials tend not to suit the demands and features of multigrade instruction (SEAMEO, 2010). It is evident that there is a great need for more teaching resources to support the quality multigrade instruction. Resources will be most effective if they are linked to curriculum and meet the needs of students as well as teachers. The school must identify and respond to student needs through the appropriate allocation of staff and resources (ACER, 2012). Good quality resources should also be topical, stimulating, and linked to practical life experiences of the students (SEAMEO, 2010).

5. Teacher-pupil ratio

Teacher-pupil ratio is a quality indicator of multigrade instruction. It is observed that the number teacher-pupil ratio varies greatly in the selected five Asian countries as it ranges from 1:17 to 1:60. One combine class cannot have more than 20 students so the Revised Education Development Plan (PIPP) of Malaysia specifies a teacher-pupil ratio of 1:17. Meanwhile, in

Indonesia the MONE Regulation 2010 on Minimum Service Standards instructs that a multi-grade school should have at least on teacher per 32 students. In Philippines, a class of two or more grades under one teacher in complete or incomplete elementary schools has a maximum of 35 pupils. Nepal has the average teacher-pupil ratio of 1:40 which is higher than the national situation teacher-pupil ratio of 1:37. The current central government policy guidelines in India required an average teacher-pupil ratio of 1:40 but in actual situation at school or community level, it is even higher up to 1:60. Urquila (2001) reported that an increased large class size has a negative effect on achievement. This based on the assumption that teachers in small classes would give more attention to all children than in larger class. In order to have quality teaching-learning experiences, the ideal teacher-pupil ratio that is set by the country should be followed (SEAMEO, 2010).

Conclusion

Multigrade schools provided significant access to education specifically in developing countries in Asia. The selected countries offered national curricula and utilized strategies to carry out multigrade instruction. However, of the five selected countries, Malaysia had shown a strong commitment, in terms of policy, curriculum, teachers' training, resources and teacher- pupil ratio, to provide access and quality education that has led to the phase out of multigrade instruction in the country. On the other hand, inadequate teachers' training, limited learning resources and high teacher-pupil ratio persisted as a great challenge in achieving quality multigrade instruction to the other selected countries in Asia.

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NESTs' Classroom Culture Shock at a Chinese University：A Sociocultural Perspective

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Abstract

The differences between native English speaking teachers'（NESTs） teaching expectations and Chinese students' learning styles are extremely great, and are typically mismatched. Using qualitative and quantitative methods, this study empirically examines 25 NESTs' teaching experiences in a Chinese university, as well as their professional teaching development as specified in sociocultural perspective theory. The study shows that the majority of NESTs experience classroom culture shock mainly because of the Chinese assessment system. This impacts the students' typical English learning motivation, their English learning strategies as well as their classroom interaction. The authors position the NESTs' teaching in Chinese Universities as learners of teaching beyond their home countries. Therefore, NESTs' classroom teaching practice can be seen as a dynamic social activity that is situated in physical and changeable social contexts. This can help NESTs to form alternative teaching strategies of teachers recognize this culture context and adapting their approaches to teaching. In conclusion, the socio-cultural perspective allows the NESTs to redefine themselves as teacher-learners in a new and unfamiliar environment in which they are allowed to learn and adapt. Better adaptation can bring about better teaching results and bridge expectations between NESTs and Chinese students.

Keywords: Culture shock, Native English speaking teachers, Chinese students, Sociocultural perspective, Professional development

Introduction

In the context of deepening globalization, China is becoming increasingly involved in full-scale cooperation with the outside world and has now emerged as a member of the international community with growing national power and rising international influence. In order to prompt international exchange and cooperation, and to create an authentic context for students to learn English and strengthen interaction with native speakers, many universities in China engage native English speaking teachers (NESTs) to teach English. Currently, tens of thousands of NESTs are teaching in Chinese universities, involved in English language teaching programs. NESTs play an important role in English education in China, and their teaching has a positive effect on students' English learning.

However, when NESTs are working in China, they may "become overwhelmed by the cultural differences they suddenly face" (Pukthuanthong & Walker, 2007, p.714); they may likely feel "depression, serious physical reactions; anger; aggression towards the new culture, and even total withdrawal, which can be concluded as 'culture shock'" (Samovar, Porter and

Stefani, 2000, p.250). Culture shock[1] is an experience resulting from numerous stressors occurring in contact with a different culture. Taft (1977) reviewed a range of definitions of culture shock and provided a summary--it is a feeling of impotence from an inability to deal with the environment because of unfamiliarity. This study focuses on classroom culture shock because the differences between NESTs' teaching expectations and Chinese students' learning styles may mismatch and result in frustration, shock and even clashes between the NESTs and their students. For example, Stanley (2011, p.94) states, "There seem to be fundamental differences between Chinese students' expectations about English language teaching and the norms that the Western teachers bring with them to China." Stanley (2011, p.100) further explains that students' whose behavior do not fit teachers' expectations of students' roles may cause teachers to evaluate the students as poor in their performance. This is because NESTs and their students likely use different implicit criteria to judge each other. Zhou, Topping and Jindal-Snape (2011, pp.234-235) point out that intercultural classroom problems are mainly due to mismatched cross-cultural educational expectations (e.g. Jin & Cortazzi, 1998; Jin & Hill, 2001; Jin & Cortazzi, 2006). Therefore, classroom culture shock is, to a greater or lesser degree, unavoidable for NESTs who teach in the Chinese universities. However, this classroom culture shock may be beneficial to their professional teaching development as TEFL teachers according to sociocultural perspective theory.

Literature Review on Cross-cultural Studies of Chinese Learners
Traditionally, a body of literature suggests the assumption of two most distinguishing characteristics of Chinese students: First, Chinese students are seen as rote learners, especially in the traditional classroom. There has been a commonly held belief among western educators, some of whom have worked with overseas Chinese students studying in Western countries, that Chinese students are passive, surface-level rote learners, who rely on repetition, and they do not learn for understanding, but merely reproduce information to fulfill examination requirements (cited in Chan and Rao, 2009). Chinese students have been viewed by Western educators as unproductive rote learners (Mok et al., 2001). Nunan (2001) argued that in Chinese traditional classrooms, learners typically learned how to memorize individual words and grammatical patterns, and to practise them in contrived contexts. Maley (1986) argued that English learning in China is memory-based and this memory-based learning entails the adoption of non-meaningful approaches in the teaching and the learning of English. Parry (1998) has documented the use of text memorization by Chinese students as an important method. Kevin Nield (2004) argued that Chinese students are rote learners who have distinct preferences for certain methods of teaching, learning, and assessment, and rely heavily on the teacher to seek specific instructions. Hammond and Gao (2002) argued that even in contemporary Chinese education, learning is characterized by memorization, rote learning, and repetition; students in China are so rote learners, relying on memorization or a surface approach to learning, more than their Western peers who were described as utilizing a deep understanding approach to learning (Brown et al. 2007). Secondly, Chinese students were viewed as inactive and passive learners. For example, Watkins & Biggs (2001) indicated that in the Chinese classroom, teachers spent most of the lesson time in direct teaching and questioning. The Chinese classroom is described as being under a high degree of teacher-control and having passive students. Chinese students have been viewed by Western educators as passive (Mok, Kennedy, Moore, Shan, and Leung, 2008). Liu and Littlewood (1997) also ascribed Chinese students' non-participation to the teacher-centered format to the fact that students had been accustomed to operating in a formal schooling, in which they are not encouraged to saying anything in class. Even in Chinese university classrooms, there is

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[1] The term of "culture shock", was first coined in 1958 by Dr. Lalervo Oberg

little interaction and a lack of response to the teachers (Chan, 1993; Biggs, 1996 cited in Watkins & Biggs, 2001). To sum up, Chinese students are often described by Western academics as using rote learning or surface-learning strategies, receptive, quiet and compliant learners and highly achievement-oriented compared with Western students (Watkins & Biggs, 1996). However, the authors think that it may be simplistic to describe Chinese students as passive learners (Clark and Gieve, 2006) because the studies discussed more traditional classrooms rather than present-day classrooms.

Other literature and studies suggest a different view point to the research mentioned above. For example, Chinese students can be: active, critical and adopting multiple and deep-learning strategies (Kember & Gow, 1991; Lee, 1996; Chan, 1997; Jones, 1999; Littlewood, 2000; Watkins & Biggs, 2001; Cheng, 2002; Jin & Cortazzi, 2006; Shi, 2006 cited in Zhao and Bourne (2011). Chan and Rao (2009, p.317) argued that Marton, Dall'Alba and Tse (1996), Kember (2000), Wong (2004), and Rastall (2006), Lee and Mok (2008) have refuted the view that Chinese learners are passive and suggest analyzing student learning from cultural contextual perspectives. To be more specific, Watkins & Biggs (1996, p.207 cited in Chan and Rao, 2009) have challenged the stereotypical view of Chinese students that: (a) they tend to be rote learners rather than deep learners. (b) they are highly achievement-oriented. (c) they do not participate in tutorial discussions. Lee (1996) and Wong (2004) argued that there are different views of Chinese students and noted that Chinese students have historically been encouraged to think, reflect, and engage in discourse (cited in Chan and Rao, 2009). Marton and colleagues identified Chinese learners as using a memorization-understanding approach to learning (Marton, Wen & Wong, 2005). Therefore, Watkins and Biggs (1996) noted that "teaching and learning is embedded culturally and there exist various misinterpretations when learning and teaching are examined from a Western perspective". "Western theories cannot explain Chinese students' performance adequately." Moreover, some reviews found Chinese students outperform Western students. For example, some researchers have found that Chinese students consistently outperform Western students in international tests of academic achievements, as well as on measures of deep approaches to learning (Mullis, Martin Beaton, Gonzalez, Kelly, & Smith, 1997; Mullis, Martin, Kennedy, & Foy, 2007; Watkins, 1996 cited in Chan and Rao, 2009). These researchers have debunked the myth that Chinese students are passive and rote learners. This also can be seen from the findings of PISA 2009 and PISA 2012 (Programme for International Student Assessment of the competencies of 15-year-olds in reading, mathematics and science)[2]: Chinese students are the defending champions in these two PISA.

Therefore, Chinese students' learning needs to be interpreted not only in relation to contextual and cultural perspectives, but also need a dynamic perspective in education because practices in learning at primary, middle school and university levels are changing in China; hence, the culture of learning that are likely to influence students' pre-departure experiences include an aspect of dynamic change in the students and teaching practices (Jin and Cortazzi, 2006). Also, contemporary China is undergoing dramatic changes with its fast economic development. That is maybe why Chan and Rao (2009) state that there is a need to revisit the notion of Chinese students.

The research questions of this study are: (1) What kinds of culture shock do NESTs experience in the Chinese classroom? (2) How can we help NESTs to minimize classroom culture shock? There are two reasons for this study: First, this research may help NESTs to

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[2] http://www.oecd.org/pisa/keyfindings/

have a greater understanding as teacher-learners because most of the studies reviewed above have been written by western experts or scholars, some of whom have worked with overseas Chinese students studying in Western countries; some of whom come from the UK, USA, Australia, New Zealand, and teach in major cities such as Hong Kong and Singapore where there is a high percentage of Chinese students who are more exposed to the western model of education. There is some relevant literature on NESTs' experience in China, but most of them were written in Chinese, leaving the NESTs with little knowledge of Chinese students' needs. Moreover, even less is written about NESTs' teaching experience in the university context in Mainland China. As Jin and Cortazzi (2006) argue, Chinese students' cultural background and ways of learning are less familiar to most teachers internationally. They believe more research is needed into the Chinese culture of learning, recognizing diversity of practices both at individual and group levels and taking recent changes in teaching and learning into account. Second, most literature on the subject of culture shock is based on the cultural synergy model of the western world (Cortazzi & Jin, 1997; Jin & Cortazzi, 1998; Cortazzi & Jin, 2002 cited in Chan and Rao, 2009) that encourages cultural adaption, which suggests that more research needs to be done in China and other eastern cultures where NESTs and students need a greater understanding of each other (Zhou, Topping and Jindal-Snape, 2011). This paper uses a sociocultural theory to explain the culture shock that NESTs experience in the Chinese university classroom, to help NESTs to develop professionally as TEFL teachers.

Sociocultural Perspective Theory
The epistemological tenets of a sociocultural perspective are drawn largely from the seminal work of Lev Vygotsky (1978, 1986). That is "A socio-cultural perspective defines human learning as a dynamic social activity that is situated in physical and social contexts, and is distributed across persons, tools, and activities" (Rogoff, 2003; Salomon, 1993; Vygotsky, 1978; Wertsch, 1991 cited in Johnson, 2009). The authors position the NESTs' teaching in Chinese University as learners of teaching beyond their home countries, as well as engaging in a dynamic social activity that is situated in physical and changeable social contexts.

Design
Research Setting
Jiaying University is located in Meizhou, Guangdong Province. It is a famous historical city with few foreigners/foreign trade enterprises. It is a public provincial undergraduate university established in 1913. There are 20 NESTs presently teaching at the university. They are teaching Newspaper Reading, Oral English, American Literature, Extensive Reading, British & American History, Writing, Law English, Computer English, Biology English and Business English. NESTs typically recommend other NESTs, who then apply to the university. The university also actively seeks NESTs through Internet recruitment. They come to Jiaying University to learn and experience the local Hakka culture as well as to enjoy life in a small Chinese city.

Participants
This study involved 25 NESTs and 99 Chinese students at Jiaying University over a one year period. At the time of the study, the teacher participants were all teaching English at the university. The length of their teaching in the university ranged from three months to eleven years. Among them, twelve were from the USA, five from the UK, four from New Zealand, two from Canada, one from Australia and one from South Africa. The ten NESTs interviewed by Author A were from the UK, Australia and the USA, respectively. The student participants were from three classes of the university: one class consisted of 50 sophomore students majoring in Biology and the other two classes were made up of 49 juniors majoring in

English. All the students were taught by NESTs from the university. The table below provides a detailed example of the NEST participants.

Table 1 *Distribution of the NESTs*

Distribution / Nationalities Numbers		USA	UK	New Zealand	Canada	Australia	South Africa
		12	5	4	2	1	1
Genders	Male	9	4	4	1	0	1
	Female	3	1	0	1	1	0
Degree	PhD	2	1	0	0	0	0
	Master	6	3	3	1	1	1
	Bachelor	4	1	1	1	0	0
Duration of teaching in the university	0-2 Years	8	3	3	2	1	1
	3-5 Years	3	1	1	0	0	0
	5 Years above	1	1	0	0	0	0

Methodology
The study employed qualitative and quantitative methods through use of open questionnaires and a face-to-face interview. The authors deemed that face-to-face interviews are necessary and useful to understand and collect information. Therefore, individuals' perspectives are crucial for understanding classroom culture shock.

The first author and the second author formed an ideal research team by operating as both insider (teacher/participant observer) and outsider (ethnographic observer/interviewer) in the research setting, conducting a study to explore the classroom culture shock NESTs experience at a Chinese university. The second author's experiences provided him existing contacts in the field of teaching in China, an insider's perspective. Therefore, the shared experience of culture shock helped the authors to develop a trusting relationship with many participants. We hope this affords a double vision of 'inside' and 'outside' views and interpretations of research (Jin and Cortazzi, 2011, p.2).

Data Collection
The data were collected through three questionnaires and two interviews. The first questionnaire was completed by email. It was to explore what classroom culture shock NESTs have experienced. Examples of questions asked: How many years have you taught in China? What are your expectations teaching English in a Chinese classroom? What classroom culture shock do you encounter. Why? What questions do you have about teaching English in China? The first author interviewed ten of the twenty-five foreign teachers individually. The interviews, audio-taped, transcribed, and analyzed by the authors, provided an in-depth exploration into the reasons for NESTs' classroom culture shock. After the interviews, the authors asked all the NESTs to fill in a closed questionnaire to find out to what extent foreign English teachers agreed with the statements concerning students' English learning motivation, their English learning strategies and their classroom interaction. In order to collect data from the students, the authors asked 102 students to do a closed questionnaire, and interviewed fifteen of them. All the questionnaires were collected. The author deleted one participant's questionnaire which was incomplete and two participant's questionnaires which had multiple

answers to the same statement, so there were 99 valid questionnaires. The student questionnaire was to see whether the students agreed with the statements under the three categories and the interviews that followed were to explore the reasons for the classroom culture shock from the students' perspective.

