

TEACHER EDUCATION IN CHINA: TRAINING TEACHERS FOR THE 21ST CENTURY

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Abstract: The study explored the extent to which 21st first century skills are integrated in the Chinese teacher education programme. This qualitative study was done at a comprehensive normal university in China. Participants were the pre-service teachers and professors from the teacher education programme. Results show that some 21st century skills are fully integrated while other skills are partially integrated. It was also established that there are challenges to the integration of 21st century skills. The study recommends the extension of the practicum period and the abandonment of the old lecture method in favor of new collaborative, team centered methods.

Key words: *Teacher education, intercultural skills, practicum*

INTRODUCTION

Teachers are considered to be the back bone of any education system and to a large extent they determine the quality of an education system. In some parts of developing countries a teacher could be the only education resource available for the learner. It is also an established fact that many countries globally face the problem of shortage of teachers to meet the requirements of their education systems (Santina, 2014). Due to such shortages, many countries emphasize on expanding teacher education to increase output without much consideration about the necessary critical skills required for these teachers to be effective in the 21st century. The 21st century has brought its own changes and challenges which demand that teachers be properly prepared, trained and equipped with the right skills which will help them to deal with such challenges in their profession. The effect of globalization and other pressures and challenges such as the rapid technological advancements, changing patterns of work, explosion in information access and use have brought in certain demands on education (Stewart, 2014) such that the inculcation of 21st century skills has become a necessity. In this 21st century, the emphasis on massive training of teachers without integrating the much required skills would therefore mean wastage of resources. Nonetheless, it appears that these skills are not adequately integrated in the teacher programmes. This is evidenced by the 2009 conference titled '21st Century Leading and Learning' held in USA where leaders among other things saw a mismatch between teacher preparation programs and the changing learning environment (<http://21stcenturylearning.com>). The leaders expressed a need for 21st century students to not only be prepared for the technology of the changing world, but to still acquire other skills needed in the workforce, such as problem solving and leadership skills. Therefore for students to be well equipped with the necessary skills, they are supposed to be taught by teachers who have good command of those skills and are able to impart the skills to the students.

21ST CENTURY SKILLS

Barnett Bery, founder and CEO of Center for Teaching Quality, defines 21st century learning as learning that enables students to master content while producing, synthesizing and evaluating information from a wide variety of subjects and sources with an understanding of and respect for diverse culture (How do you define 21st century learning, 2010). Powerful learning of this nature requires well prepared teachers who draw on advances in cognitive sciences and are strategically organized with respect to 21st century skills (How do you define 21st century learning, 2010). The term 21st century skills is generally used to refer to certain core competencies such as collaboration, digital literacy, critical thinking and problem solving that schools need to teach to help students thrive in today's world (Pacific Policy Research Center, 2010; Saavedra & Opfer 2012). For this purpose Fidel and Trilling (as cited in Romero, Usart and Ott 2015) defines 21st century skills as the new set of skills required to succeed in learning, working and living.

According to the Partnership for 21st century skills (2010), the 21st century curriculum should cover four broad areas, namely; 1. Life and career skills such as flexibility and adaptability, self initiative and self direction, time management and goals, independence, team work, intercultural skills, and leadership skills. 2. Learning and innovative skills such as; creativity, critical thinking, innovative thinking, problem solving, communication and collaboration. 3. Integration of global awareness, financial, economic, business and entrepreneurial literacy, and civic, health and environmental literacy within the academic content of core subjects. 4. Information and media technology skills with a focus on accessing information efficiently and effectively, evaluating it critically and competently, and using the information accessed accurately and creatively to solve problems. The above skills are also highlighted by different writers who put them into four groups which generally address similar issues (Binkley, Erstad, Herman, Raizen, Ripley, Miller-Ricci & Rumble 2011; Saavedra & Opfer 2012; Pacific Policy Research Center, 2010; Kay & Greenhill, 2010) Most of these issues focus on complex thinking, learning and communication skills and all are more demanding to teach and learn than memorization and other types of rote skills (Saavedra & Opfer, 2012).

21ST CENTURY SKILLS AND LEARNING IN CHINA

With the largest population in the world, one could also argue that China has the largest education system in the world which entails that it trains the largest number of teachers to take up teaching positions in schools. It is estimated that in 2007 China had a total of approximately 11 million teachers for its education system (Song, 2007). It is also recognized that education is the driving force behind economic growth of any country (Yizengaw, 2008). Therefore Song argues that the sustainability of the rapid economic growth that China is experiencing could be highly dependent on how well its vast teacher education positions itself in relation to equipping its teachers with the much needed skills for the 21st century.

As Zhou and Zhu (2007) note, although very high numbers of teachers in China have attained required educational level, some of them still lack certain critical skills including those required for the 21st century. Zhou and Zhu (2007) further state that as many as 554,100 school teachers have not yet reached the required educational attainment in China. Zhou argues that for rural schools there remain a serious shortage of qualified teachers, and most of the in-service teachers urgently need on-site school-based continuing training to get professionally ready for curriculum changes. Young, Grant, Mounbriand and Terriault (2001) contend that teachers in China need to be experts in one or more specific subjects so that they can effectively handle the challenges of a growing diverse population of students with a variety of multicultural, multi-linguistic and multi-ability needs.

Young, et al, (2001) emphasize on the importance of balance between what is required of teachers and what is offered to them by way of equipping them with the necessary knowledge and skills. This has significant impact on the quality of their teaching and their capacity to implement effective literacy instruction. The belief is that pre-service teacher-education programs play a significant role in the preparation of highly qualified teaching work force which is necessary to support the development of a complex 21st century society. However Guo, (as cited in Song, 2008) notes that graduates from teacher training programs feel fairly competent at teaching for tests while they face increasing challenges from ever-faster changes that are taking place both inside and outside the classroom.

