Postgraduate Research Conference 2016-2017

May 19, 2017 (Friday)

Meng Wah Complex



FACULTY OF EDUCATION

THE UNIVERSITY OF HONG KONG

Name	Content	Page
Programme for the Postgraduate Resea	arch Conference (PRC) 2016-2017	i - ii
Floor Plan of Fourth Floor of Meng Wah	o Complex	
Abstract for Keynote Seminar:		
Professor Andrew TOLMIE	Keynote Seminar	
	Cognitive abilities and learning: Implications for pedagogy and policy	1
Abstracts for Student Presentations:		
Mr AKANDE Issac	Research Report	
	American Indian Federal Education, and the Political Philosophy of Land Privatization	2
Miss DENG Qinli	Research Report	
	Segmental and Suprasegmental Phonological Skills in Chinese-English Bilingual Children with Reading Comprehension	1
	Difficulties	2
Mr GONG Yang	Research Report	
	The teaching of Chinese as a second or foreign language: A systematic review of the literature 2005-2015	3
Miss JIN Jin	Research Report	
	Same University, Same Challenges? – Development strategies of two schools of a prestigious Chinese university in a	
	changing higher education landscape	4
Ms JUDKINS Brandy	Research Report	
,	An Interview-Based Examination of English Language Teaching Leader Identity Development	5
Mr LING Hua Loon	Research Report	
	"Give your money powerful SMART labels": A Phenomenographic and Variation Theory Study of Lower Secondary Study	ents'
	Financial Literacy	
		·····~

Miss LYU Boning	Research Report A Review of Blog Assisted Language Learning Research: Based on Bibliometric Analysis7
Ms POKIMICA Jelena	Research Report Exploring the potential for cross-national research collaboration between the USA and Serbia in science and technology7
Ms QUACH HOANG Thien Hy	Research Report Ensuring research integrity during data collection in a closed context: The case of Vietnam8
Miss TENG Yuan	Research Report The impact of rural educational migration on rural schools and communities in China8
Mr TSUI Chak Pong Gordon	Research Report New Approach of Internationalization of Higher Education in Hong Kong? Possibilities and Challenges9
Miss TSUI Ka Ying	Research Report The role of prosody in reading comprehension among Cantonese English-Learning Children9
Miss WANG Jingying	Research Report The impact of teacher professional development activities on rural-urban literacy learning gap in China10
Mr WOO Kiu Anthony	Research Report Facilitating Frugal Innovation: Insights from Successful Chinese Startups11
Mr XU Zhijun	Research Report Hong Kong Senior Secondary School Students' Recognition of Chemical Representations: A Functional Framework12

NOTE: In order to be environmentally friendly, presenters are reminded not to print copies of your presentation for the audience at the conference. Audience who wish to obtain the presentation materials should contact the presenters directly for electronic copies.

Programme for the Postgraduate Research Conference (PRC) 2016-2017 – May 19, 2017 (Fri)