Discussion and Analysis

Both the interview and the survey questionnaire data clearly demonstrated that the majority of NESTs experience classroom culture shock mainly because of the Chinese assessment system. In China, for students to be successful in school means taking numerous tests and examinations throughout their education. English is a required subject in the national university entrance examinations for all universities and higher education institutions. English is also required for exit examinations in higher education institutions, employment and promotions. Therefore，the importance of testing and test practice in the Chinese culture of learning is well-documented (Ng & Liu, 1999; Jin & Cortazzi, 2003; Zhang, 2004 cited in Parris-Kidd and Barnett, 2011). Cheng and Curtis (2010) states English assessment is crucial for Chinese students and it often affects their learning. Currently, more than 27 million Chinese university students are learning English and taking English tests[3]. Jin and Cortazzi (2006) argue at university level, the importance of the teacher, the book, modeling, mimicking and memorizing is still evident in the ways that students memorize long lists of English vocabulary items or exemplary textbook paragraphs in preparation for the crucial College English Test (CET) which preoccupies most students. Students nowadays do not have to pass CET 4 but they strive for CET 4 and even CET 6, in order to get a better job. For example, in a competitive job market, a CET certificate with a good test score in many cases has become one of the prerequisites for employment adopted by personnel departments when recruiting college or university graduates (Jin, 2010). Gu's study (cited in Jin, 2010) shows that at some universities, English textbooks give way to CET mock exams, and classroom activities were replaced by the training of students in test-taking strategies.

NESTs believe it is the Chinese assessment system that impacts the students' typical English learning motivation, their English learning strategies and their classroom interaction, which are the main culture shock that NESTs experience in the Chinese classroom.

Motivation towards English learning

Studies concerning Chinese students' motivation to English learning in Chinese setting were started in the late 1980's. According to Gardner's (cited in Dornyei, 2005) Motivation Theory, motivation can be categorized as integrative orientation and instrumental orientation. The former concerns a positive motivation towards the language and even become similar to valued members of the community; the latter is the counterpart of integrative orientation in Gardner's theory. Dornyei (cited in Dornyei, 2005) defines motivation as involving both the choice of a particular action and the effort expended on it and the persistence with it. Motivation has been an important factor in language learning success. In this study, students' motivation refers to that towards English.

Table 2 shows that 92% of NESTs agree (24%) or strongly agree (68%) that students learn English in order to pass exams. In other words, the reason why most students are interested in English is not because they see much use for it in their lives. Instead, they see English in instrumental terms: as something they have to learn to pass an examination. However,

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[3] http://www.hnedu.cn/

"examination-orientated teaching is not able to motivate students' English learning interest" (Chen 2008, p.4). It is a compulsory burden for many students.

Table 2 *NESTs' Agreement Concerning Students See English as a Tool to Pass Exams*

	Number	Percentage（％）
Strongly Agree	17	68
Agree	6	24
Neither agree or disagree	2	8
Disagree	0	0
Strongly Disagree	0	0

In addition, as illustrated in Table 3, 88% of NESTs agree (36%) or strongly agree (52%) that Chinese students regard learning as a tool to get a job; only 4% do not agree.

Table 3 *NESTs' Agreement Concerning Students See English as a Tool to Get a Job*

	Number	Percentage（％）
Strongly Agree	13	52
Agree	9	36
Neither agree or disagree	2	8
Disagree	1	4
Strongly Disagree	0	0

The second author's own experience can account for this strong agreement.

> *"An incident stands out in my memory in my first year at the university. A three year diploma student told me that English was not very important to her. I asked her why not, since she was going to be an English teacher. She said that she would use Chinese most of the time in teaching English！I met the student a few years later when she had become a teacher and was studying as an external student towards a B.A degree. She was in my oral English class for external students. I reminded her of the incident and what she had said and asked her about her opinion now. She said she now understood the importance of improving her English. I am not sure whether it was because she was interested in English and really wanted to improve her English, or because she needed the qualification to gain promotion and improve her salary. I suspect largely the latter!"*

The statistics and the second author's experience show that from the NESTs' points of view, there are only a few students, whether they major in English or not, who have a real interest in, or passion for, English. NESTs feel shocked about students' motivation towards English learning because students' study habits are not well-developed and they are so "examination-driven" that they do not understand the true joy of learning. This may lead to the students' rather narrow view of approach to learning. It also results in students relying largely on learning strategies and classroom interaction.

However, there is a difference between the views of the NESTs and the students (see Table 4). 54.6% have a real interest in or passion for English. 39.4% of the students agree (30.3%) or strongly agree (9.1%) that they see English as an instrument of passing examinations; 55.6% see English as a tool to get a job. This is because students' English learning is deeply affected by Chinese assessment system and they generally do not care about the real interest of learning English, especially in the past. This also can be explained by a student who was interviewed: "When I was in primary and junior middle school, I was very keen on English. As time goes by, I felt it was boring to learn English. Now, considering the situation we have to deal with: It is difficult to find a job. I have decided to learn English well." This implies that students see English as a useful tool to get a job.

Table 4 *Students' Agreement Concerning Motivations to English*

No.	Items	SA	A	NADA	D	SD
1	See English as instrument of passing an examination	9.1%	30.3%	17.2%	25.3%	18.2%
2	See English as tools to get a job	15.2%	40.4%	19.2%	18.2%	7.1%
3	Have a real interest or passion for English	17.2%	37.4%	22.2%	17.2%	6.1%

Note. SA=Strongly Agree; A=Agree; NADA=Neither Agree or Disagree; D=Disagree; SD=Strongly Disagree

The authors agree with Politzer (undated) and Oxford and Nylikos (1989): language learning motivations, often conditioned by culture, are influential in learning strategy choice (cited in Oxford,1996).

English Learning Strategies

Effective strategies to study are extremely important for learning a language. O'Malley & Chamot (2001) concluded that more effective students used learning strategies more frequently and had a wider repertoire of learning strategies than less effective students did. To NESTs, the students' English learning strategy is quite a big shock because students rely heavily on rote memorization when learning English instead of using effective learning strategies. NESTs are often confused: "Why do students memorize so much? Why don't students like to use their imagination or other strategies more in class?" As NESTs point out in the questionnaire:

"Students tend to rely on rote memorization and a narrow focus on textbooks, rather than learning in a more active and wider way that involves wider reading/listening and that embraces understanding of the culture as well as the language." (NEST3,Peter)

"Students here seem to rely too much on memorizing and repeating instead of thinking and understanding. If I ask simple questions that they did not practice answering earlier, some have problems in answering." (NEST7, Jake)
"I know that this is one of the characteristics of the Chinese educational system. Students are not taught to "think" as much as they are in other countries; instead they try to memorize everything." (NEST9, Andrew)

In addition, as shown in Table 5, in NESTs' points of view, students do not use many effective learning strategies: they rely too much on memorization and both oral and written repetition, instead of thinking and understanding. Students' frequent use of memorization

leads to a lack of creativity in their learning in English, and prevents students from thinking and from learning in a communicative way.

This is very different to learning in the West, which emphasizes thinking and challenging your own thinking and, in the case of learning English, going beyond grammar and translation to communication. These findings are in line with Chan and Chan (2005, p.385): "In Western teaching the main focus is on the development of creativity. The Chinese method focuses on memorization and students are expected to memorize in classes".

Table 5 *NESTs' Agreement Concerning Students Use a Lot of Memorizing*

	Numbers	Percentage（％）
Strongly Agree	20	80
Agree	4	16
Neither agree or disagree	1	4
Disagree	0	0
Strongly Disagree	0	0

The second author, as one of the NESTs, comments as follows:

> *"I rarely hear the term 'recite' outside of China except for memorization of a poem but hear it all the time in China. Students recite words, pages of a dictionary, even entire TEM4 essays. In any case, it is completely inappropriate for university students who already have a good foundation in English."*

Students' learning strategy creates problems for NESTs: *"It could be frustrating if you expect a lot of self study beyond the textbook because students are usually at a loss,"* one of the NESTs said. Therefore, it is crucial to change Chinese students' way of thinking. Instead of just imparting facts to students and ask them to remember them or specific language points, teachers should challenge students intellectually to make them think, stir their imagination and encourage them to take risks in giving their own ideas. It is very important to develop students' independent learning ability and talent, educate them to learn by themselves.

For the students' view on learning strategy, consider Table 6:

Table 6 *Students' Agreement Concerning Their Learning strategy*

No.	Items	SA	A	NADA	D	SD
1	Rely heavily on rote memorization rather than leaning strategies	8.1%	39.4%	27.3%	18.2%	7.1%
2	Pay great attention to note taking	10.1%	34.3%	30.3%	18.2%	7.1%

Note. SA=Strongly Agree; A=Agree; NADA= Neither Agree or Disagree; D=Disagree; SD=Strongly Disagree

As shown in Table 6, 47.5% (8.1%+39.4%) of the students think they "rely heavily on rote memorization rather than leaning strategies"; 27.3% neither agree nor disagree; only 25.3% (18.2%+7.1%) disagree or strongly disagree. The interviewed students gave various reasons:

"We spend most of our time in class in taking notes. Therefore, we do not have time to think carefully." "We take nearly all the notes in class no matter whether we understand them or not." "Taking notes means we take the teacher's ideas instead of our own ideas."

Table 6 also shows that 44.4% (10.1%+34.3%) of the students pay great attention to taking notes in class. For example, the interviewed students states, "because of our examination-oriented education, if you do not take notes, the teachers will criticize you. What is more, the notes we take are relevant to exams. If you do not take notes carefully, you might fail them." "Our main task in class is to take notes rather than think." Consequently, Chinese students prefer to take notes first and then memorize. Marton, Wen and Wong (2005) distinguish between two kinds of memorization: rote and meaningful memorization. They distinguish between two forms of meaningful memorization: one is understanding followed by memorization; the other is memorization and understanding simultaneously with the two seen as two sides of the same coin. It cannot be denied that some students at the university are rote learners because of the reasons contributed by the NESTs in the interview, as well as because of the students' poor foundation in English. However, some students are not rote learners as previously defined because their repeating, reciting and memorizing provide a route to deep understanding. The authors believe people from different social contexts respond to learning differently. In other words, learning is pursued differently from culture to culture (Wang and King, 2008).

The authors agree with Watkins and Biggs' (Watkins & Biggs, 1996) opinion, "Memorization may be appropriate and even necessary in some situations. It should not be equated with rote learning of unprocessed information". The authors also believe that students use memorization not as an end in itself but as a path to understand; memorization and understanding are two sides of the same coin (cited in Tavakol and Dennick, 2010). The authors' classroom observation found many students achieve their understanding through the process of memorization, especially for some top students, which is in accord to Ding's (2007) finding: "memorization is one of the main methods many successful English learners extensively use." Besides, various studies have shown that Chinese learners use memorization to help them understand the materials they have learned (Marton et al., 1996; cited in Chan and Rao, 2009). "While rote learning is regarded as being characterized by mechanical memorization in the West, such a notion was found not to describe learning practices associated with repetition in the Chinese culture adequately" (Watkins and Biggs, 1996). As Stanley (2011) recognizes that the Westerners, we believe in exploring first, then in the development of skill; the Chinese believe in skill development first … after which there is something to be creative with.

However, some students hold different opinions, such as:

"I don't think memorization works a lot, because I cannot truly and deeply understand its meaning by reciting words. I usually put it into sentences or articles to help my understanding of them. I don't remember anything about English through memorization. It's no use of reciting/memorizing a long and so-called 'model passage' without learning the grammar and sentence structures that lie in it. After class, I read the book, check the notes, go to the Internet, then write my own summary."(S5, Doris)

Except for Chinese students' English learning motivation and their English learning strategies, the NESTs also feel shocked at teacher-student classroom interaction.

Classroom Interaction

Most NESTs in this study feel shocked when they experience classroom interaction with students because they have very little opportunity for communication, and needless to say, there are no tutorials or seminars with students. This is confirmed by the students. Table 7 shows that 80.8% of the students strongly agree or agree about the need for opportunity for individual interaction with teachers and 57.6% of the students think they have little chance to use English so that gradually, they may become shy to ask and answer questions. That may be why NESTs in this study generally say that most students do not participate actively in class activities:

> "*Students tend to be passive and to avoid answering questions actively and also tend not to ask questions*"(NEST2,Robert)

> "*Too few questions and answers during class! Students do not ask enough questions or volunteer enough information.*" (NEST5, Cindy)

> "*Many students are not encouraged to speak up during class or ask many questions of their teachers.*" (NEST1, Nick)

> "*Students in class do not raise their hands when I ask them a question. I must point or select a student for an answer to be given.*" (NEST10, Pam)

Why do NESTs feel shocked with this situation? The answer was found in the authors' interview with the ten NESTs:

> "*When I first taught Chinese students, I thought they were all just lazy and did not care to answer any of my questions.*" (NEST10, Pam)

> "*In western countries, in English teaching class, teachers have interaction with students easily. They use interactive teaching in class, while in the Chinese classroom students ask fewer questions and are shyer in answering questions than students abroad. It is hard to get discussions going.*" (NEST6, Woon)

From the NESTs' point of view, getting Chinese students to engage in a discussion in class was difficult, especially initially. A Westerner teaching a class of Chinese students is likely to be disappointed at the apparent lack of interaction or responsiveness to public questioning (Watkins & Biggs1996, p.59). In author A's previous study (Wang, 2011), NESTs attributed students' inactiveness to the cultural, linguistic, approach, and psychological / affective factors.

What did the Chinese students think? See Table 7.

Table7 Students' Agreement Concerning Classroom Interaction

No.	Items	SA	A	NADA	D	SD
1	Feel difficult to interact individually	33.3%	47.5%	6.1%	11.1%	2.0%
2	Have little opportunity to use English	15.2%	42.4%	22.2%	17.2%	3.0%
3	Being not active to answer the questions	19.2%	34.3%	17.2%	21.2%	8.1%
4	Being not active to ask questions	15.2%	44.4%	21.2%	14.1%	5.1%
5	Wait for the teachers to ask my name to answer the questions	22.2%	29.3%	29.3%	15.2%	4.0%

Note. SA=Strongly Agree; A=Agree; NADA=Neither Agree or Disagree; D=Disagree; SD=Strongly Disagree

As shown in Table 7, more than half (Item 3: 53.5%; Item 4: 59.6% and Item 5: 51.5%) of the students admit that they are not active in asking and answering questions in class unless they have to. The students interviewed gave the following reasons:

> *"My oral English is poor. I am not confident in speaking, especially as I do not want to be laughed at when I make mistakes." (S3, Zeng Yanyan)*
>
> *"We are used to the teaching method in senior high school, which is test-oriented education. At that time, we were taught to be well-behaved and silent in class so we could listen to the teacher." (S11, Ice)*
>
> *"Usually, students want the answers, not the questions." (S6, Mike)*
>
> *"In class, we only have language input, no output." (S1, Dennis)*

The students interviewed gave the further reasons why they are not willing to express their ideas as follows.

> *"As for me, I do not want to ask and answer questions voluntarily in class even if I have my own opinion. However, I prefer to talk with my classmates nearby, because I feel safe and comfortable." (S4, Dan)*
>
> *"Even in the Chinese class, we tend not to ask questions, unless the teacher asks me to speak, need not to say in the English class." (S12, Huang Ru)*
>
> *"It is really not important whether we are active to ask and answer questions in class; the most important thing is whether we can get high scores in the examination. The performance in class has nothing to do with the scores." (S7, Cherry)*
>
> *"In senior high school, teachers do not like students who are active in class because the teachers think this will interrupt classroom order. The teachers always like those who are quiet and obedient. The teachers do not support and give positive feedback to those who are active in class." (S2, Rainbow)*

In author A's previous study (Wang, 2011), the students' views concerning classroom interaction can be summed up as: motivational factors, cultural factors and learning habits.

Conclusion

This paper is an exploratory study of the 'culture shock' that NESTs experience in the Chinese classroom in coming across, and dealing with, the ways in which Chinese students typically learn English and the learning strategies they adopt. It is a latitudinal study that adopts a survey approach supplemented by brief interviews with NESTs and students.

This study examines NESTs' teaching in the Chinese university from a sociocultural perspective. The study shows that the majority of NESTs experience classroom culture shock mainly because of the Chinese assessment system. This impacts the students' typical English learning motivation, their English learning strategies as well as their classroom interaction. NESTs' teaching at this Chinese University, encounter various classroom culture shock. However, this experience may help to form alternative teaching strategies of teachers recognize this culture context and effectively adapt their approaches to teaching. Sociocultural perspectives to NESTs' professional development are based on the concept that human activities are situated in cultural contexts.