Time	<u>Event</u>						
14:30 – 14:50	Registrati	Registration (Venue: Open Area outside Rooms 408-410, Meng Wah Complex)					
	4/F, Meng Wah Complex						
	Rooms 401-402	Rooms 411-412	Room 413				
	RESEARCH REPORT	RESEARCH REPORT	RESEARCH REPORT				
	Ms QUACH HOANG Thien Hy (PhD – PASSE)	Mr XU Zhijun (PhD – MSE)	Mr GONG Yang (PhD – CLL)				
14:50 – 15:20	Ensuring research integrity during data collection in a closed context: The case of Vietnam	Hong Kong Senior Secondary School Students' Recognition of Chemical Representations: A Functional Framework	The teaching of Chinese as a second or foreign language: A systematic review of the literature 2005-2015				
	Chairperson: Miss QU Jiaqi	Chairperson: Ms LI Xiuhan	Chairperson: Miss CHENG Wing Tung				
	RESEARCH REPORT	RESEARCH REPORT	RESEARCH REPORT				
15:30 – 16:00	Mr LING Hua Loon (PhD – PASSE)	Miss JIN Jin (PhD – PASSE)	Miss DENG Qinli (PhD – SHS)				
	"Give your money powerful SMART labels": A Phenomenographic and Variation Theory Study of Lower Secondary Students' Financial Literacy	Same University, Same Challenges? – Development strategies of two schools of a prestigious Chinese university in a changing higher education landscape	Segmental and Suprasegmental Phonological Skills in Chinese-English Bilingual Children with Reading Comprehension Difficulties				
	Chairperson: Miss NESTEROVA Yulia	Chairperson: Dr H HORTA	Chairperson: Mr LIANG Leming				
16:00 - 16:10	Break						
	RESEARCH REPORT	RESEARCH REPORT	RESEARCH REPORT				
16:10 – 16:40	Ms POKIMICA Jelena (Visiting PhD Student, University of Illinois, Urbana-Champaign)	Miss WANG Jingying (PhD – PASSE)	Miss TSUI Ka Ying (PhD – SHS)				
	Exploring the potential for cross-national research collaboration between the USA and Serbia in science and technology	The impact of teacher professional development activities on rural-urban literacy learning gap in China	The role of prosody in reading comprehension among Cantonese English-Learning Children				
	Chairperson: Miss MUSCHETTE Nadine Nicole	Chairperson: Mr TSUI Chak Pong Gordon	Chairperson: Mr GONG Yang				
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(Coffee and Tea will be served in the open area outside Rooms 408-410, Meng Wah Complex from 14:30 to 18:00)

Programme for the Postgraduate Research Conference (PRC) 2016-2017 – May 19, 2017 (Fri)

Time	Event						
	4/F, Meng Wah Complex						
	Rooms 401-402	Rooms 411-412	Room 413				
	RESEARCH REPORT	RESEARCH REPORT	RESEARCH REPORT				
	Mr AKANDE Issac (Visiting PhD Student, University of Illinois, Urbana-Champaign)	Miss TENG Yuan (PhD – PASSE)	Mr WOO Kiu Anthony (PhD – ITS)				
	American Indian Federal Education, and the Political Philosophy of Land Privatization	The impact of rural educational migration on rural schools and communities in China	Facilitating Frugal Innovation: Insights from Successful Chinese Startups				
	Chairperson: Mrs FARIAS HERRERA Liliana Yazmin	Chairperson: Mr LIANG Leming	Chairperson: Ms Ll Xiuhan				
	RESEARCH REPORT	RESEARCH REPORT	RESEARCH REPORT				
17:30 – 18:00	Ms JUDKINS Brandy (Visiting PhD Student, University of Nebraska-Lincoln)	Mr TSUI Chak Pong Gordon (MPhil – PASSE)	Miss LYU Boning (PhD – CLL)				
	An Interview-Based Examination of English Language Teaching Leader Identity Development	New Approach of Internationalization of Higher Education in Hong Kong? Possibilities and Challenges	A Review of Blog Assisted Language Learning Research: Based on Bibliometric Analysis				
	Chairperson: Miss QU Jiaqi	Chairperson: Mr SIUM Mengesha Tedros	Chairperson: Mr GONG Yang				
18:00 - 18:45	Refreshment Break (Venue: Open Area outside Rooms 408-410, Meng Wah Complex)						
	T5 Theatre, Meng Wah Complex						
	Keynote Seminar						
	Cognitive abilities and learning: Implications for pedagogy and policy						
18:45 – 20:00	Professor Andrew TOLMIE Chair of Psychology and Human Development Institute of Education, University College London, U.K.						
	(Chairperson: Professor Lena WONG)						
L	(Coffee and Tee will be convert in the onen area sutside Deams 400,440, Mans Mich Complex from 44:20 to 40:00)						

(Coffee and Tea will be served in the open area outside Rooms 408-410, Meng Wah Complex from 14:30 to 18:00)



Meng Wah Complex 4TH Floor

Keynote Seminar

Cognitive abilities and learning: Implications for pedagogy and policy

Professor Andrew TOLMIE Chair of Psychology and Human Development Institute of Education University College London Email: andrew.tolmie@ucl.ac.uk