According to the sociocultural perspective, NESTs understand the situation of Chinese students learning through their cultural teaching practices and social contexts. Firstly, a socio-cultural perspective focuses on sociocultural activities as the essential process through which human cognition is formed (Johnson, 2009). The sociocultural perspective can allow the NESTs to redefine themselves as teacher-learners in a new and unfamiliar environment in which they are allowed to learn and adapt. Secondly, a sociocultural perspective recognizes that learning is not the straightforward appropriation of skills or knowledge from the outside in, but from the internal mediated activity by individual learners, which results in the transformation of both the self and the activity (Johnson, 2009). "Learning to teach, from a sociocultural perspective, is based on the assumption that knowing, thinking, and understanding come from participating in the social practices of learning and teaching in specific classroom and school situations" (Johnson, 2009). This implies that NESTs' classroom teaching practices can be seen as a dynamic social activity that is situated in physical and changeable social contexts. In addition, the sociocultural perspective allows the NESTs to redefine themselves as teacher-learners in a new and unfamiliar environment in which they can learn and adapt. Better adaptation foreseeably can bring about better teaching results and bridge expectations between NESTs and Chinese students.

Implications

Given the culture shock NESTs experience in the Chinese classroom, the authors believe that both NESTs and students need to change. The reasons are：

NESTs should not only be aware of these cultural differences but also regard it as a dynamic social activity that is situated in physical and changeable social contexts. The paper implies that NESTs should value their teaching experiences, both positive and negative, and can also make good use of it as much as possible for their own development as TEFL teachers in China. In other words, NESTs need to be aware that Chinese students are firmly rooted in the Chinese social context, traditional culture and education system. Chinese students have their own learning motivation and strategies. NESTs need to be prepared to understand the Chinese viewpoint. Moreover, NESTs should develop intercultural awareness in their students as well and should be flexible and adaptive in their teaching, and try to adopt a variety of teaching methods to meet the needs of students in China. Thus, they can learn to teach in the Chinese classroom more effectively from a sociocultural perspective.

Students need to be open to change: to understand NESTs' point of view. They need to understand why they need to change. The onus is ultimately on students to adapt and change so that they can not only learn the target language effectively, but also prepare themselves to live and work or do business in a globalized world, in which China will have an increasingly important role in the future. Besides, students need to be encouraged to be exposed to foreign culture by communicating with NESTs, reading English novels, watching movies, listening to overseas broadcasts. Finally, students' learning motivation, learning strategy and classroom inactiveness need to be changed because all these will be related to China's educational, social and economic development. Otherwise, when the world changes and jobs demand different skills from students, they have little of the creativity or diversity of learning approaches that is needed.

Finally, there is also a need for institutions and the educational system to change: The University needs to hold orientation meetings for NESTs to help them understand the Chinese viewpoint. The university needs to gives support to NESTs, not just tell them they must

change and fit in. The university must teach students more about western culture to open students' minds. The university teachers should teach students effective ways of learning English that suit the language and the demands of the modern world and international standards. Students are the products of a system. The system also needs to be changed because it is crucial for the Chinese educational system to produce graduates for a modern, globalised world. "The quickest way to change student learning is to change the assessment system." (cited in Watkins and Biggs, 1996). It's worthwhile to mention that Chinese government already aware the backwash of the different kinds of examinations and has began to reform the examination system of high school level, such as the reform of the GAO-KAO (the University Entrance Examination) in 2017.

Limitations

The limitations of this study are as follows: the design could have been more detailed and the rationale under the design might have been more transparent to readers. The discussion of NESTs Chinese classroom culture shock should have been more detailed. This study was done at a small, local university located in a small, less developed city, not in a large cosmopolitan city like Beijing or Shanghai. Students are largely local students and many are from the countryside. They are less sophisticated, may have less knowledge and exposure to westerners and western cultures than students in cosmopolitan cities. In addition, this study is an exploratory case study dealing with several issues. Therefore, it is inevitably superficial in its coverage of these issues.

Suggestions for Further Research

One idea for further research, arising from Author B's own experience in teaching writing to Chinese students, is to do a longitudinal study of one particular NEST and class of English students, and their struggles: the teacher's struggles to understand and deal with the way students typically learn English, and to change the way they learn to make their learning more effective; and the students' struggles to understand and adapt to the way the teacher wishes them to work that is more suited to learning how to write in English, the changes, if any, that take place in the students' learning strategies.

Another possibility for further research is to explore more fully the learning strategies adopted by English majors, as opposed to non-English majors. In the review of the literature, it was stated that Chinese learners as using a memorization-understanding approach to learning (Marton, Wen & Wong, 2005). It would be interesting to examine a particular group of English major students studying a particular subject taught by a NEST, for example English writing, and do a more detailed study of their learning approaches at the beginning of the course, and to what extent there is any change as the course progresses and to correlate student outcomes in terms of success in the externally examined TEM4 (Test for English Majors, level 4) examination with changes in their learning strategies.

Finally, it would be interesting to study NESTs at universities in cosmopolitan cities to see whether there are similar findings or not, and to separate several issues into different studies.

Acknowledgement

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Pre- Post-Soviet Periods Academic Mobility and Changes in Kazakhstan: The "Bolashak" Program and Policy Perspectives

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Abstract

With the immense loss of the academe during the breakdown of the Soviet Union, newly emerged independent countries struggled to resolve human capital deficiency. Kazakhstan promptly recovered from the devoid of national identity through education. However, in recent times, the elimination of 'old' being transformed into a knowledge-based economy is substantially faster and challenging. Kazakhstan attempted to solve this problem using outbound student education because of external and internal influences on the educational system. This historically generic exploratory review focuses on the recent trends in academic mobility and government efforts relying on discourses about primary and secondary resources. Specifically, government provisions and national strategies on academic mobility are identified, key drivers are determined, and issues on program implementations are addressed. Current changes are overshadowed by western patterns, particularly by the accession to the Bologna Process. The overall policy demonstrates the concepts of marketization imposing national characteristic. Moreover, the lack of comprehensive selection tool of "Bolashak" candidates, brain drain, and job replacement issues have been observed. Therefore, future inquiries should not be based on transformation or commitments alone. More emphasis is also needed in the efficiency of such commitments that the country faces.

Keywords: academic mobility, policy, Bolashak program, Kazakhstan

Introduction

Core components of higher education have risen dramatically from internationalization and student mobility. They became global issues perhaps because of strong economic and academic implications. Developing and less developed countries seek suitable and skilled labor for their economy because of global economic drivers. Being an independent state since 1991, Kazakhstan has been influenced by drivers of globalization, which forced the country to implement fundamental changes in a short period of time.

The increased competition challenge developing countries such as Kazakhstan to join the rivalry. Most educational reforms and modernization programs in developing countries are modelled on global educational trends and on innovations in developed countries. Thus, implementation is very vital in the continuity of global to local reforms. Some Southeast Asian countries have long entered the international education market. By contrast, some Central Asian countries are still in the transformation stage. With an annual 5% rise in GDP, Kazakhstan is becoming a "high income economy" (Nibble et al., 2013). The government is aware of the impacts of globalization on the national economy, as well as the need for skilled labor to best put the country's resources to use. Therefore, the implementation of "Bolashak" scholarship program and the adoption of Bologna procedure appear to be the appropriate core operational scheme and policy intervention in dealing with academic mobility. Policy and

strategy are imperative to effectively employ the best talent and to fit other components of internationalization in higher education. With the rapidly increasing global economy, threats to national economy are higher in the future. Therefore, Kazakhstan cannot continue to depend on proceeds from natural resources alone. Enhancing those proceeds with human recourse is crucial for further development.

This paper has a twofold purpose. The first purpose is to explore and review the history of academic development to determine the progress of Kazakhstan in terms of policies and implementation patterns. The "Bolashak" program within the frame of the Bologna Process will be studied. The second purpose is to explore complexities in program implementation to illustrate its transformations.

Understanding academic mobility and the position of Kazakhstan in the Soviet Union

Academic mobility and the role of Kazakhstan in the USSR science space
Reestablishing themselves as socialist countries at the end of the Soviet revolution was one of the main strategic actions of the leadership of the Russian Soviet Federated Socialist Republic (RSFSR) to develop socio-economic well-being in Russia, Ukraine, and Kazakhstan. For example, the first group of research institutions in Kazakhstan and the international cooperation of Kazakh scientists (ICKS) were established in the 1960s to 1970s. During this early stage, local Kazakh scholars applied mutual cooperation, which is a platform for sharing scientific involvements and organizing academic activities, such as seminars, meetings, and local conferences. This approach enabled local scientists to establish international cooperation with other socialist republics in the USSR. Thus, about 300 research and higher educational institutions collaborated with foreign scientific research institutions in USSR countries by 1974 (Ahanov Zh. A., 1990). Prior to that period, the research and development in Kazakhstan obtained the "remains" of the total financial spending of the Soviet government distribution with Ukraine, Russia, and Belarus. Kazakh's SSR for higher education lacked the support of science development (until the 1970s), although it was clear that a greater number of scholars and students were not only from the three republics of the Soviet Socialist Union (Ukraine, Russia and Belarus). The foundation of science in Kazakhstan was based on works of scholars from universities in Moscow, Leningrad, and Kiev, N. Bauman Higher Specialized Technical School, and Moscow Construction Engineering Institute. During the reconstruction period in 1985, Kazakh scholars sourced for international relationships and collaborations to overcome the hardship. For example, Sokolski delivered lectures in Budapest Polytechnic University in Hungary, and Kolomeets worked on a collaborative research in astrophysics with scholars at West Washington University. Foreign scholars like Tamaru from Tokyo University also visited the country and gave lectures in physics and astrology. Overall, foreign scholars constituted about 116 professors in higher education institutions during the 1970s (Kabdiyev D.K., 1986).

The Soviet government attempted to reduce influence of local scholars by impeding the usage of the Kazakh national language in the 1970s to 1980s. Hence, a more dominant Russian language was used in academic fields. Candidates applying in higher educational institutions were required to pass the Russian language exam. Most academic research had to be written in Russian, even studies related to the Kazakh language, which have to be translated to Russian (Kazakh SSR Academy of Science, 1990). The number of scholars decreased drastically at the beginning of the collapse of USSR in 1990. The number of scholars represented 36.3% of the total population in 1970, which decreased to 25% in 1985, and further decreased to 24.8% in 1990 (Kazakh SSR Abridged Encyclopedia, 1988). In Kazakh

SSR, about 73.5% (41,259) of the scholars in 1970 were foreign nationals, which was commendably reduced to about 63.7% (36,046) in 1980, and to about 54.5% (26,802) scholars in 1987 (Kazakh National Sector in 1971: Statistical collection, 1972).

Ideology of the Soviet's higher education and academic exchange
Harper (1934) stated that educational programs combine national and international elements with priority given to national interests described as "the adaptation of the working class to the nationalist policy of bourgeoisie". To produce a set of "soviet people," the Soviet Union formulated policies with ethnocentric characteristics referred to as proletarian internationalism (Kadysova, 1999); another set of policies with international characteristics were known as utopian proletarian internationalism (Brandenberger, 2000). As pointed out in the works of Nicholas Hans, William Johnson, and Seymour Rosen, the Soviet educational system strongly believed that "Soviet educational system is not at all Soviet's, Russian it was and Russian it remains." It has been argued that "education in Soviet Union is not the product of Marxism rather the result of Russian state history," and "the change from a Russian Empire to international Soviet state was a change of title, but not of the substance" (cited in Jon, 1975).

Academic exchange has been part of higher educational policies of the Soviet Union. Thus, the Union established bilateral academic relationships with Western Europe, the United States, and some communist countries (Rosen, 1970), which had both positive and negative results. It facilitated the gradual development of old programs and the introduction of new programs and better investments. Nonetheless, the quality of some programs was not satisfactory because much effort was directed towards indoctrination (Harris, 1959).

Soviet scholars believed they were dealing with comparative pedagogy, although US scholars preferred using the term comparative education to describe the situation. Rosen (1970) stated that discussions were made pertaining to the Soviet Union on international education platforms because they still lag behind in this area. Some argue that determining the level of academic mobility was difficult in the Soviet Union because scholars could not distinguish structural mobility from circulation mobility (Dobson, 1977). However, data on academic mobility of Kazakh SSR in higher education was lower than that of Russia at that time.

Post Soviet Union: National educational strategies towards the 21st century
The year 1991 was a remarkable and historical year for former Soviet socialist countries because they gained independence and established their own legislative systems. These countries with socialist systems began reforming their educational sectors to meet the needs of their market economies. However, for newly established states, educational institutions were not adequately resourced to train highly skilled staff. Therefore, it was vital for Kazakhstan to train requisite personnel with the needed educational background to fill critical areas of the economy. Academic mobility was then included in the national educational policy. Essentially, the policy was framed with two major state provisions: 1) instituting the Bologna process, and 2) establishing platforms to enhance international collaboration. To achieve these goals, the government promulgated legislative provisions such as the Law on Education (2007) and the Decree On the Republican Commission on Abroad Trainings (2000). Recently, the government adopted an educational development plan for 2011 to 2020 that emphasized the significance of human capital development for sustainable industrial and socio-economic growth. The development plan was intended to strengthen competitiveness of the educational sector, modernize the country, and develop critical human capital by the accessible quality education. The concept of quality education in this plan refers to the

Western educational system. Therefore, the reform program relies heavily on the experience of developed countries. However, developed nations encourage the commercialization of science and technology. Based on the developmental plan, the Bologna Center and the Center for Academic Mobility were established in 2011 under the guidance of the Ministry of Education. Thus, a legal framework for the development of academic mobility was created.

Defining academic mobility in the context of contemporary Kazakhstan
At a ministerial conference of European Higher Education Area themed, "Mobility Strategy 2020," mobility was noted as "enhancing the competences, knowledge and skills,… expanding and improving academic collaboration and dissemination of innovations and knowledge…. promoting the employability and personal development of the mobile people and strengthening the cultural identity…ensuring high quality education" (EHEA, 2012). UNESCO (2012) refers to academic mobility as "a period of study, teaching and/or research in a country other than a student's or academic staff's country of residence."

In 2011, in accordance with the Bologna Agreement, leaders of higher educational institutions of the Board of Directors of the Ministry of Education and Science of Kazakhstan defined academic mobility as "the movement of students, teachers or researchers for a specific academic period (including internship and training), for a semester or academic year in another higher educational institution (domestic or abroad) for study or research, mandatory in accordance with educational program transfer in the form of credits at their home universities" (Ministry of Education and Science, 2011). This notion is a broad conceptualization, but it appropriately characterizes the overall mobility process in Kazakhstan. Moreover, the defining academic mobility and internationalization components are mainly associated with the integration of European educational space. In accordance with the programs and strategies, national higher education compliance and European standardization are framed within the Bologna Declaration. Notably, outbound mobility is considered a significant part of mobility, whereas mobility within domestic institutions is almost invisible. Thus, academic mobility in Kazakhstan is mainly outbound involving students on government scholarship and self-paid teachers and researchers studying or training for a period of time.

National policy and strategy of outbound academic mobility
Internationalization is a prioritized major component of higher educational policies in Kazakhstan, importing higher education services and knowledge. Consequently, it establishes a key abroad educational program, the "Bolashak," and opened other international higher educational programs ("Taraz Declaration" in Central Asia) by collaborating with domestic universities. These programs stimulated the interest of students in Kazakhstan to pursue education abroad. The academic mobility strategy according to the long term plan of 2011 to 2020 ensures the relevance and purpose of mobility for better education and effective international cooperation. In pursuance of the strategy, several tasks were undertaken to: 1) ensure the relevance and recognition to the national degree; 2) develop multilingual educational systems for effective mobility; 3) enhance the performance of Kazakh student association (a member of European students organization); and 4) establish several supporting institutions to advance inbound and outbound academic mobility. Specifically, this strategic plan was implemented by 1) improving the instruments of academic mobility; 2) monitoring; and 3) supporting the development of academic mobility in Kazakh universities. In 2011, the state sponsored or the first time about 300 master degree students to study in some of the best European and South East Asian universities. The goal of this program was to meet the national need for specialists in technical, natural, and agricultural science sectors.

The outcome of these targeted actions had not been critically examined yet, but strong potentials are visible because of the earliest beneficiaries of the "Bolashak" program who have been working for over two decades now.

The "Bolashak" program

The "Bolashak" scholarship program was established in 1993 by the first president of Kazakhstan. Since then, thousands of Kazakh students and scholars were able to visit and study in overseas universities. Universities were selected from the top 100 universities published in Times Higher Education, QS World University Ranking, and Academic Ranking. The selection rule for students and scholars is in accordance with the "Law on Education" promulgated in 2007, and the President's decree "On the Republican Commission on Abroad Trainings" (2000). Similarly, the Republican Committee was mandated to coordinate, select, and award scholarship to deserving students. The scope of the program was broadened to capture prioritization and specialization. Between 1994 and 2012, about 9,148 people benefitted from the program. About 52% of the scholars were trained in technical education, 43% in the humanities, and 5% in medicine. Recently, the number of scholarship beneficiaries increased dramatically. For instance in 2005, bachelor's degree students constituted 65% of scholarship beneficiaries, whereas graduate students constituted 28%. However, master's degree students studying abroad constituted 62% in 2012 (National Agency for Export and Investment, 2013). In addition, the number of scholarship beneficiaries was 726 in 2013 alone.

Challenges of the Bolashak Program

Although Kazakhstan highly stimulated the importation of knowledge at the state level by institutionalizing the Bolashak program and by rigidly pursuing globalization, few considerable issues negatively affected the efficiency of the program. These issues mainly include: 1) the selection procedure, 2) brain drain, and 3) the use of knowledge obtained for the good of the nation.

The absence of a distributed demographic and social background data of program participants likely obstructs the evaluation and participation rate based on social class. The majority of the attendance is seemingly shared by students from affluent families. The program requires English language fluency, which less wealthy families cannot afford in the preparation courses. For instance, Holloway et al. (2012) revealed that Bolashak scholarship holders studying in UK were of middle and upper middle income class who can afford the payment overseas or secure scholarship by estate properties.

Furthermore, the returnee rate has seemingly been the opposite of the annual outbound increase (3,000, which is 1% of total student population). This figure means that 5% to 15% have not returned (Daly, 2008). JSC Bolashak reported that 25 students graduated in 2005, 1286 in 2010, and only 928 in 2012. However, an official data regarding graduates as returnees was not presented. Moreover, 300 students were eliminated from the program because of accumulated debt amounting to 323 million tenge, which was payable to the government (Nurkz, 2013). This kind of demand subsidy policy disturbs the social living of the middle class income. The program still lacks the assessment tool in candidate selection and its efficiency in the light of building an innovation-driven economy.

Since the promulgation of the new regulation to eliminate undergraduate degrees for the reason that it was "undirected," the shift to postgraduate studies and visiting scholars is efficiently bringing scholarly outcomes. In a given period of six months to one year, visiting

scholars fail to absorb the language and local knowledge in the host country. Pre-departure preparations should perhaps be arranged.

One of the program requirements is the refund program loan to the government by working in the country for five years. About 55% of returnees work in private companies, 4% in international organizations, and 20% in national companies, and the rest are with the government (JSC, 2013). While more than half the graduates invest their knowledge in private and international organizations, domestic higher education and science institutions lack skilful scholars. Despite the government efforts, the job placement of graduates in rural areas failed because these graduates prefer high salary job offers that represent the potential elite class.

Discussion and implications

To some extent, outbound mobility has benefits in terms of literacy and bilingualism. In the UNESCO parlance, linguistic priority assists the building of a knowledge-based society. One of the main priorities of this state-directed policy is the "Strategic Plan for the Development of Kazakhstan in 2011 to 2020," which covers academic mobility and internationalization. The plan highlights three main initiatives: (a) the government-funded Bolashak Scholarship that supports top students for degree-seeking study abroad; (b) Kazakhstan's entry into Europe's Bologna Process; and (c) the establishment of a world-class university, Nazarbayev University, that opened in 2010. The Bolashak Scholarship, Bologna Process, and Nazarbayev University form a structured paradigm that directs financial resources toward elite students.

A general account of reform was presented, which enabled Kazakhstan as a developing country in Central Asia in terms of post colonization, neoliberalism, mini Bologna, and elimination of Soviet context changes to compromise the disproportionate presence of contradictions in implementation. The overall socio-cultural, economic, and political structural changes were substantially needed after the collapse of the Union. The process faced financial constraints in investment in education because of the targeted economic stabilization that was crucial for further development. The term Post-Soviet Kazakhstan is rather outdated, and Soviet legacy is no longer existing but overshadowed by the patterns of developed countries, particularly toward Western periphery and dependency. Although strategy implementation envisions sustainable development as integration of Bologna Process into "Bolashak" program, services are by choice in the development reform continuum. Educational legacy hegemony existed in the beginning, but Central Asian countries have chosen their own paths. Perhaps Kazakhstan is the most successful "open economy" for 20 years in that region, which should be understood as an attempt to pursue all-around knowledge about the globalized world and to create its own space in that world. For instance, Central Asian students after sub-Saharan Africa have the highest outbound mobililty ratio in the world, which is about six for every 100 tertiary students who will study overseas. The share of Kazakhstan is the highest with overall 37 272.78 outbound students in 2011 and 46 752.5 in 2008 (World Bank, 2014). By contrast, only two for every 100 students from East Asia and the Pacific study outside their home countries (UNESCO, 2012). The Kazakh state is different from other East Asian countries because it constantly enlarges international education to enable participants to demonstrate academic performance (Holloway et al., 2012).

Academic mobility through the "Bolashak" program embodies more economic and political significance in the light of globalization and in the context of the country's geographical and

geopolitical space. Moreover, the progressive changes in the last 20 decades are attributed to the successful embodiment of multi actors and institutions and multidirectional flow of ideas in the future world order (Silova, 2010).

However, it questions the appropriateness of the implementation of the Bologna Process by applying the knowledge brought by scholars from the "Bolashak" program into the national system. Further inquiries should not be on transformation or commitment. The country should rather focus on the needed effectiveness of commitments based on what the country is going to face. In this context, the number of PhD and masters students should increase because of the low level of scientific reproduction and the large number of aging scholars (average age of 55 of *kandidat nauk*). The potential basis of science should replace the old academic degree of *kandidat nauk* by PhD scholars. The purposes of the "Strategic Plan for the Development of Kazakhstan in 2011 to 2020" project the formation of an intellectual nation and build industrial and innovative country by urgently the training young scientists. However, the initial stages of the program were publicly criticized for its transparency. The program still lacks the comprehensive assessment tool for selection, efficiency, and effects.

The start of the program established a short-term solution for academic training in need of reconstruction after independence, which was perceived as lacking in vision and strategic plan. However, since the adoption of a strategy in academic mobility development in 2011, the program currently oversees the intentions of long-term performance. Moreover, the graduate Bolashak young scholars and researchers should work with domestic higher education institutions as job provisions and career prospects of returnees. This approach will enable local educational institutions to improve their intellectual capacity to upgrade the quality of the higher education. Thus, this program should serve as a contributor to national science, which is different from training managers for private and government businesses, national organizations, or elite groups.

Conclusion

From the Soviet Union to the modernization of state, the development of academic mobility, policies, and programs in Kazakhstan underwent a fluctuating process. The impact of great academic loss in the past and during globalization forces the state to seek coherent policy for action. This approach resulted in the transformation from old legacy structure to industrialized democracy, a path through several stages of reforms since 1990. It challenged the changes of the Soviet Union structures to the structures appropriate for current industrialized democracy. The overall policy direction of Kazakhstan demonstrates marketization, which imposes on national characteristics. The approach for an innovation-driven economy implies an adjustment to the Bologna Process and direct state support to outbound academic mobility, involving stakeholders necessary in an innovative society. Policy and program purposes of nation building and national identity should meet local labor market demand advancing higher education academic standards and quality, competitiveness, and international recognition of higher education institutions. Thus, the government recently adopted an academic mobility development strategy that should work in line with the strategy for long term development. Policy outcome can be employed in initiating stakeholders from different fields to increase the number of scholarships and enlarge the international cooperation. The scholarship funding, which is key to educating the brightest students at the graduate level, should be improved while strengthening the selection tool to ensure the formation of skillful cadre of professionals. Equity, higher education institution integration into internationalization process, and concrete measures should be considered to encourage the return of researchers, public benefits, and costs. The Bolashak Program will continue to serve middle and upper income backgrounds as

the government began focusing on post-graduate program levels. Thus, only successful undergraduates who have attained a degree from high quality higher education institutions will benefit. Therefore, the program and policy will not stimulate socio-cultural tension in society. To avoid these potential challenges and demands in building human capital, a strong domestic social and educational infrastructure is needed.

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Review of Comparative Studies on Faculty Development in China in the Past Decade Based on the Collection of Chinese Journal Full-text Database

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Abstract

Faculty Development has continued to increasing attention since the 1960s. The author analysed 49 articles pertaining to foreign faculty development from the Chinese Journal Full-text Database between 2003 and 2013 and determined that comparative studies on faculty development in China over the past 10 years indicated an upward trend in a curve. Most studies focused on several developed countries, particularly on the US and utilised a historical perspective rather than from the angles of theory application, policy analysis and concept discrimination. The institutions were more concentrated in research universities than polytechnic and teaching universities. Despite the large number of researchers, most research results were obtained from few key universities. In this study, the author attempted to determine the reasons for the status of research and provided several suggestions to promote studies on faculty development in China.

Keywords: Faculty Development, Comparative Studies, Review

Introduction

The faculty is the primary resource of university development, and is one of the most important protection factors to ensure quality higher education. The government and universities place considerable focus on faculty development research (Liu, 2007). Faculty development is the inevitable product of the higher education development process, with studies on this topic tracing back to the 1960s. In the US, the University of Michigan and Michigan State University established the Faculty Development Centre in 1961. This institution is one of the earliest established centres and has been in operation for almost half a century.

Faculty development in Mainland China has experienced a developing process of learning. China utilized the teacher training concept before using the faculty development concept. These two concepts are closely related but have several differences. Faculty development includes teacher training and is more focused on the subjectivity of a teacher. It consists of personal, professional, teaching and organisational development. In 2012, the Ministry of Education of China approved the establishment of 30 national faculty development centres to serve as demonstration centres. This policy aims to strengthen the development of university teachers, improve education quality and guide universities in establishing faculty centres with school characteristics. This step has resulted in a larger number of higher education scholars in Mainland China paying closer attention to faculty development from a comparative perspective and gaining inspiration from this perspective.

Faculty development system research in China began in the 1990s. This paper aims to understand the status of development of comparative studies on faculty development in Mainland China (excluding Hong Kong, Macau and Taiwan) as well as the research status of comparative studies on faculty development by Mainland Chinese scholars in the past decade. The authors conducted an analysis of papers related to comparative studies on faculty development from the Chinese Journal Full-text Database over the past ten years. The related papers were chosen primarily from four aspects, namely, date of publication, country and regional distribution, research perspective and object and research groups. The authors then attempted to determine the primary features and the possible reasons that led to the basic situation and provide a reference for studies on faculty development in China based on the analysis.

Basic Situation of Comparative Studies on Faculty Development in China in the Past Decade

Using the research objectives as a guide, the authors purposefully downloaded articles related to comparative studies on faculty development from the Chinese Journal Full-text Database covering the period from 2003 to October 2013 and conducted an in-depth analysis of the articles obtained. The database is currently the largest continuously and dynamically updated database in the world and includes the full text from 6,100 kinds of core and professional journals published in China. The database is widely used in the Chinese academic society. The purpose of the current study is to form a better understanding of the development status of comparative studies on faculty development in Mainland China as well as the research status of comparative studies on faculty development by Mainland Chinese scholars; thus, data collection from this database is representative. However, selecting this database limits the scope of the present study because it does not cover articles published in international academic journals. Thus, the validity of the current study is limited to the Chinese Journal Full-text Database category.

Data Collection

The data collection process is as follows. First, "faculty development" was used as the theme and time was limited to "from 2003 to 2013" to enable fuzzy matching with the Chinese Journal Full-text Database. A total of 149 articles were utilised. The current study is based on a comparative perspective and thus, the authors further excluded the articles that do not meet the requirements. The articles included were those that exclusively discussed the development status of faculty development in China and those that only focused on the theoretical description that do not involve foreign countries or regions. Finally, 49 articles related to comparative studies on faculty development were obtained and served as object of the current study.

Published Time Distribution

The number of related articles for the past ten years indicated an upward trend in a curve (Figure 1). No related article was published in 2003, whereas nine were published in 2013, indicating a total growth rate of 100%. In 2011, 11 related articles were published. Although the number of articles that appeared had a slight fluctuation in certain years—for instance, only one related article was published in 2009—it did not affect the overall trend.
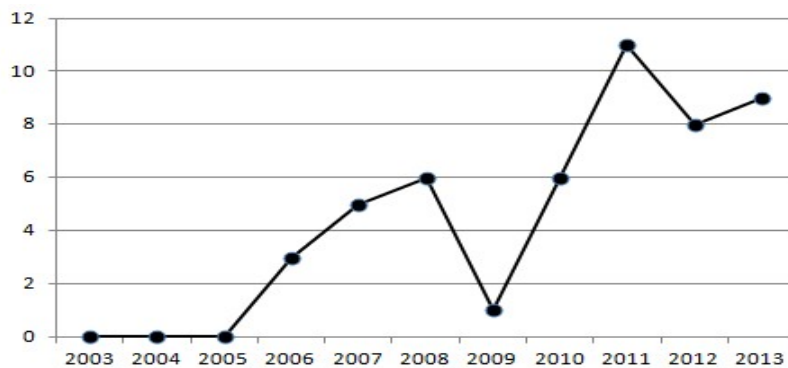
Figure 1 Number of articles related to Comparative Studies on Faculty Development (2003–2013)

Country and Regional Distribution

The collected papers indicate that Chinese scholars conducted numerous comparative studies on faculty development over various countries and regions for the past ten years. Table 1 shows the countries and regions included.

Table 1 *Countries and Regions Involved in 49 Articles (2003–2013)*

Country	Number of Articles	Country and Region	Number of Articles	Remarks
US	23	Japan	5	Four papers without a designated country or region; classified as foreign faculty development research
Australia	3	UK	8	
Poland	1	Singapore	1	
Finland	1	Taiwan	1	
Netherlands	1	Total	49	

Four foreign faculty development research articles were without a designated country or region. The statistics indicated that the other 45 articles covered nine countries and regions. A total of 23 articles focused on several developed countries, particularly the US, which accounted for 46.94% of the total. Finland, Poland, Taiwan, Singapore and the Netherlands were the focus of only one article each.

Research Perspective and Object

The authors divided the 49 articles into two angles: one from the macro perspective and the other on the case study perspective. The authors subdivided the macro perspective into four aspects, namely, theory application, policy analysis, concept discrimination and historical combing. The case study perspective was subdivided into three categories, including, research university, polytechnic university and teaching university. The 49 articles were sorted based on the aforementioned two angles, as well as on seven refinement points. Table 2 shows the statistical results.

Table 2 *Perspective and Object Classification in 49 Articles (2003–2013)*

Research Perspective		number of articles	proportion of papers in that angle%	proportion of total papers%	Total number	Total proportion%
macro	theory application	4	14.81%	8.16%	27	55.10%

perspective	policy analysis	8	29.63%	16.33%			
	concept discrimination	3	11.11%	6.12%			
	historical combing	12	44.44%	24.49%			
Case study object	Research Universities	19	86.36%	38.78%			
	Polytechnic University	2	9.09%	4.08%	22	44.90%	
	Teaching University	1	4.55%	2.04%			

Table 2 shows a total of 27 articles from the macro perspective and a total of 22 articles for the case study perspective, accounting for 55.10% and 44.90% of the total number of studies included, respectively. The percentage difference between the two angles is 10.20%, but the difference in the number of articles between the two angles was not too huge. From the macro perspective, the number of the articles from the historical combing aspect accounted for the largest proportion at 44.44%. In the case study object, the proportion of the articles that focused on research university was 86.36%.

Research Units

A number of Chinese research units have conducted faculty development studies due to the increasing attention it has received from academics and scholars in the 1990s. The author sorted the 49 papers based on the distribution of research units. In sorting the articles, the author only considered the research unit of the first author of an article with two or more authors as a statistic. Table 3 shows the statistical results of the distribution of research units.