T5 Theatre, Meng Wah Complex 18:45 – 20:00

Research has identified a range of broad and specific cognitive abilities that predict success in reading and mathematics, and this knowledge increasingly informs teaching. However, there is a lack of comparable work which pinpoints the core skills that underlie success in science. In the first part of this talk, I will present three studies covering learners across the primary and secondary school age range and a variety of science topics, which indicate an important role for both general and specific language abilities, but also a more elusive influence of executive function and inhibitory control. Taken together, the results from these studies provide a coherent explanation of why collaborative group work in science has been found an effective method for promoting learning. Put alongside evidence on the cognitive abilities that impact on reading and mathematics, a broader point becomes apparent, with substantial implications for pedagogy and policy: there are few general principles underpinning successful learning across different areas, and it may therefore be a mistake to attempt to formulate general pedagogical strategies.

Research Report

American Indian Federal Education, and the Political Philosophy of Land Privatization

Mr AKANDE Issac Visiting PhD Student University of Illinois, Urbana-Champaign Email: <u>akande2@illinois.edu</u>

MW Rooms 401-402, 4/F 16:50 - 17:20

Keywords: American Indian, Education, Political Philosophy, Land

This historical inquiry into education policy aims to highlight how the contradiction between the United States Lockean inspired political ideas about land ownership and its interest in privatizing American Indian tribal lands, was reconciled in the minds of policymakers by way of providing formal education to American Indians (Native Americans) in exchange for the forfeiture of Indian claims to land. At the conclusion of the American Revolution, the newly founded nation of the United States would make territorial claims to lands belonging to American Indians. This created a political dilemma for early United States policymakers who needed to dispossess American Indians of their land, without contradicting or violating the new nation's core principle pertaining to property ownership and the protection of property rights. As a result, the solution to the new nation's political conundrum would be to construct a treaty process that would facilitate the trade of the so-called "excess" American Indian tribal lands in exchange for European forms of culture, including most prominently European styled formal education. By analyzing specific government policies, legislation, and treaties, while synthesizing the findings of multiple American Indian studies scholars, this paper will examine the governmental origins of federal education for American Indians, arguing that the nation's early leaders developed policies designed to justify the land dispossession of American Indians by offering education as one of the terms of negotiation in the United States' treatymaking process with American Indians.

Research Report

Segmental and Suprasegmental Phonological Skills in Chinese-English Bilingual Children with Reading Comprehension Difficulties

Miss DENG Qinli PhD Student Faculty of Education Email: <u>ginlideng@gmail.com</u>

MW Room 413, 4/F 15:30 - 16:00

Keywords: segmental phonological awareness, suprasegmental phonological processing, Chinese-English bilingual poor readers

The current study set out to evaluate the phonological skills profiles of Chinese-English bilingual poor readers. A total of 282 children were tested on measures of segmental phonological awareness (PA), suprasegmental phonological processing, vocabulary, word reading, and reading comprehension, in both Chinese and English, as well as working memory (reading span and operation span), and nonverbal intelligence. Based on the reading comprehension scores, we identified 81 children who were average readers, 16 children who were poor in Chinese reading comprehension (PC), 11 children who were poor in English reading comprehension (PE), and 20 children who were poor in both Chinese and English reading comprehension (PB). With regard to relevant non-verbal intelligence, vocabulary, word reading, and working memory controlled, MANCOVAs and post-hoc analyses showed that the average and PC groups performed better than the PE and PB groups in Chinese segmental PA tasks. Additionally, the average readers outperformed the three groups of poor readers on Chinese tone awareness task. Also, the average readers performed better than the PE and PC groups in the English stress sensitivity task. In all, these results highlight the importance of Chinese tone awareness in reading processing. Also, poor L2 English stress sensitivity is associated with reading comprehension difficulties in L1 Chinese.