Table 3 *Distribution of Research Units in 49 Articles (2003–2013)*

Research Unit	Number of Articles	Research Unit	Number of Articles	Research Unit	Number of Articles	Research Unit	Number of Articles
Xiamen University	10	Beijing Normal University	7	Shanghai Normal University	4	Henan University	3
East China Normal University	2	Beijing Technology and Business University	2	Ocean University of China	2	Peking University	1
Hehai University	1	Tongkou Normal College	1	Jishou University	1	Beihua University	1
Chongqing Technology and Business University	1	Hunan Normal University	1	Henan Institute of Engineering	1	Higher Education Press	1
Yunnan University	1	Hiroshima University	1	Kyoto University	1	Tibet University for Nationalities	1

Hebei University	1	Jiangxi Normal University	1	Zhejiang Normal University	1	Chinese Academy of Medical Sciences	1
National Academy of Education Administration	1	Beijing Institute of Technology	1			Total	49

Table 3 shows that for the past ten years, scholars from different research units in China conducted comparative studies on faculty development. A total of 26 units published related articles. From the number of articles published, the top two units were Xiamen University and Beijing Normal University. Xiamen University published ten related articles from 2003 to 2013, whereas Beijing Normal University published seven articles. The number of articles published by these two units accounted for 34.69% of the total number of published articles. Other research units such as Peking University published only one related article.

All seven articles published by Beijing Normal University focused on the US, whereas those published by Xiamen University involved various countries, including Poland, Finland, the Netherlands, Singapore and the US. The comparative studies on faculty development conducted by Xiamen University involved a wider range of countries and regions.

Main Features and Reason Analysis
Analysis of the 49 articles related to the comparative studies on faculty development downloaded from the Chinese Academic Journal Full-text Database (2003–2013) based on time of publication, country and regional distribution, research perspective and object and research unit revealed the main features of comparative studies on faculty development in China in the past ten years.

The number of articles indicated an upward yet small trend in a curve
The number of articles related to comparative studies on faculty development increased from zero in 2003–2005 to three articles in 2006. The number of articles after 2006 displayed a curve increment. Eleven articles were published in 2011, the year with the most number of published articles. However, the number of articles was still relatively small. The main reasons for this situation may be as follows.

First, the college enrolment policy in China caused a sharp increase in the number of college students in the late 1990s, resulting in issues in terms of the quality of higher education. The construction of university faculty was placed on the agenda to ensure the quality of higher education and for faculty development to receive increased attention (Gao & Wang, 2012).

Second, the field of faculty development studies gradually attracted the attention of scholars and academics from the 1990s, resulting in several achievements.

Third, the university faculty is a core element in the development of the university and thus, the development level of the university faculty decides the quality of the university and even the entire higher education. Hence, to address the need for higher education development, faculty development gradually became one of the most popular issues in education reform and research worldwide, with the related achievements increasing yearly (Wu, 2011).

Limited range of country and regional distribution
The number of countries and regions featured in articles on comparative studies on faculty development was small, with only nine articles that focused mainly on the US. Articles focused on the US accounted for 46.94% of the total number of studies. By contrast, only one article featured both Poland and the Netherlands. Most studies on faculty development are concentrated on the US, and the range of country and regional distribution involved was relatively limited. Chinese scholars generally focused on several developed countries and placed limited focus on other developing countries. The possible reasons for the limited number of countries and regions focused on may be as follows.

First, as a developing country, a widespread tendency to have a West-centred consciousness permeates the process of higher education development in China. As such, China has a strong dependence on developed countries. As a developed country, the US is in a dominant position in research on international higher education. Thus, scholars in China may consciously or unconsciously believe its development model has universal value, and they could be convinced that by learning from the experiences and lessons of the West through these studies, they could gain insights in promoting faculty development in China (Wu & Xiong, 2011).

As the achievements of faculty development studies were limited compared with those of other research areas that have had long periods of accumulation, faculty development researchers have limited amount of research data to use as reference. This situation results in an increase in the difficulty in gathering data when conducting studies. Most scholars could not easily conduct extensive studies in a country or region without ample research data (Wu & Xiong, 2011).

The concept of faculty development originated in the US, which has formed a relatively mature faculty development model and strategy; the successful experiences and practice of the US have attracted Chinese scholars, who hope they could learn from these successes to contribute to faculty development in China (Gao & Wang, 2012).

Macro perspective was given priority to with historical combing
From 2003 to 2013, 27 articles from the macro perspective were published with 12 articles focusing on historical combing, which accounted for 44.44% of the total number of articles. The relatively high number of articles could be due to the following reasons.

First, as faculty development has continued to gain increasing attention since the 1960s and considering that most people have limited knowledge of this area, charting the development course and status of faculty development through historical combing could contribute to gaining an intuitive understanding of faculty development and development context.

Second, faculty development is currently in a rapid development period, and research in this area has been dynamically developing and improving. Historical combing and analysis of the process and trends of faculty development could provide excellent reference and direction for further development based on previous experiences.

Research universities became the absolute protagonist of case study
From 2003 to 2013, the number of articles from the case study perspective was 22. The number of articles focusing on research universities was 19, accounting for 86.36% of the total. Research universities became the absolute protagonist of the case study perspective because of the following reasons.

First, most leading universities in the world are research universities. Research universities are more visible, attract greater attention, and exert greater influence than general universities. Thus, faculty development studies that focus on research universities would have higher research value. The current study could obtain high-value references and inspiration from such studies.

Second, research data involving research universities are more extensive and easier to obtain; therefore, conducting research on this topic would be relatively easier. Research universities are the fountainhead of national innovation as they provide information support for national innovation. In fact, these universities are the subject of national knowledge innovation. Cultivating innovative talents is the key task of talent cultivation in general; independent innovation capability is the key point that decides the national competitiveness of a country (Lv, 2005).

Multiple research units: results were mainly from key universities

Different research institutes and units focused on faculty development studies. A total of 26 research units published related research articles. However, from the quantitative point of view, the results were mainly from two key universities in China, namely, Xiamen University and Beijing Normal University. The possible reasons for these two universities being more prolific than others could be as follows.

First, Xiamen University and Beijing Normal University are key universities directly under the management of the Ministry of Education. They are high-level universities of key construction under the national "211 Project" and "985 Project." As national key universities, both universities must actively follow current and hot research trends to maintain their cutting-edge academic research programs. Faculty development has received attention from Chinese scholars and academics since the 1990s, which then became a research hot spot in higher education. The two universities followed the trend of research on faculty development in a timely manner to maintain their leading positions.

Second, both Xiamen University and Beijing Normal University have powerful, high-level comparative education research teams. These teams have a long history on comparative education research, strong research capabilities and a solid research foundation. Based on the aforementioned superiority of comparative education research, the achievements and contributions of these two universities to comparative studies on faculty development have been extremely prominent.

Future Prospects of Faculty Development Studies in China

After analysing the 49 articles on comparative studies on faculty development downloaded from the Chinese Academic Journal Full-text Database (2003–2013), the authors propose the following suggestions as future prospects of faculty development research in China.

Strengthen faculty development research

The results of the statistical analysis indicated that faculty development has long been considered in the research vision of higher education researchers and will remain one of the hot button topics of higher education research (Gao & Wang, 2012). In the era of the knowledge economy, the development of society depends on the quantity and quality of talents cultivated in higher education. The quality of higher education depends largely on the quality of university faculty, and imposes certain requirements on university faculty (Pan,

2007). The quality of the university faculty is also important in ensuring the quality of higher education, talent cultivation and social development and thus, researchers should increase the attention given to faculty development research, conduct more extensive and deeper studies, provide good references and profound revelations and further promote faculty development in China.

Expand the Country and Regional Distribution

The results of the statistical analysis presented in the previous section showed that only nine countries and regions were involved in faculty development studies in China for the past ten years. These studies primarily focused on two developed countries, namely, the US and the United Kingdom. Other developed countries involved were Finland, the Netherlands and Singapore. The faculty development in each country or region has specific development characteristics because of the different national conditions and development history of each country. Moreover, each country or region has reliable references related to it. Studying the faculty development in different countries and regions and determining which features are suitable for the faculty development in China based on comparative analysis is an excellent method. Investigating the education system in a developed country would admittedly provide certain advanced experiences. Moreover, learning of the experiences and lessons encountered during the development process of these systems and understanding their current situation and problems will further contribute to obtaining good references that could give rise to thought-provoking views on certain aspects (Pan, 2010). China is still a developing country, and the experiences and revelations from developed countries could provide several advantages. However, disparity in the overall environment will have an effect on the choice of faculty development path and form. Therefore, the experience of developed countries will be particularly valuable, and faculty development studies in developing countries could serve as an essential link for promoting faculty development in China.

Integrate research perspectives

On the macro perspective, the comparative studies of Chinese scholars on faculty development focused primarily on historical combing, while articles on theory application, policy analysis and concept discrimination were relatively limited. Faculty development should be historically comprehensive, have contemporary perspective and should be viewed from multiple dimensions. Further progress on faculty development depends on extensive studies from a multiple-angle view. A solid theoretical foundation and direction based on such studies should be provided. Theory application research plays a significant role in the direction of faculty development, and provides the correct path and direction for its development. Analysing faculty development policies of different countries, regions, and even universities can provide ample reference and experience for the policy-making aspect of faculty development in China. Concept discrimination is an essential part of any area of research and only through a clear understanding of the concepts in the areas involved can confusion and misunderstanding be avoided when conducting further research. Thus, concept discrimination is the basis of such a research.

Enrich the Research Object

Statistical analysis indicated that almost all studies in the past decade have concentrated on research universities. Although research universities are the highest-level talent training centres and the latest cutting-edge research centres, these universities account for a small proportion of the total number of Chinese universities. Most universities in China are non-research universities. Admittedly, faculty development in research universities has its reference significance. However, the experiences of non-research universities, which have a

similar type of school and development situations as those in research universities, could be more valuable and have more meaningful reference significance. Therefore, in addition to conducting studies on research universities, faculty development studies should also focus on other types of universities to ensure more comprehensive studies that could provide better experiences and references for non-research universities.

Faculty development studies in different types of universities should attach great importance to the choice of research dimensions and conduct both upward and downward research expansion. Various types of universities should understand and gain familiarity with the national environment where the research object belongs, and focus on policy and financial support, as well as other elements that have significant effects on faculty development. With the further progress of faculty development, future studies should focus on micro-level research, such as teaching and professional development, among others. Thus, more meticulous and intuitive references for faculty development must be provided in different universities.

Strengthen the cooperation and communication, follow-up the dynamics

With the establishment of more faculty development centres and the deepening of research on faculty development, a comparative perspective to faculty development will generate more attention. Various research groups and teams should strengthen communication links, exchange experiences and results actively and learn from one another. These groups should also participate actively in relevant international and domestic academic conferences, as well as follow closely the latest dynamics and achievements in faculty development studies. Various research institutes should strengthen cooperation, integrate research strengths, achieve the complementary of advantages and disadvantages and promote the integrity and comprehensiveness of comparative studies on faculty development.

Universities that have established faculty development centres and units that have achieved certain research progress should utilise such advancements to help popularise the research point, which is becoming a growing concern. Moreover, these universities should absorb more research units and groups to become faculty development research members. These universities should also expand the influence of their outstanding research achievement actively, thereby forming a positive environment for faculty development comparative studies and deepen understanding of faculty development.

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Structural Changes in Chinese Higher Education System: Public and Private HE Mix

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Abstract
Considering that China has the largest enrollment, the paper probes into the historical changes and status quo of public and private mix of higher education to detect its characteristics in the special political and economic backgrounds. From the study, we find that public sector dominates Chinese higher education system and the structural changes of HE are mainly forced by the government's policies, which leads to the isolation between HE and society. China should give the rein to the market to meet the demands of the society more effectively.

Keywords: Structural changes, Higher education, Public and private, China

1. Research Purposes

Since the World War II, considerable expansion of higher education has firstly taken place in the USA and then Europe. A long-term trend of expansion of higher education is – whereby extent of homogeneity or diversity is constantly on the move through overall structure changes, as well as through the repositioning of the individual institutions on the overall 'map' of higher education (Teichler, 2006). One of the clearest trends to emerge in the world is the growth of many private/non-government providers of higher education in response to the strong demand for access and the need for a greater diversity (Bjarnason, 2009). Structures of higher education systems have been among the issues of higher education policy in the economically advanced countries of the world for more than four decades (OECD, 1973). The same trend in higher education has taken on a new look in most developing countries at the turn of the 21st century.

Accompanied with the large-scale expansion, the structures of these higher education systems need more active or passive adjustment not only to the expansion, but also to the social, economic, and political environment in which they are operating. The national systems of higher education vary substantially according to the extent of diversity and according to the role dimension of diversity play. Even though many western systems have been fully analyzed, Chinese higher education (HE) system is seldom mentioned in the English world. China has become the country with the largest enrollment of HE in the world since 2005. What has happened in Chinese higher education system? How about its structural changes? Therefore, it is interesting to take China as an example to explore the structural changes in Chinese HE system in its special political economical environments.

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2. Theoretical framework

Most studies on the structure refer explicitly to institutions or programs of higher education as key carriers of homogeneity and diversity. The Carnegie Classification provides some popular frameworks to recognize and describe the institutional diversity in U.S. higher education for the past several decades. In spite of several dimensions it mentioned, its basic classification is: associate's Colleges, doctorate-granting universities, master's colleges and universities, baccalaureate colleges, special focus institutions, tribal colleges. Also, it includes undergraduate and graduate instructional program classification, enrollment profile classification, etc.

Teichler (2006) identified the formal dimensions of diversity to characterize the structure of higher education system are: (a) the types of institutions and programs (e.g. universities versus Fachhochschulen); and (b) the levels of programs and degrees (e.g. Bachelor, Master and doctoral programs). Also, he disentangled that: (a) the vertical attributes of informal diversity, such as 'quality', 'excellence', 'elite', or 'reputation'; and (b) the horizontal attributes, such as 'profile' of a higher education institution. However, one important aspect of the higher education structure is linked to the dual mix of private versus public institutions. The vertical arrangements of institutions and sectors are of two sorts: high and low placement based on prestige, a hierarchy of sequence; and ranking based on prestige, a hierarchy of status, which is often but not always closely related to the first (Clark, 1983). Bogue (2000) indicated the two sectors American higher education system: (1) public institutions depending upon government support and subject to government regulations; (2) private institutions experiencing both the risk and the freedom of independence.

Funding policies for higher education differ greatly from nation to nation and one of the major debates concerns the private-public mix. Levy identified five principal patterns emerge from the following variables: whether the system is comprised of just one sector or dual private-public sectors, the size of each sector (if there are dual sectors), the contribution of private funds to each sector, and the contribution of public funds to each sector. Beyond their defining empirical characteristics, each pattern is based on distinctive historical and normative rationales. Each therefore faces different policy choices within the more general private-public debate, although certain basic value questions commonly arise (Levy, 1982). The governmental revenues are increasingly supplemented by non-governmental revenues by shifting the burden of higher educational costs from the general taxpayer or general citizen to parents and students especially—but also to philanthropists and to purchasers of university services (Johnstone, 1998).

Generally speaking, private institutions are operated by non-governments, although many receive tax breaks, public student loans and grants. In some nations such as the United States, Korea and Japan have exceptionally large private sectors with relatively great private finance. However, some other countries have few private institutions, such as most other European countries and China. Not only the characteristics of higher education structure of public-private mix but also the financial policies are different between nations. However, the global trend of privatization has deeply influenced Chinese HE system during the last three decades.

3. Research methods

In the study, we use both qualitative research methods and quantitative research methods to analyze the historical changes and characteristics of public and private mix in Chinese higher education system. Firstly, we will trace the historical changes of public and private mix in Chinese higher education system to learn where the current structure comes from, how it has changed and what it will be like in the future. Secondly, we will detect the number of public and private higher education institutions (HEIs) and their enrollments, which are the indexes to measure the allocation between the two sectors in Chinese higher education system. Thirdly, we will compare the financial resource between public and private sectors, which is an important approach to identify their basic characteristics.

The structure of public and private higher education structure also involves the regulation of the government and the market mechanism. In a country with less regulation, higher education institutions are inclined to compete equally in a free market environment. However, private institutions may be heavily regulated by the government. Therefore, we will finally discuss the mechanism of structural changes in Chinese higher education system and what is appropriate to reform. We get the data mainly from the official statistics in the two countries (China Statistical Yearbook, Chinese Education Statistical Yearbook). Some other data are from the documents, reports and papers from other relevant studies.