Research Report

The teaching of Chinese as a second or foreign language: A systematic review of the literature 2005-2015

Mr GONG Yang PhD Student Faculty of Education Email: <u>u3002873@hku.hk</u>

MW Room 413, 4/F 14:50 - 15:20

Keywords: Chinese language education, non-Chinese learners, multilingualism, language internationalization, language pedagogy

This paper reports the results of a review of research articles (N=909) on the teaching of Chinese as a second or foreign language published in four leading mainland Chinese journals during the years 2005-2015. The review found that Chinese language researchers are exploring a wide array of issues including language policy and planning, language learning and use, language pedagogy, teacher development and language testing. These studies report the efforts that Chinese language researchers and teachers have made to meet the explosively growing demand for Chinese language learning in the world. Furthermore, it was noted that the leading Chinese journals have become more receptive to empirical studies although a large number of non-empirical articles are still being published. Overall, research in these journals is still be set with different challenges, and there is an urgent need for more rigorous scholarship on the part of researchers. For this reason, the review concludes with suggestions for Chinese journals so that they can promote high-quality research to support the development of Chinese language education.

Research Report

Same University, Same Challenges? – Development strategies of two schools of a prestigious Chinese university in a changing higher education landscape

Miss JIN Jin PhD Student Faculty of Education Email: jjjin@hku.hk

MW Rooms 411-412, 4/F 15:30 - 16:00

Keywords: higher education, globalization, internationalization

In a globalized world, universities face challenges adapting to changing environmental pressures and expectations in seeking legitimacy. Studies on the topic have tended to focus on universities in North America and Europe, while Chinese universities, as latecomers to global higher education but striving to integrate into it, have received less attention. The latter create tensions with globalization and internationalization processes (see Yang, 2013) and may have influenced strategies to adapt to an environment that is increasingly both global and national (Wang, 2013). In this context of change, this study, based on institutional theory and resource dependence theory, examines the development process of two schools with different characteristics in a prestigious public Chinese university. Based on document and interview analysis, the findings show that in response to the changing environment, both schools advocate internationalization as a development strategy, although for different reasons. One school continues to conform to the institutional environment, while the other is competing in the task environment, provided that adherence to the university's and the state's norms, beliefs, demands or expectations is assured. Based on the analysis, this article recommends that Chinese policymakers allow proactive schools willing to further their positioning in national and global higher education systems to have more autonomy and leeway to develop themselves.

References:

Wang, L. (2013) Internationalization with Chinese characteristics: the changing discourse of internationalization in China. *Chinese Education and Society*, 47(1): 7-26

Yang, R. (2013). Indigenised while internationalised? Tensions and dilemmas in China's modern transformation of social sciences in an age of globalisation. *Spatial Social Thought: Local Knowledge in Global Science Encounters*, 43-61.

Research Report

An Interview-Based Examination of English Language Teaching Leader Identity Development

Ms JUDKINS Brandy Visiting PhD Student University of Nebraska-Lincoln Email: <u>brandycjudkins@gmail.com</u>

MW Rooms 401-402, 4/F 17:30 - 18:00

Keywords: identity, leadership, ELT, interview

While language teacher identity is increasingly studied, less has been done examining identity for and of language teacher leaders. Most comprehensive work has focused on leader identity (van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004) and teacher leader identity (Judkins, 2014, among others).

This presentation will discuss a small, n=1 interview-based examination of English Language Teaching (ELT) Leader identity development. This research utilized interview with a current K-12 ELT Leader to focus on the ELT Leader's identity journey as she transitioned from teacher to leader and provides insight into this understudied area of language teacher identity.

The discussion will focus on the methods, themes, and insights gained. These findings include:

- an identity as teacher central, despite no longer teaching students on a regular basis
- her definition of "leader" grew through her journey, from support of teachers and ELLs to a larger-scale, collaborative role beyond ELT
- leaders as "system changers" and "advocates"
- struggle to reduce the marginalization of ELL and feeling like the "odd man out" in the district office even as leader

Implications informed by the insights gained include, first, the need for more work on language teacher leader identity. Second, language teacher leadership must be reframed through the dual lenses of system changers (how do LTLs create systematic change?) and advocacy (how do they advocate for ELLs and ELTs?). Third, given that marginalization of ELT and ELLs is well studied, the role language

teacher leaders play in negotiating, mediating, and potentially reducing this must be better understood.

References:

Judkins, M. (2014). *Narrating teacher identities: Voices from the field* (dissertation). University of Arizona, Tucson, Arizona.

van Knipperberg, D., van Knipperberg, B., De Cremer, D., & Hogg, M. (2004). Leadership, self, and identity: A review and research agenda. *The Leadership Quarterly, 15.*

Research Report

"Give your money powerful SMART labels": A Phenomenographic and Variation Theory Study of Lower Secondary Students' Financial Literacy

Mr LING Hua Loon PhD Student Faculty of Education Email: <u>hualoon@hku.hk</u>

MW Rooms 401-402, 4/F 15:30 - 16:00

Keywords: Financial Literacy, Phenomenography, Variation theory, Behavioural finance

Improving the financial well-being of students has become recognised internationally as an important endeavor. But behavioural finance research has reported that people often act irrationally when making financial decisions due to underlying dispositions of the ways they see and think about money. As discussed in phenomenographic theory, more powerful ways of seeing can lead to more powerful ways of acting (Marton & Tsui, 2004). This study was carried out to investigate the financial beliefs and behaviours of a group of Hong Kong lower secondary students and to evaluate the impact of a financial education programme for them. 99 Secondary 1 students (24 intervention group; 75 control group) from one secondary school took part in a one-year longitudinal mixed-methods design study with three phases: baseline, intervention, and follow-up. At the baseline, all students completed a pre-survey questionnaire. The intervention group students were then individually interviewed using a semi-structured in-depth protocol. Phenomenographic analysis was carried out on the qualitative data and findings of the critical aspects and features informed design of financial education lessons that were taught to the intervention group. The lessons utilized vignette methodology with variation theory and was developed using principles of behavioural finance. Data was collected through student work and audio-recordings of class teachings. At the follow-up, the intervention group was interviewed again in focus groups. All students then answered a post-survey questionnaire. Feedback from students reported positive effects of the lessons on their savings and spending behaviours. Other preliminary findings from the study will be presented.

Reference:

Marton, F., & Tsui, A. B. M. (2004). *Classroom discourse and the space of learning*. Mahwah, NJ: Lawrence Erlbaum Associates.

Research Report

A Review of Blog Assisted Language Learning Research: Based on Bibliometric Analysis

Miss LYU Boning PhD Student Faculty of Education Email: <u>millylyu@hku.hk</u>

MW Room 413, 4/F 17:30 - 18:00

Keywords: blog, bibliometric analysis, language learning, literature review

Blog assisted language learning has been trialed by educators in language teaching with the development of Web 2.0 technology. Studies indicate that using blogs could improve learners' writing ability and motivation. This paper reviews current research related to blogs enhanced language learning based on bibliometric analysis, aiming at (1) identifying the most frequently used keywords and their co-occurrence, (2) clustering research topics based on co-citation analysis, (3) finding the most frequently cited study and author and (4) constructing the co-authorship network. 330 articles were searched out in Web of Science, 225 peer-viewed journal paper were finally reviewed according to selection criteria. Bibexcel, Pajek and VOS viewer were used to answer and visualize the results. Studies reviewed were published between 2005 to 2016, most in the year of 2014 and 2015 (35 papers respectively). The top 10 most frequently appeared keywords are learning, language, blog, teaching, writing, social, web 2.0, technology, English, communication. 8 research themes could be clustered by co-citation analysis: blogging for collaborative learning, blogging for writing skills, blogging in higher education, feedback via blogs, blogging for self-regulated learning, implementation of using blogs in classroom, comparative studies and audio/video blogs. Early studies focused on the introduction of the classroom implementation while recent studies moved to the audio/video blogs from their traditional usage. By reviewing the research quantitatively and objectively, this paper reveals the development trends as well as identifies influential research, helping researchers and educators guickly grasp this field overall and conduct further studies.