4. Data analysis of Chinese higher education structure

4.1 Historical overview

China has a long history of public-private mix of higher education. Traditionally, public HEIs were operated by the government and the teachers were usually officials in China; private institutions were supported by learned scholars to freely lecture their opinions in the common people and organize their own educational activities in the society. Early in BC 500, Confucius was great private providers of higher education in the history. Private academies were called Shu-Yuan, especially flourishing during Tang and Song Dynasty. Public institutions selected students by the national examination to train governments' officials. The imperial examination system and the academies were key elements of ancient Chinese higher learning (Hayhoe, 1996).

Modern higher education, originated from China's traditional model and influenced by western models, has developed in China in the changing political and economic environments since the late Qing Dynasty (Song & Han, 2009). When the People's Republic of China was founded in 1949, there were totally 223 colleges and universities in China, including 154 public institutions (89 institutions supported by the national government and 65 by provincial level) and 93 private institutions (27 private universities, 41 private professional colleges and 25 private junior colleges). From the hierarchical perspective, there were 66 universities, 86 professional colleges, and 71 junior colleges. (See table 1)

Table1 *The structure of Chinese higher education system in 1949*

		North China	North east	East China	South central	South west	North west	total
university	national	7	7	13	6	4	2	39
	provincial							
	private	5		12	7	3		27
Professional	national	2	5	6	3	4	4	24

college	provincial	4		8	7	1	1	21
	private	5		15	2	19		41
Junior college	national	2	5	10		4	1	22
	provincial	1	1	15	4	3		24
	private			17	4	4		25
total	total	26	18	96	33	42	8	223

Note. Data from Journal of Henan University (Han & Song, 2014), p. 126.

At the beginning of new China, the central government decides to reorganize the structure of higher education under the influence of Soviet model in the 1950s. All private institutions were changed into public ones; most comprehensive universities were divided into different professional colleges. In 1956, there were 229 national and 129 provincial institutions in China. The adjustment established the basic framework of higher education structure. Till now, we can find the characteristics at that time. During 1958-1960 and 1966-1976, China has experienced the Great Leap Forward and the Great Cultural Revolution, which made great damage to the development of higher education in China. Till the Open policy in 1978, great changes have taken place in China not only in the economic model but also the higher education system under the influence of privatization of higher education.

The national College Entrance Examination came back to normal and 402,000 students were enrolled in 598 public universities and colleges in 1978. The enrollment ratio was 1.55% in 1978. The limited provider of public colleges and universities promoted the revival of private higher education after nearly 30 years (1952-1982). After the suspension, the "first" private college was established in 1982 after the founding of New China. Since then, private higher education has gradually developed nationwide to accommodate the rapid expansion in China. These private endeavours have definitely changed drastically the structure of Chinese higher education system.

4.2 Higher Education Expansion
In China, higher education covers all post-secondary education institutions, including regular higher education institutions that confer degree, adult and other higher education institutions that confer diplomas, not degrees. In the study, we confine the definition of higher education to the regular HEIs that confer degrees and the enrollment covers programs of associate's degree and bachelor's degree.

During 1978-1998, the number of regular higher education institutions gradually increased from 598 to 1022, the enrollment increased from 402,000 to 1,084,000 and the enrollment ratio increased from 1.55% to 9.76%. In 1992, the government furthered to encourage the development of private higher education. However, expansion of higher education policy in 1999 leads Chinese higher education into a rapid expansion. In 2002, the enrollment ratio of higher education jumped to 15%, which indicates China has stepped onto the stage of mass higher education.

Different from private institutions, public institutions and research institutions are supported by the central or provincial government. Generally speaking, the national key universities, which mostly are research universities, are supervised by Central Ministries and Agencies. Provincial universities and private colleges are managed by the local departments. No private institutions provide the postgraduate programs in China. Postgraduate programs are almost provided by public universities and independent research institutions. Besides, some famous

public universities establish their dependent colleges funded by the private providers, which belong to another type of private higher education in China.
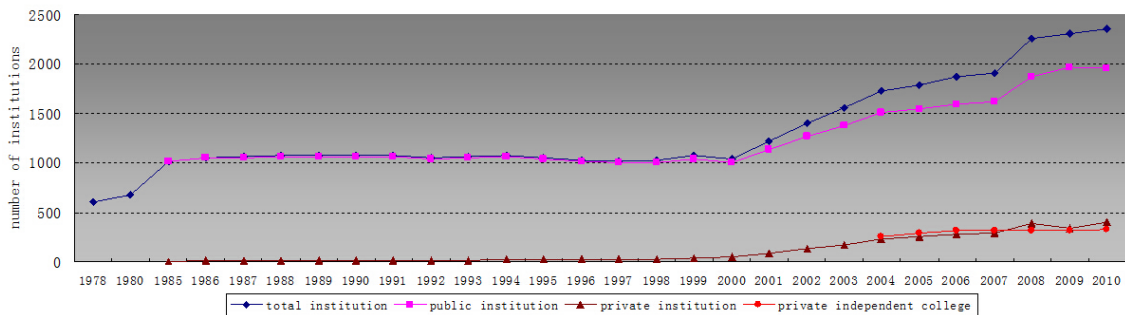

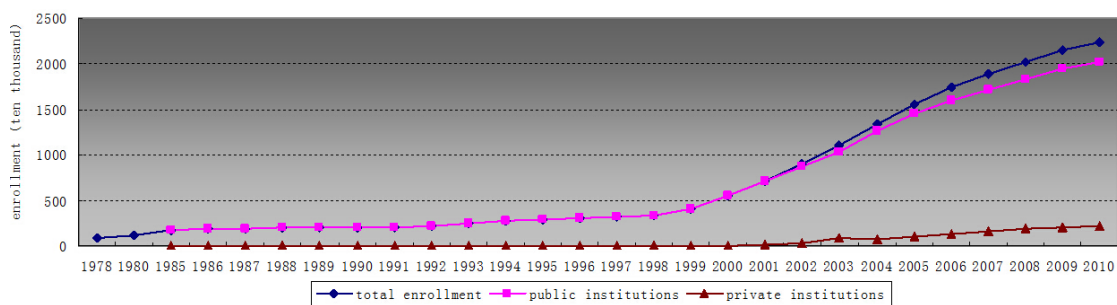Figure 1 Changes of higher education institutions in China.

Figure 2 Changes of higher education enrollments in China.

From the figures above, we can see great increase of regular higher education institutions during 2000-2010. The number of higher education institutions increased gradually during 1978-1991. Then, the number declined a little till 1999 because of the College Combination Wave in the 1990s, which was designed to change highly fragmented colleges into comprehensive universities. However, the enrollment of regular higher education keeps the trend of sustained growth all the way, especially rapidly during 2000-2010. Meanwhile private higher education increased a little more after 2000 than before. The number of private institutions increased rapidly because private higher education was further promoted by the Private Education Promotion Law Implementing Regulations, and then gradually increased since then. Till 2010, though public institutions still account for the majority, private institutions have increasingly played an important role in Chinese higher education system.

Along with the revival of private higher education, China has a diversified higher education system, including public or private universities, 4-year colleges and 2-year colleges. Generally speaking, the national key universities are supervised by Central Ministries and Agencies, which are mostly research universities. Provincial universities and private colleges are managed by the local departments. No private institutions provide the postgraduate programs in China. Postgraduate programs are provided by public universities and independent research institutions. In 2010, China had 2358 higher education institutions, including 351 private institutions and 323 private independent colleges. The total enrollment ratio of higher education in China increased to 26.5%. The enrollment in private institutions is 6,618,000, which accounts for 21.36% of the total enrollment. (See table2)

Table 2 *The Number and Types of Higher Education Institutions in 2010*

	Total	Central Ministries and Agencies			Local Departments			Private
		Sub Total	Ministry of Education	Other Ministries	Sub Total	Department of Education	Departments of Non Education	
Regular Institutions of HE	2358	111	73	38	1573	854	719	
Comprehensive Universities	1112	108	73	35	633	542	91	371
4-year specialized Colleges	133	3		3	125	57	68	7
2-year Junior Colleges	1113	2		2	815	255	560	296
Postgraduate Institutions of HE	(797)	374	73	301	423	361	62	
Regular Institutions of HE	(481)	98	73	25	383	360	23	
Research Institutions	(316)	276		276	40	1	39	
Adult Institutions	365	14	1	13	349	128	221	2
Other Private	(836)							(836)

Note. 1. Data in "()" don't count to number of schools.

2. Other private institutions refer to non-degree-granting private institutions.

Data from *Educational Statistics Yearbook of China 2010* (MOE, 2010).

4.3 Financial resources

The finance of higher education has changed a lot during the past few decades. The expenditure of higher education was totally the responsibilities of the government and tuitions were never charged by the public institutions in New China. However, tuitions were charged by some public institutions as an experiment in 1989 and then spread nationwide in 1994. Since then, the non-government funds have diversified the financial sources of Chinese higher education institutions. We can see the continual changes in the portions of appreciations from the government, tuitions from the students and other financial sources. (See figure3)

Since 1978, China has reformed the public ownership economy into a more flexible system supplemented by market economy system. Under the background, a series of higher education

reforms are going on. Along with rapid expansion, the percentage of tuitions rises to 32.38% in 2004 and that of appropriations reduces from 95.7% to 42.7% during 1978-2006. This change in China definitely confirms to the international trend in 1990s. The government draws much public criticism for rapid increase of tuitions and decrease of appropriations. Till 2010, the percentage of appropriations rebounds to 52.78% and that of tuitions decreases to 30.49%.

Figure3. Financial Sources of Regular Higher Education Institutes in China
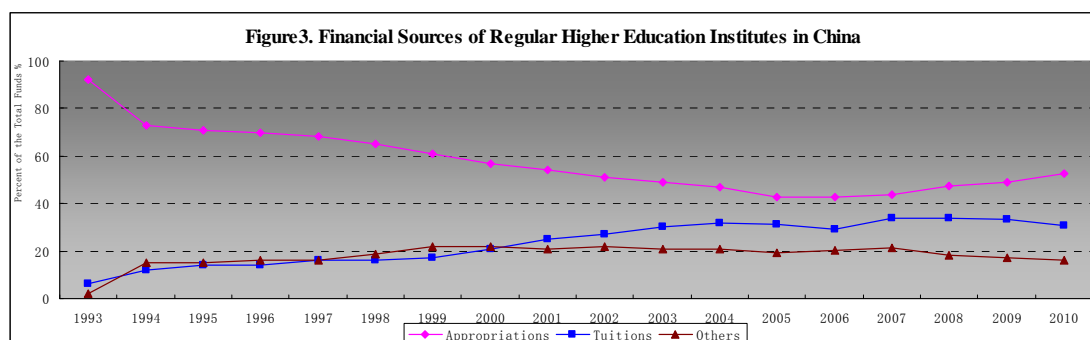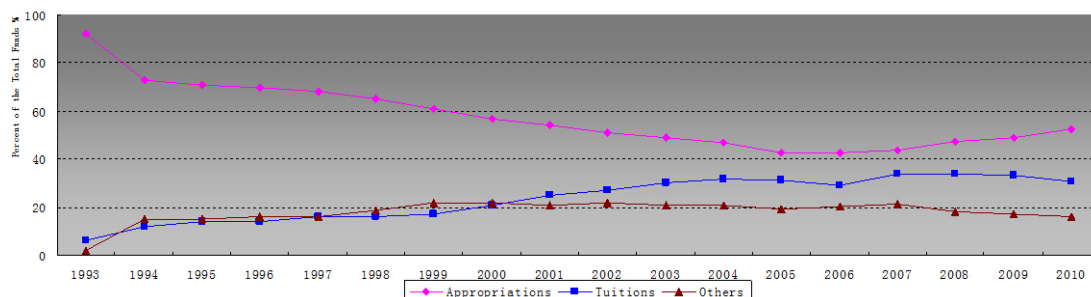
Since private sectors have played an important role in the provision of higher education in China, there exist great financial differences between public and private institutions. Appropriations, tuitions and donations are three main financial sources of regular higher education and donations are comparatively the smallest among them. The ratio of appropriations to tuitions is 2.72:1 in public 4-year institutions and the ratio is 1.44:1 in public 2-year institutions; the ratio of private 4-year institutions is 0.04:1 and the ratio is 0.11:1 in private 2-year institutions of regular higher education. We can see the differences of finance between public and private institutions. The ratio of appropriations in 4-year public institutions was higher than that of 2-year public institutions because of more research appropriations. On the contrary, the ratio of appropriations in 2-year private institutions is higher than that of 4-year private institutions that indicates the government provides much more support to promote private junior colleges with vocational and technological courses. (See table3)

Table 3 *The Revenue of Public and Private Higher Education in 2010*

		Appropriations		Tuitions		Donations		Total Revenue	
		4-year	2-year	4-year	2-year	4-year	2-year	4-year	2-year
Public institut ion	Total (1000 RMB)	239478100	48028035	88023535	33287891	2579237	261550	402799044	89974085
	Percent	59.45	53.38	21.85	37	0.64	0.29	100	100

	age%								
	Per capita (1000 RMB)	24.32	6.23	8.94	4.32	0.26	0.03	40.91	11.68
Private institution	total (1000 RMB)	1539583	1134538	35993371	10302762	91158	31620	41838532	15174828
	Percentage%	3.68	7.48	86.03	67.89	0.21	0.21	100	100
	Per capita (1000 RMB)	0.55	0.58	12.81	5.26	0.03	0.02	14.89	7.75

Note. Data from *Educational Statistics Yearbook of China 2010* (MOE, 2010)

According to the total enrollment of public and private institutions, we get the results of per capita appropriations and tuitions of regular higher education. The tuitions of private institutions were obviously higher than that of public institutions and meanwhile appropriations in private institutions were much lower than that in public institutions. And the total revenue per capita in private institutions was far below than in public institutions, which indicates private higher education is faced with a shortage of financial resources. Those private institutions are newly set up and have weak infrastructures, relatively unstable full-time academic faculty, and they focus on teaching and operate mainly for profit. They generally matriculate students who are not qualified for admission to public universities and colleges. Tuition is the principal financial source to support the operation of private institutions.

5. Discussion

Based on data analysis, we find that public HE accounts for the majority in Chinese higher education system, both in institution and its enrollment. They are almost funded by the appropriations from the government. Comparatively, private higher education is the supplement to public HE, but also developing fast. From an international perspective, the privatization of higher education has influenced many countries, certainly including China in the past decades. Private HE are mostly dependent on the tuitions, and the government provides few subsidies to them.

From an international perspective, there are three patterns about the relationship between institutional changes and expansion of higher education: (1) institutional changes behind expansion; (2) institutional changes prior to expansion, such as establishment of American Land-Grant Colleges lead to expansion after World War Two; (3) institutional changes are accompanied with expansion, just like the expansion policy and the institutional changes of higher education are the same time in China (Zhang, 2009). To some extent, we even say that the institutional changes lagged behind expansion of higher education in China during the last decades.

During the development of higher education, there are three forces including the government, market and the institutions, which influence and regulate the adjustments and changes of higher education structure. Games of interests between different forces promote the replacement of old institutions and the generation of new institutions, which is called institutional evolution. North identified two types of institutional changes: compulsory institution evolution; demand induced institutional change. In the history of higher education, the government dominated the structural changes and institutional evolution by the establishment of HE institutions and promulgation of policies in China. The structural changes are mainly forced by the government, such as the prohibition on private HE in 1950s, the restoration in 1980s and the promotion of private HE since 1990s. Comparatively, American private HEIs were promoted largely by religious revival and demands of society in early 19th century (Han, 2014).

The governments seek to regulate and monitor private providers of higher education because higher education should not be left to the vagaries of market forces (Bjarnason, 2009). In a free market of the US, perhaps it is necessary for the government to regulate and macro-control the structural changes of higher education. However, the case is on the contrary in China. The government traditionally exerts many influences on the development of higher education, especially in a planned economy system, which isolated higher education institutions from the demands of the society. Meanwhile, the rigid regulation from the government leads to the deficiency of academic freedom and sprit of innovation in higher education system. Regulation from the government and the mechanism of free market are two extreme modes. Are regulation and free market contradictory? Perhaps it is not. The important thing is to decide appropriate role of the government to coordinate free market.