Research Report

Exploring the potential for cross-national research collaboration between the USA and Serbia in science and technology

Ms POKIMICA Jelena Visiting PhD Student University of Illinois, Urbana-Campaign Email: pokimic2@illinois.edu

MW Rooms 401-402, 4/F 16:10 – 16:40

Keywords: international mobility, brain circulation, research collaboration, high skill

The mobility of highly skilled individuals has become a global phenomenon. Brain circulation could potentially level off the brain drain of some traditionally sending (home) countries and brain gain of receiving (host) countries. An East-European country, Serbia, has experienced a substantial outflow of its high skill professionals, many of whom settled in the USA, especially in the 1990s. This study attempts to answer how research collaboration between emigrated Serbian professors of science and engineering in the USA and colleagues in Serbia could be increased, knowing that such collaboration is currently low. The study follows a case study design and is based on interviews with 7 Serbian professors in the University of Illinois system and at the University of Chicago. A semi-structured interview guide was developed and informed by Ackers' (2005) high skill migration (HSM) framework. Thematic cross-case analyses were employed to analyze the data. Results revealed five themes: 1) Push and pull factors of HSM; 2) Current job in the USA and linkage to Serbian educational background; 3) Aspirations to connect to Serbia and collaborate; 4) Brain circulation and the future of high skill mobility; and 5) Suggestions for the Serbian government. Empirical results of this study could inform the national scientific and innovation agenda of Serbia and communicate to public policy makers and the Ministry of Education and Technological Development of Serbia how Serbian professionals abroad envision research collaboration with Serbia, the necessary conditions for it to thrive, and example projects.

Reference:

Ackers, L. (2005). Moving people and knowledge: Scientific mobility in the European Union. *International Migration*, *43*(5), 99-131.

Research Report

Ensuring research integrity during data collection in a closed context: The case of Vietnam

Ms QUACH HOANG Thien Hy PhD Student Faculty of Education Email: <u>hytqh@connect.hku.hk</u>

MW Rooms 401-402, 4/F 14:50 - 15:20

Keywords: closed context, research integrity, reflexivity, ethical issues, indigenous norms

This paper focuses on Vietnam as a closed context with a distinct totalitarian regime, the exercise of strict government control, and participants' fear of tracebility and self-protecting behaviours, which results in hindrances to access to the research sites and reliable data sources, recruit participants and obtain reliable and comprehensive data. Three researched universities specialized in social science, natural science and medical science depict vividly the image of a "toxic" academic culture where academic dishonesty (such as plagiarism, data fabrication and academic misconduct) and corruption (i.e. inequality in cummulating advantages and moral damage of faculty members and institutions) are extremely prominent. Moreover, "ethical moments" emerged as the attitudes of the faculty members interacting with the researcher during the recruit and interview procedures (Guillemin & Gillam, 2004). The participants exert certain strong emotions, such as anger, fear, doubt and even discrimination towards the researcher. Being exposed to both the "toxic" academic environment and their strong emotions, how could a researcher gather data and ensure the research integrity? Are there any strategies or methods for a researcher to overcome the challenges caused by a closed context? This paper aims to explore several possible approaches, especially reflexivity and positionality, to protect the participants, the researcher, and ensure the research integrity in a closed context.

Research Report

The impact of rural educational migration on rural schools and communities in China

Miss TENG Yuan PhD Student Faculty of Education Email: <u>tengyuan@hku.hk</u>

MW Rooms 411-412, 4/F 16:50 – 17:20

Keywords: rural educational migration, educational inequality, rural community

School choice has become a prevalent phenomenon all over the world. In China, the popularity of school choice has spread from urban cities to rural areas. The increasing awareness of the importance of education for social mobility among rural parents has led to a phenomenon of "educational migration" in rural China. Many rural families migrate to urban counties or big towns to choose urban schools for their children by renting or buying a department close to the selected urban school (F. Cheng, 2008), abandoning their original rural schools.

This presentation presents a literature review about previous research on school choice. From the perspective of place-based education (Comber, 2015), this review indicates that existing research is concerned with the impact of school choice on educational inequality between individuals, regarding education as a tool for individual social mobility. However, few researchers base their study on the idea that education is also for community development, and almost no research refers to the influence of rural educational migration on the disparity between rural and urban communities. In rural China, schools are not only for individual social mobility, but also for agricultural development, rural culture heritage and development (Barbosa, 2016). In this sense, the loss of students is highly likely to impede the development of rural school, thus eroding the development of rural community. Moreover, the rural class are the one experiencing educational migration. Their exodus will take away both human capital and economic, social and cultural capital, leaving behind the poor who are incapable to develop the rural community.

Research Report

New Approach of Internationalization of Higher Education in Hong Kong? Possibilities and Challenges

Mr TSUI Chak Pong Gordon MPhil Student Faculty of Education Email: <u>gtsui13@hku.hk</u>

MW Rooms 411-412, 4/F 17:30 - 18:00

Keywords: Internationalization, Hong Kong Universities, Service Learning

This is a progress report of the research study reviewing the internationalization development of Hong Kong Universities. This presentation will include following three main parts. In the first part of the presentation, the presenter will try to answer the following question, "Although internationalization has been a key agenda in different Hong Kong universities and a number of sources have shown Hong Kong universities are international, how international are Hong Kong universities in reality?". Different documents and literatures (for example, different Hong Kong university documents (such as mission statements) and academic papers) will be examined to explain the internationalization development in Hong Kong universities. The examined documents have shown that Hong Kong universities in general are inclined to certain type of internationalization in terms of locations and programs. In the second part of the presentation, the presenter will suggest some ideas to make Hong Kong universities more international in different dimensions. While these ideas have been suggested, this presentation will report a number of challenges reflected from the presenter's recent observation fieldwork in a university service learning program in Kenya as a case study. To further analyze these issues, at the end of the progress report, some theories and methodology will be provided to inform the audience how the topic will be studied in the next stage of the research.

Research Report

The role of prosody in reading comprehension among Cantonese English-Learning Children

Miss TSUI Ka Ying PhD Student Faculty of Education Email: <u>rachelkt@hku.hk</u>

MW Room 413, 4/F 16:10 – 16:40

Keywords: Cantonese English-learning children, Prosodic reading, Reading comprehension, L1-L2 comparison

This study explored the within-language and cross-language roles of prosodic reading-the appropriate use of rhythm (pitch and pause) to segment text according to major syntactic and semantic elements-in Chinese and English reading comprehension among Cantonese-English bilingual children. A total of 117 Cantonese-English bilingual second graders completed assessments of word reading efficiency, oral reading fluency, and reading comprehension in Chinese and English. Prosodic reading was assessed using one Cantonese and one English passage, each consisting of six types of syntactically-complex sentences: declaratives, clause-final commas between two clauses, yes-no questions, wh questions, complex adjectival phrases, and quotatives. Spectrographic analysis of prosodic features, namely pitch patterns and pause structures, on targeted syntactically complex structures was carried out to characterize bilingual children's prosodic reading. Our within-language hierarchical regression analyses showed that Cantonese prosodic reading did not predict reading comprehension in Chinese, whereas English prosodic reading was found to be a significant independent contributor to English reading comprehension. The cross-language analyses showed a different pattern of effects: while the L1 Cantonese prosodic reading predicted the L2 English reading comprehension, the reverse relationship was not found. Our findings suggest that language-specific prosodic structures impose a different effect on the contribution of prosodic reading to reading comprehension. Based on the findings of the effect of the interaction between L1 and L2 prosodic systems on within-language and cross-language reading comprehension among bilingual children, the present study provides new insights into the field of reading comprehension in a tonal language, particularly within a bilingual context.

Research Report

The impact of teacher professional development activities on rural-urban literacy learning gap in China

Miss WANG Jingying PhD Student Faculty of Education Email: <u>sarah616@connect.hku.hk</u>

MW Rooms 411-412, 4/F 16:10 - 16:40

Keywords: rural-urban learning gap, school effectiveness, teacher professional development, professional learning communities

Despite universal basic education in China, remarkable rural-urban disparity in student learning outcomes still persists. Teacher professional development can be an effective way to improve teaching and in turn increase student achievement. However, the link between professional development activities and student learning gap is poorly understood.

This study will be a mix-method investigation of teacher professional learning activities in producing rural-urban literacy learning gap. The quantitative phase will utilize a survey and test data set consists 5849 students, 134 teachers from 26 primary schools selected by multi-stage sampling during 2013-2015. Students of grade one, three and five were assessed three times across two academic years by a standard literacy scale. At the end of each year, teachers' participation in and perception of learning activities and school characteristics were collected respectively. Rural-urban gap in school effectiveness will be measured through three-level hierarchical linear regression analysis estimating student value-added scores. Factors predicting student learning progress will be identified.