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What Does Profession Learning Community Mean in Chinese Schools？A Qualitative Study on Schools of Shanghai

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Abstract

Recent years have witnessed heated discussions on the term of professional learning community (PLC). But the majority of existing studies on PLCs are based on Western contexts; researches on the concept and practice of PLCs in Asian settings are severely lacking. Schools in the contemporary China have a long history of practice in terms of PLCs, including teaching research groups, lesson preparation groups, and grade groups. This study adopts qualitative approach to examine the characteristics of PLCs in Chinese schools. In-depth semi-structural interviews on eight teachers from different schools of Shanghai were carried out to understand and identify the practices of PLCs. Results show that although PLCs in Chinese schools share the core elements found in Western literatures, including shared vision and values, collective inquiry, shared personal practice, supportive leadership, and collaborative culture, the meaning hidden in these characteristics is quite unique. Factors that facilitate the development of PLCs such as structural conditions of school organizations and human and social resources will also be discussed.

Keywords: Professional Learning Community, Characteristics, China

Introduction

In recent decades, globalization, knowledge-based economy and information society together have exerted profound influence on education. Thus, the school educational system must be reformed in order to cope with the changes in the outside world (Pang, 2006). Under this circumstance, countries around the world have dived into educational reforms, aiming at improving student learning and providing all children with the best schooling experience (Huffman & Jacobson, 2003). However, most of these reforms have failed, no matter focused reform such as Comprehensive School Reform in the end of the twentieth century, or large-scale reform such as No Child Left Behind in early twenty-first century in the United States (Esposito, et al., 2012), and whether bottom-up initiatives such as comprehensive curriculum reform in Taiwan (Chen, 2008), or top-down improvement such as New Curriculum Reform in Mainland China (Ryan *et al*., 2009) and school system reform in Hong Kong (EDB, 2009). Thus we can see that it is not easy to achieve successful educational reforms.

Meanwhile, a third way to carry out education reform, that is, the collaborative strategy which integrates the top-down and bottom-up approaches and emphasizes partnership has emerged. As Fullan (1993) stated, "neither centralization nor decentralization works", while "the two-way relationship of pressure, support and continuous negotiation" are necessary. He (1999) also stressed the importance of inside collaboration, and argued that collaborative schools or professional learning communities were crucial for successful changes. Since then, the term of professional learning community has been increasingly linked to educational reforms (Bullough, 2007; Fullan, 2003, p.43; Hargreaves, 2009, p.29; Harris, 2010；Pyhalto

et al., 2011; Scribner & Levine, 2010; Thornburg & Mungai, 2011), and researchers consistently believe that PLCs can make a difference.

The concept of professional learning community originated from western literature in 1990s, and its core idea lies in fostering collaborative learning and development among teachers in the school communities. After years of investigation, there is consensus that PLC holds promise for teacher development (Andrews & Lewis, 2002; Hord, 1997; Horn & Little, 2010; Jackson & Good, 2009; Lindahl, 2011; Pella, 2011), school improvement (Giles & Hargreaves, 2006; Harris & Jones, 2010; Hord, 1997; Miller & Kritsonis, 2009; Naylor, 2007; Wahlstrom & Louis, 2008), and thus enhancing student learning (Hord, 1997; Louis & Marks, 1998; Phillips, 2003; Strahan, 2003; Stoll *et al.*, 2006). However, most of the existing literatures on PLCs have focused on Anglo-American contexts; the concept and practice of PLCs in Asian settings have been largely ignored. Therefore, this study aims to examine the practice of PLCs in Chinese schools.

Literature Review

The basic Characteristics of PLCs
Although the concept of professional learning community has been explored for years, a universal definition about what is a PLC has not formed yet (Stoll *et al.*, 2006), and PLC has different interpretations in various educational contexts. Nonetheless, some consensuses on its basic characteristics have been reached. Table 1 shows several typical conceptualizations:

Table 1 *Characteristics of PLCs from different scholars*

Researchers	Characteristics of PLCs
Hord (1997)	Shared and supportive leadership; shared values and vision; collective learning and application; shared personal practice; and supportive conditions
Dufour & Eaker (1998)	Shared mission, vision and values; collective inquiry; collaborative teams, action orientation and experimentation; continuous improvement; results orientation
Thompson, Gregg, & Niska (2004)	Systematic thinking; personal mastery; mental models; shared vision; team learning; relationships/trust; data informed decision making; risk taking
Stoll, Bolam, McMahon, Wallace, & Thomas (2006)	Shared values and vision; collective responsibility; reflective professional inquiry; collaboration; promotion of group as well as individual learning; mutual trust, respect and support; inclusive membership of a whole school community; openness, networking, and partnerships beyond school boundaries
Reichstetter (2006)	Shared mission, vision, values, and goals; commitment to continuous improvement; collaborative culture; collective inquiry; supportive and shared leadership; supportive conditions
Lindahl (2011)	peer collaboration in making shared decisions; a climate of trust; widespread leadership; shared expectations, a common mission and goals, and a shared value system; shared culture; shared adult accountability; shared practice and peer observations; focus on learning assessments
Nehring & Fitzsimons, (2011)	shared vision for learning and shared responsibility for student growth; a guiding ethic of inquiry and continuous improvement; collective examination of teaching practice and related data; reliance on dialogue, reflection and experimentation in practice; regular opportunities built into the work schedule for collaboration; a commitment to high level learning for all students; a primary focus on teaching and learning

From Table 1, we can see that the concept of PLC is quite loose, as distinct differences exist between understandings of various researchers. However, some fundamental characteristics of PLCs have emerged from the above conceptualizations, and this include: (1) shared vision and values, which means that school staff share common vision and values which put student learning first; (2) collective inquiry or collaborative learning, which means that teachers frequently share information and ideas, plan and examine teaching practice collectively, and jointly reflect and solve problems to continuously improve; (3) shared practice, which means that teachers regularly observe each other and provide feedback to improve teaching practices together; (4) shared and supportive leadership, which means that school leaders are willing to and able to empower teachers in school decision-making process and make efforts to support the development of professional learning communities; (5) collaborative culture, which means that culture of mutual respect, trust, sharing and collaboration is formed to facilitate PLCs; (6) supportive conditions, which means that school's organizational structures and social resources back up the practices of PLCs.

It's worth noting that all above conceptualizations are exclusively derived from western settings; little is known about the characteristics of PLCs in the Asian contexts. Since significant difference exists between the Chinese educational system and those of western countries, studies with the purpose of examining the practice of PLCs in the Chinese schools are in urgent need.

Factors that influence the practice of PLCs
Studies show that the effectiveness of practicing PLCs in schools rests with several kinds of factors in terms of both structural and social resources.

On the one hand, structural conditions of school organizations are fundamental to support PLCs. Insufficient time for teacher collaboration is a major barrier to the practice of PLCs (Harris, 2010; Hord & Sommer, 2008; Lindahl, 2011). Consequently, collaborative time should be scheduled for teachers to work together (Hord, 2004; Hipp & Huffman, 2010; Kilbane, 2010; Louis et al., 1996). Other structural support, such as common space (Hord, 2004; Stoll et al., 2006), small-size staff (Hord, 2004; Kilbane, 2010; Louis et al., 1996), ample resources in terms of funding, facilities, materials (Hipp & Huffman, 2010; Kilbane, 2010), and favorable communication structures (Hipp & Huffman, 2010; Hord, 2004) are also necessary. Meanwhile, the negative impact of the hierarchical structure of school and strong subject boundaries (Harris & Jones, 2010) should be minimized.

On the other hand, it was also vitally important to make the best of human and social resources. Building up positive relationship which features respect, support, trust, caring and collegiality among teachers contributes to PLC practice (Hord, 2004; Hipp & Huffman, 2010; Louis et al., 1996; Stoll et al., 2006; Thompson et al, 2004). Also, conflicts may appear during mutual conversations and collective inquiries. Therefore, effective conflict management strategies should be mastered by teachers (Wells, 2010). Furthermore, establishing networks with external agents is also conductive to the development of PLCs. For example, building partnership with parents and community, and looking for assistance from district office and outside research and teaching institutions help to promote the practices of PLCs (Kilbane, 2010; Dufour & Eaker, 1998; Stoll et al., 2006). In addition, focusing on capacity building of teachers (Louis et al., 1996), strengthening faculty commitment and dedication (Kilbane, 2010), and encouraging reasonable risk-taking (Hipp & Huffman, 2010; Thompson et al, 2004) could also make some difference to the development of PLCs.

Thus we can see from the above that both physical structures and social relationships are responsible for the formation and implementation of PLCs. It is essential to be sensitive to these underlying factors when developing PLC practices.

PLCs in Chinese schools
Generally, there are three kinds of formal groups that can be seen as professional learning communities in Chinese schools. The first and most dominant one is Teaching Research Group (*jiao yan zu*), consisting of teachers who teach the same subject in a school, such as Math TRG, with the purpose of improving Mathematics teaching through teachers' collaborative work. First built up in 1950s, TRGs perform the function of enhancing teaching and learning, and thus embody a wide array of collective activities about classroom teaching: joint lesson planning, collaborative inquiry into teaching problems, peer observations and peer coaching, collective observations of demonstration/open lessons, etc. The second is called Lesson Preparation Groups (*bei ke zu*), composed of teachers who teach the same subject and are in the same grade, i.e. it is part of Teaching Research Group and considered as the smallest form of PLCs. Also, LPGs have the exact same function as TRGs. The third form of PLC, Grade Groups (*nian ji zu*), emerged in 1980s, contain teachers who teach various subjects but from the same grade. They meet regularly to exchange not only on students' academic study, but also on their moral, physical, social and aesthetic growth aiming at advancing student' all-round development. These three forms of PLCs have formed the formal structures of Chinese schools, thus play key roles in teacher learning and professional development. In addition to these formal groups, some schools also establish their own informal groups according to the specific contexts, such as research groups, project teams, and study groups, etc. These informal groups are also professional learning communities. But comparatively, formal groups are much more influential and consequently are the primary focus of this study.

It is noteworthy that PLCs in Chinese schools differ from that in Western settings due to its unique historical and institutional context. On one hand, Chinese schools have a long history of teacher collaboration, while it was a top-down command at the very beginning. This means that PLCs such as Teaching Research Groups and Grade Groups were not established based on teachers' willingness, but rather administrative requirements from the upper levels. In this sense, Chinese PLCs are kind of contrived communities (Wong, 2010). Therefore, they not only perform the professional functions such as teaching research and improvement, but also undertake managerial functions. On the other hand, after experiencing the development of more than half a century, collaborative learning has long been accepted and advocated by Chinese teachers, and they are quite accustomed to this kind of arrangement. Or we can say that collaborative practices in PLCs has been legitimized and institutionalized. More importantly, it has become the major approach of teacher learning and played the predominant role in teacher professional development in Chinese schools. Immersed in this long-term collaborating routine, some schools and teachers began to explore other forms of collaborations and have created a number of informal PLCs, such as study groups. From this perspective, Chinese schools have laid unique solid foundations for developing PLCs.

Methodology
This study, using qualitative approach, aims at exploring the features of professional learning communities in Chinese schools. Specifically, three research questions will be answered in the study: (1) What are the key characteristics of PLCs in Chinese schools? (2) What are the

unique meanings hidden in these characteristics? (3) What factors can facilitate the development of PLCs?

In this study, interviews with eight teachers from eight subject departments of seven primary schools in Shanghai are interpreted to explore their practices in and perceptions of the professional learning communities. Table 2 shows the demographic information of each school involved.

Table 2 Demographic information of the seven schools

No.	Location	History (Since…)	School-running type	Size	Education level	Characteristics
S1	suburb	1905	public	large (2 campus)	high	Participating in reform initiated by university
S2	suburb	1997	public	large	fair	bilingual education
S3	suburb	2010	Government-university cooperation	large	fair	English teaching
S4	urban	1958	public	medium	high	Computer-Based Instruction
S5	Outer-suburb	1970	public	small	low	Small class and many migrant children
S6	suburb	1904	public	medium	high	Stressing students' all-round development
S7	Outer-suburb	1905	public	medium	high	Education reform base

The seven schools were purposefully selected. As Table 2 illustrates, these schools reflect diversity along the dimensions of geographical location, history, school-running type, size, education level, as well as school characteristics, the purpose of which is reaching an understanding of Chinese PLCs as full as possible. For each school, one or two TRGs (PLCs) were selected. Totally, eight teachers from different subject departments participated in the study. Their basic background information was provided in Table 3.

Table 3 Background information of the participating teachers

No.	School	Gender	Teaching years	Subject	Academic degree	Whether department head
T1	S1(west campus)	female	2	maths	master	No
T2	S1(east campus)	female	1	maths	master	No
T3	S2	female	1	maths	master	No
T4	S3	female	2	English	master	No
T5	S4	male	16	Chinese	master	Yes
T6	S5	male	4	maths	undergraduate	No
T7	S6	male	8	Chinese	master	No
T8	S7	female	4	maths	undergraduate	No

As illustrated in Table 3, of the eight teachers, three were male, while the other five were female. They all taught Chinese, Mathematics or English subjects, which were considered as the core subjects in Chinese schools. There were six teachers whose teaching experience was less than 5 years, one was 5 to 10 years, and one was more than 10 years. There was one participant working as department head, and seven working as ordinary teachers. The selected teachers are those who have relatively more interest in educational reform. Thus, they may be more willing to express their practices and feelings in the PLCs.

The author used semi-structural interview in the data collection process, which mainly focused on three themes: (1) the specific activities of their respective PLCs; (2) their perceptions of these activities, such as the influence on teacher professional development, and the reasons behind; (3) their suggestions to improve the practice of PLCs. Generally, each interview lasted for 90 minutes. The interviews were allowed to audio-record and were totally transcribed. Data was analyzed through open coding, axial coding and selective coding step by step.

Findings and Discussions

Interviews with the eight teachers have presented a rich and vivid picture of PLCs in Chinese schools. PLCs in China not only share the common and fundamental features with those in western countries, but also reveal some unique meanings due to its particular educational context.

Characteristics of PLCs in Chinese schools
Shared vision and values which slowly divert from focusing on test scores to concerning student learning

Sharing common vision and goals which focus on student learning is a fundamental element of professional learning communities (Dufour, 1999, p.23; Hord, 1997; Lindahl, 2011; Stoll et al., 2006). This characteristic was also reflected in the sampled Teaching Research Groups. For school teachers in Shanghai, the second phase of curriculum reform which began in 1998 has always been urging them to change the traditional cramming teaching approaches and provide students more opportunities for self-regulated learning, collaboration and inquiry (Shanghai Educational Committee, 2004). Although this emphasis on student learning other than only test scores was a top-down requirement, it seems to have been accepted by increasing teachers. As a four-year maths teacher said:

> *Right now, you know, because of the "Green evaluation index", the "ranking system" (initiated in 2011 in Shanghai), etc, we don't emphasize test scores that much. We are expected to focus on students' growth, such as their mental development during learning processes. In fact, it requires us not only to teach the children what they should do, and it demands more in terms of letting students think and explore. Such a form is encouraged to improve student development. Well, this idea has always been requested from top to down, and teachers are changing gradually. (T6)*

We can see that although teaching to test was a conventional value in Chinese schools, and exam-oriented education has been criticized all the time, teachers have already began to transform this educational value guided by the policy. More importantly, new values and

visions which focus on students' quality development have been embodied in their teaching activities, and shared by a growing number of teachers. This kind of value-shifting not only contributes to the practice of PLCs, but also helps to school reform and improvement.

Collective inquiry which has been long embedded in teachers' daily practice
Collective learning and inquiry is an essential element of PLCs (Dufour & Eaker, 1998, p.23; Hord, 1997; Lindahl, 2011). In Chinese schools, this is a traditional way for teachers to improve classroom teaching, such as joint lesson planning, collective observations and investigations of open lessons with post-lesson discussions, and collaboratively learning new theories and policies, etc. Unlike Western countries which call for collective inquiry very recently, such activities have existed in China for more than half a century, and have been long embedded in the routines of PLCs.