In qualitative phase, the most and least effective schools from both rural and urban regions will be chosen as research sites to explore why educational effectiveness varies across schools. In each sampled school, teacher learning activities will be videotaped during a two-week period. In-depth interviews will be conducted with subject teachers, head teachers and principal supervising teacher professional development. After transcribing audio recordings, school management and implementation of teacher professional development will be compared to interpret the quantitative results and to further identify effective and ineffective features of teacher professional development.

Research Report

Facilitating Frugal Innovation: Insights from Successful Chinese Startups

Mr WOO Kiu Anthony PhD Student Faculty of Education Email: wooa@hku.hk

MW Room 413, 4/F 16:50 - 17:20

Keywords: frugal innovation, Greater China, entrepreneurship

Innovation from the likes of Uber, Airbnb and Xiaomi has all brought about disruptive changes that permeate our daily lives. As an exploratory empirical study, our research mainly utilizes case studies to gain insights into how frugal innovation is conceptualized, managed and replicated. Focusing primarily on cost efficiency, frugal innovation is defined as "a means and ends to do more with less for more people" (Bhatti & Ventresca, 2013, p. 16). By examining frugal innovation at a grassroots level, our research addresses the literature gap of how resource-constrained entrepreneurs can manage the process of originating and managing innovation.

The research conducted focuses on the topic of "frugal innovation" which is defined as "doing more with less [for more people]". So far, most of the analysis in this area is based on multinational (and Indian) firms, e.g. GE and Tata Motors. Our research focuses on a study of Chinese startups (at the grassroots level) instead. This is particularly timely and relevant given China's recent rise in prominence (in terms of scale and adoption) in technology sectors such as fintech and edtech, with broader societal and economic implications.

With the Activity Theory adopted as an all-encompassing framework and theoretical foundation to guide our research, we would overlay four major sets of perspectives, namely psychological and motivational perspectives (with Big Five Personality Traits and Maslow's hierarchy of needs), managerial and strategic perspectives (with Porter's Five Forces), cultural perspective (with Hofstede's cultural dimensions theory), and information technology perspective, to further our analysis. Interviews with various entrepreneurs are used to better understand the underlying factors conducive to frugal innovation that contribute to their successes. Instances and anecdotes of each founder's entrepreneurial journey have been identified, explored and analyzed.

Reference:

Bhatti, Y. A., & Ventresca, M. (2013). How can 'frugal innovation' be conceptualized? *Said Business School Working Paper Series,* Oxford. Available at: http://ssrn.com/abstract=2203552.

Research Report

Hong Kong Senior Secondary School Students' Recognition of Chemical Representations: A Functional Framework

Mr XU Zhijun PhD Student Faculty of Education Email: <u>oliver_148@gmail.com</u>

MW Rooms 411-412, 4/F 14:50 - 15:20

Keywords: Chemistry Representational Competence (CRC), Recognizing, Chemistry Representations, Functional Framework

Chemical bonding is considered as one of the most difficult topics in chemistry. Students need to recognize, apply, evaluate and invent various chemistry representations as they learn the concept. These skills are called Chemistry Representational Competence (CRC). In this presentation, I will focus on how senior secondary school students recognize different chemical representations.

Firstly, I will introduce and compare three models on how students recognize and explain representations, including representational competence (Kozma & Russell, 2005, pp. 131-132), two types of information encoded in representations (Kirsh, 1992, 2003) and seven factors affecting students' ability to interpret biochemistry representations (Schönborn & Anderson, 2006, 2009). However, these three models have some limitations in explaining how students recognize chemistry representation. As a result, a functional framework is proposed.

Secondly, three local Grade 11 students, identified as low-, medium- and high level, based on their performance in a written instrument on properties and structure of covalent substances, were interviewed. They were invited for a 45-minutes in-depth interview to explain their answers. These interview data and their written answers were analyzed through the functional framework, and will be presented.

Lastly, based on the performance of these three participants, a framework consisting of different levels of chemical representations recognition is suggested. The finding of this study indicates that students' ability in recognizing chemical representations needs to be enhanced. Implications of the findings on classroom teaching will be discussed.