First, joint lesson-planning is a regular activity of PLCs in Chinese schools, which provides teachers opportunities to collaboratively plan lessons, solve problems and enhance teaching effectiveness (Hipp & Huffman, 2010, p.23). Most teachers expressed their views in this regard during the interviews:

We have fixed time, place and content. For example, last year we planned lessons collectively on every Tuesday afternoon. Teachers from all grades came together. First we had a whole-staff meeting. In this meeting, we focused on common problems teachers met with in English teaching and some common requirements, especially at the beginning and the middle of the term, well, in different time periods, and according to different contents. After this, we had activities of Lesson Preparation Group, i.e. teachers from the same grade. Actually, teaching contents were arranged at the beginning of the term, such as distribution of lessons for each teacher. Then the teacher in charge was supposed to prepare lessons ahead of a week, i.e. how she or he would design the teaching contents. He or she would think over first and then discuss with other teachers in the meeting. And we would exchange ideas, such as what contents should be complemented, etc. We worked out together... Then next week when we had lessons, we modified the teaching plan according to our students' situation. I don't have to use your plan, because it may not fit my children. (T4)
As usually, we, the three teachers of grade five meet together every Tuesday. We discuss the progress of the course, organize the knowledge points of the lessons, think about teaching method, and summarize what students have learned in the past period of time, what difficulties they have, and how to help them next, etc. Well, this is our weekly activities. (T8)

It is very common that teachers jointly plan the lessons within each school, although the forms may vary from school to school. For example, due to limited common time, some schools distribute the lessons to different teachers for collective planning, while others may select key lessons to be planned together. Nonetheless, both have embodied the process of mutual conversation and collective inquiry, which is seen as the crucial part of community learning (Wenger, 1998), and has profound influences on teaching improvement. More importantly, no unified teaching plan is required, while teachers have the autonomy to modify or even change the plan according to their own judgment on students' learning needs. This idea is just what Hamilton (1991) has advocated, organizational planning should be transformed from the traditional rational model which pursues only organization goals and disregards individual perspectives to social-political approach that pays attention to ideology, participation, collaboration, consensus and conflict, etc.

Second, collective preparation for and inquiry into open lessons of various levels were also typical learning activities of Chinese PLCs. Before giving open lessons, whether at school level, district/county level or provincial level, the teacher in charge will teach first in his/her own class and receive feedback and comments from his/her colleagues in the same Lesson Preparation Group. Then he/she will give the same lesson in another class after revising teaching approach according to suggestions received, and for further comments from teachers of other grades. Generally, the teacher will go through the lessons in the school PLCs for two or three times before giving the final official open lesson. Such a process, together with the experience of giving open lessons during which he/she will receive more ideas from other school teachers or even experts, significantly contribute to teachers' professional development:

> *(Which activity do you think is most helpful for your professional development?) I think it is the teaching practices before open class, you know, there were lots of problems, and when they came out, you have to solve it. At other times you may ignore some of them, or maybe because of laziness, ha ha. But open classes really need your efforts, you know, you must change where you have problems. Honestly, you have obvious growth in this process. (T6)*
>
> *After open classes in our school, they will point out your problems directly and politely, especially for young teachers. Well, we are quite familiar, and if you have any flaws, teachers in the same office will hit the nail on the head. If not, you may even not realize it. So does our principal, ha ha, he will speak out your weak points straightforwardly, well, also tell what you should do. The district-level (open class) is also like this, but they don't talk about your problem directly, instead they will give you suggestions. In fact, this is just where you didn't do well, I think so. (T7)*

We can see that these open lessons provide rich opportunities for teachers to interact and discuss based on specific classroom teaching practices. As Senge (2006, p.220) suggested, team learning requires collective conversation and thinking, and also practices. Even more important, the process of negotiation helps teachers achieve transformations both in perspectives and pedagogy (Pella, 2011). This is double-loop learning initiated by Argyris and Schon (1978; 1996), i.e. not only teachers' behaviors and assumptions, but also their values have been changed. Thus, this kind of inquiry goes beyond the reform on teaching materials and methods, but rather transformations of teaching ideas, which is crucial for sustainable reform (Fullan, 2001).

In addition to joint lesson-planning and collective inquiry into open lessons, Chinese PLCs also provide opportunities for teachers to collectively discuss on the new educational policies and theories (T3), read professional books and papers, and exchange views and ideas on their understandings through regular forums (T7), go out to attend workshops or training courses, and learn from open lessons and post-lesson seminars at the district or municipal level (T5), and form research teams to carry out research projects collaboratively (T1; T6), etc. All these collaborative learning activities help to strengthen professional relationships among teachers, produce high quality interaction, and have a positive impact on classroom teaching (Goldenberg, 2004). What's more, Chinese teachers have been long used to these practices, and collaborative activities have become their daily routines, which contributes to the development of PLCs significantly.

Shared personal practice which was deeply influenced by social-cultural factors

In Western schools, shared personal practice is considered as one of the most difficult obstacle to overcome, and studies show that 3 years' efforts were useless in terms of developing shared practices (Capers, 2004). While in China, this is not the case. For Chinese teachers, mutual sharing of teaching practices is very common. Besides the open/demonstration lessons at various levels mentioned above, teachers also observe and critique each other in their daily work, through activities such as pushing-door lessons (tui men ke), invited lessons (yao qing ke), meeting lessons (xiang yue ke), etc.

> *The head of Teaching Research Group or the leader in charge of instruction observe each teacher's class once each semester, this is the rule. After that, he or she will talk about your teaching problems, and you have to hand in the teaching plan and reflections. (T2)*
> *We have regular mutual observations…such as pushing-door lessons (tui men ke), invited lessons (yao qing ke), etc… it is kind of atmosphere in our school. For example, you are giving a lesson or lessons before that, not officially, you know, if teachers in the same Lesson Preparation Group have time, they will all come to observe. (T3)*
> *We have another form…that is meeting lessons (xiang yue ke). We teachers in each grade, i.e. the three of us have about three meeting lessons each semester. Here is… a lesson is chosen, and we three teacher have this lesson at the same period of time, but observe each other. Thus our ideas are different, so we can learn from each other… we also have meeting lessons within the whole schools…you know, young teachers' demonstration lessons, middle-aged teachers' demonstration lessons, each for a month. It means…every teacher have to open one of his/her lessons for observations of the whole school teachers. Basically, there is a topic for each month, sometimes even two topics in a month…i.e. everyone has to do it… (T8)*
> *(Do you regularly observe each other?) Of course… it is requirement, you know, we ordinary teachers have to observe at least 15 lessons each semester… in fact more than that…about 26 or 27 lessons for each teacher, in each semester. I observed more in my first year, more than 30 lessons…except some lessons, you know, such as (lessons) in other districts… (T7)*

We can see that shared personal practice is very pervasive in Chinese schools, which is the key to the development of PLCs. This kind of universality is largely influenced by social cultures. Affected by the traditional collectivism, which is clearly different from Western cultures that stress privacy, Chinese teachers are relatively free to observe others and open to each other (Ryan et al., 2009). They can easily share and collaborative, and do not care privacy that much (Tan, 2013). It means that mutual sharing is culturally acceptable, and it has been institutionalized and reflected in all working aspects of Chinese teachers. Moreover, they have already been used to sharing practice with their colleagues, expect to get their feedback and regard it as important development opportunities. Also, a kind of collective responsibility and mutual accountability has gradually formed among teachers (Paine & Fang, 2006).

Supportive leadership that features in hierarchy and bureaucracy

Shared and supportive leadership is essential for PLCs (Hord, 1997; Dufour, 1999; Huffman & Jacobson, 2003; Lindahl, 2011). While in Chinese PLCs, influenced by traditional hierarchal and bureaucratic values, leaders are far away from shared or distributed leadership. However, they are also quite supportive of the PLC practice like their Western counterparts. As Harris (2013) indicated, the main role of leaders in PLCs in to "create organizational conditions" in terms of time, opportunity and resources, "provide pressure and support" to

ensure collaboration, and "set the culture and supportive collective enquiry". All these are specifically reflected in Chinese school leaders.

First, school leaders encourage teachers to participate in the reading, training, open lessons, and research activities and always know about how teachers are learning:

> I am a new teacher. At first, the principal would learn about how I was doing, while from my mentor and instructional leaders. She will support us to attend, what kind of projects or contests. (T3)
> At the general meetings, or the beginning or closing meetings of the Teaching and Research Sections, the sister (principal) often said that she was happy that we regularly do some researches, especially in these two years. I think there will be more in this year. (T8)

Second, school leaders organize special events to provide development opportunities for teachers:

> We have school-based research in terms of teacher training. You know, in each summer vocation, i.e. August, others (teachers in other schools) will take a rest, while we only rest in July and come back to work in August. Usually, at the beginning, there were some lectures by special-class teachers and principals from over the country. They talked about how to become an excellent teacher. Well, this was thematic lectures. After that, we would watch some videos about famous teachers such as Wei Shusheng and Dou Guimei. And in the afternoon, teaching research staff from our districts analyzed case studies with us, from the theoretical and practical perspective. Still, we went out to visit a few days ago, that is, the cultural tour. We went to the hometown of Confucius, Mencius and Zhou Enlai, to seek education roots. By this, the principal wanted us to form a common identity to school culture, and have common visions and goals. It was also kind of way to cultivate school cohesion. And it happens every summer. You know, it is now the fourth year. As to the time, is usually lasts for half a month. (T4)

All these activities, whether lectures by educational experts, case studies by teaching research staff, or going out to visit, provide information, training and resources for teacher learning (Lindahl, 2011; Dufour, 1999, Harris & Jones, 2010). At last, school leaders also directly attend teachers' professional learning activities to offer guidance and help:

> (About the open lessons), if school leaders have time, they will attend. After the lessons, he will comment and critique on the lessons on the spot, usually during the ten minutes between the classes. Also, there is feedback and comments from other teachers, and the principal will give a final summary. (T7)
> Like us, you know, the principal is a Chinese teacher. So when there are Chinese open lessons at the district level, or some other demonstration lessons, the principal is willing to help you if you have problems. Well some days ago, one of my colleague would give a lesson, and the sister (principal) stayed with her in office to help her teaching, you know, for two or three hours. (T8)

It is shown that leaders in Chinese schools spare no efforts to support the practices of professional learning communities, although the leadership is not widely distributed. This

kind of leadership is influenced by the historical and political contexts, and is kind of unique compared to Western countries.

Collaborative culture which is based on contrived collegiality
Collaborative culture is indispensable for the development and sustainment of PLCs. In some Chinese schools, teachers have formed strong collaborative cultures through PLC practices, although it is based on contrived collegiality, i.e. teachers are required to collaborate with each other at first. While in some sense, contrived collegiality may lead to collaborative culture, because establishing institutions and policies in the beginning is necessary for teacher collaboration (Song, 2007). Moreover, unlike Western concepts that collectivity weakens individuals, in the Chinese view, collectivity contribute to the development of the individuals (Paine & Ma, 1993). Also, teaching in China is seen as an open profession. Therefore, exchanges and collaboration among teachers are very common in Chinese schools (Jensen et al., 2012).

> *Because we are in the same office, and we teach the same content, if any problem comes up, they will tell how to deal with... Sometimes you are handling students ' problems, other teachers will help you. Say you can't talk more to the student...other teachers will help you talk to him or her...I think human relations are relatively harmonious. Communications and sharing are so much. You know, we do not talk about something deliberately, but random exchanges in my office, I think, is everywhere, and in fact, is very frequent. (T5)*
> *We share stuff, well, if you have anything, others will also help you, especially those in the same office, you know, they will help figure out. (T7)*

Findings above show that PLCs in Chinese schools share the five core elements found in Western literatures, while the underlying meanings are quite different, which makes Chinese PLCs unique in a large sense. Factors that influenced the practices of PLCs in Chinese schools also differ from that in Western countries.

Factors that affect the practice of PLCs

Structural support which is rooted in the unique educational institutions
There is a unique teaching and research system in Chinese schools, which provides solid structural support for the PLCs.

First, in terms of time, teachers have at least 2 hours per week for collective activity. Compared with Western countries, class in China is relatively large (OECD, 2010). Therefore, Chinese teachers spend less time on classroom instruction, and teaching workload is smaller (Paine & Ma, 1993). Thus teachers have more time to participate in other collaborative activities that have a considerable impact on student learning, such as joint lesson planning, mutual observations, etc (Jensen et al., 2012). This makes sure adequate time for PLCs.

Second, in terms of space, most schools arrange common offices for teachers in the same Lesson Preparation Group or Teaching Research Group, which facilitates mutual collaborations and even informal exchanges. Also, almost every school has at least one conference room for events like open lessons. These provide the space for PLCs.

Third, there are incentives for PLC practices due to the institutional arrangements. In China, collaborative activities such as mentoring or giving open lessons could be seen as

requirements for professional learning. This means that if teachers participate in PLC activities, other training courses can be reduced. Consequently, teachers are motivated to attend the practices of PLCs.

Finally, Chinese schools equip PLCs with sufficient resources in terms of funds, facilities, materials, etc, especially in schools in eastern developed areas. Furthermore, most schools have established their own campus network, available for teachers' online communication. Also, there are many learning resources in network platform, including curriculum information, successful teaching cases, pedagogic studies, etc (OECD, 2010).

All these physical conditions provide strong structural support for PLC development, and make teacher collaboration more convenient and efficient.

Social support which is largely shaped by traditional cultures
Supportive conditions in terms of human and social factors in Chinese PLCs are also diverse from that in Western schools, and they are related to traditional Confucian cultures.

First, relationship of mutual trust has been formed among teachers in Chinese PLCs, owing to traditional values of collectivity. For example, teachers are relatively free to observe others in Chinese schools:

> *(If you want to observe his/her lessons) you can talk with him/her, and see if it is OK. Usually it is OK. (T6)*
> *Like last year...our instructing leader was in the same grade (as me). Well, her lessons are very good, because she is a famous teacher in the city. So one day I talked to her, you know, my lessons were after his, so I said to her: "Teacher Fang, when I have time, I want to observe your lessons." She said: "OK, you can come." So it's OK. (T8)*

Second, most Chinese schools have the apprenticeship system as a part of PLCs, i.e. pairing experienced teachers and young teachers, through which mentors provide regular guidance for mentees, such as lesson observations with constructive feedback, offering ideas and suggestions during open lesson preparations, helping to solve teaching problems, etc. Influenced by the traditional culture that stresses respecting the old, young teachers modestly learn from experienced ones and achieve a lot. Also, through this arrangement, teachers are related to each other in a positive way, which enhance the PLC practices in a large sense.

Third, Chinese schools are good at developing external networks to support PLC development, affected by the traditional culture that pay attentions to relationship (guan xi). For example, schools invite external experts such as university professors or teaching research staff in the district to attend the PLC activities and provide guidance (T1), go out to other schools to conduct exchanges and discussions to learn from their practices (T7), and establish partnership with other schools to carry out collaborative inquiry regularly (T5; T7), etc.

These social factors also give unique support for PLCs in Chinese schools, since they are connected with the long history and the wide social culture. It also indicates that we should be sensitive to the unique context when analyzing PLC practices.

Conclusion

This study shows that Western concepts of PLCs could be used to understand the Chinese practices of Teaching Research Groups which have existed for more than half a century. On one hand, teacher groups in Chinese schools share the fundamental characteristics with Western PLCs in terms of shared vision and values, collective inquiry, shared personal practice, supportive leadership, and collaborative culture. In this sense, they can be called professional learning communities.

On the other hand, Chinese PLCs are also different from that in Western countries. This includes: shared vision and values advocated by teachers focus on not only student learning, but also test scores rooted in its imperial examination system; collective inquiry such as joint lesson planning and open lessons is a traditional way for teacher learning and haven been long embedded in the routines of PLCs, unlike Western countries which initiated collective inquiry quite recently; shared personal practice is highly pervasive and institutionalized in Chinese schools due to the culture of collectivism, compared to Western concepts that stress privacy; leadership in Chinese PLCs plays an important role as that in Western countries, but it is not widely distributed but kind of hierarchal and bureaucratic, and influenced by the historical and political contexts; collaborative culture is based on contrived collegiality in Chinese schools, as it is an institutional requirement for teachers to collaborate with each other, which differs from Western countries.

Furthermore, factors that facilitate the development of PLCs in China are also distinguished from that of Western countries, no matter in terms of structural conditions, or in the respect of human and social resources. Wherein, structural supports lie in collaborative time, space, incentives and other resources, all of which are not like that in Western schools. Social supports consist of mutual-trust relationship, apprenticeship system and external networks, which are also unique. Therefore, teacher groups in Chinese schools could be considered as professional learning communities with their own characteristics.

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