On a more similar note, Song (2008) argues that students at elementary and secondary schools are very different from those of a couple of decades ago. Unlike their parents, today's students at elementary and secondary schools are much more influenced by the external factors, whether positive or negative. These influences to a large extent are characterized by the increasing interconnectedness due to the popularization of information technology. Changes are also reflected in the improved educational technology available at Chinese schools. Due to rapid development of information technology, more and more elementary and secondary schools in China are equipped with advanced educational technology, including computers and internet services. Student accessibility to technology requires that teachers too are not left behind; they must be competent in using these technological tools. This calls for proper skills for teachers to align with the demand and tenets of the 21st century learner.

With rapid developments in science and technology, the nature of occupations in the world of work is under frequent change as well (Song 2008; Adeosun 2008). As a result, Li and Chen, (as cited in Song, 2008) note that employers in China are adjusting their hiring criteria; instead of hiring people merely with a firm mastery of knowledge accumulated from the textbooks, employers nowadays are looking for potential employees full of creativity and originality, that is, with skills of creative thinking, problem solving, and decision making. In line

with this, Chen (cited in Song, 2008) argues that it is also regarded essential that today's students be internationally prepared with international knowledge, strong training in languages, and deeper cultural understanding. Among many others, lack of international education constitutes one of the greatest challenges faced by schools in China (Chen, as cited in Song, 2008). To this end, countries should direct their attention to developing the 21st century skills and competencies for all students. The goal of education should no longer be to simply provide basic literacy skills (Stewart 2014). However, the starting point should be the skills that the teachers acquire in their training programmes. The aim of this paper therefore is to explore the extent to which Chinese teacher training programmes integrate the 21st century skills. It further looks at the challenges facing the integration of the 21st century skills in the Chinese teacher education as well as the opportunities that exist for the integration of these skills.

METHODOLOGY

The study used the case study design under the qualitative approach. According to Karamustafaoglu, (2009) a qualitative approach allows the researcher to deeply understand the phenomenon under study. Convenience sampling technique was used to select participants from the population. Respondents however, were chosen on the basis of the program; in this case teacher education programme. Face to face interviews were used to solicit data from pre-service teacher trainees and the staff members from the institute of teacher education at a university in Beijing. Interviews are considered to be one of the most powerful ways of collecting data. This is mainly because they give respondents an opportunity to talk about an issue from their own perspective and they also help the researcher to seek clarification on issues which seem unclear in the course of the interview. Interviews also allow the researcher to have a deeper understanding of the phenomenon under investigation through probing. Two sets of interview guides were developed; one for the teacher trainers and the other one for the teacher trainees. The guides had both open ended and closed ended questions.

In any teaching and learning process, students are an important component and no education system can exist without students. Elassy (2013) emphasizes the importance of students in an education system by arguing that they are both the input and output of the teaching and learning process. Therefore it was decided that teacher trainees be part of this study because they are the ones at the heart of the teaching and learning process and therefore were considered to be well positioned to provide in-depth information about their experiences in relation to the 21st century skills in their training programme. On the other hand, teachers have the responsibility to decide which type of knowledge and skills to impart on the students. This is based on the usefulness of the different types of knowledge and skills to the teacher trainees as future teachers. Therefore it was decided that members of staff be interviewed to understand the views of the faculty in relation to 21st century learning and the role they play as educators in teaching the skills. In total, 17 interviews were conducted (five members of staff and twelve students). Interviews with the student teachers were conducted in venues of their choice away from any form of distraction and for the purposes of confidentiality, the researchers anonymised the student teachers. The members of staff were interviewed in their offices for reasons of privacy. Of the total respondents that were interviewed 11 were female and 6 were males. Each interview lasted for not more than one hour. With permission from the research participants, all the interviews were audio recorded so that the researchers could listen to them carefully for more insights.

The researchers also accessed and reviewed some official documents such as curriculum for the teacher training programme. According to Creswell (2003) document review has advantages over other data collection methods mainly because the researcher can access the documents at his or her convenient time. Additionally, the information in the documents is considered dependable and credible because such documents are compiled with great care and accuracy. On the other hand document review can be frustrating in cases where the institutions are not willing to release certain documents because of the nature of information they contain or for other reasons. However, in the case of the present study, the necessary documents were accessed without any problem. Document review was used to further investigate the skills that are required and advanced in the 21st century China. The researchers reviewed the curriculum documents together, made notes on them and discussed some issues to come up with a general understanding of the documents in relation to the 21st century skills. The collection of data from different sources and using different methods was considered necessary for purposes of triangulation which helps to enhance the credibility of a study.

The researchers listened to the interview recordings several times to have a clear understanding of the information after which data analysis started with the verbatim transcription of the interviews. Notes from the document analysis were also organized and transcripts were produced from them. The researchers then read through all the transcripts and made notes on them. These notes were compared to make sure that there was a uniform understanding of the data by the researchers. Based on the main research question, main themes were extracted from the transcripts. Further scrutiny of the transcripts helped to identify other useful information

under the different themes. Results were discussed in reference to previous literatures in order to establish consistencies and inconsistencies with previous studies.

FINDINGS AND DISCUSSIONS

The study found that the Chinese pre-service teacher training programme at the study university has managed to fully integrate some of the 21st century skills into the programme. However there are some skills which the student respondents felt that they have not been fully integrated. This section discusses the skills that have been fully and partially integrated, challenges that are faced in integrating some skills and opportunities that could be used to help in the integration of those skills which have not been fully integrated into the teacher training programme.

INTEGRATED SKILLS

The researchers explained the 21st century skills to the research participants for them to have a clear understanding of the skills. The skills included critical thinking, problem solving, knowledge application, creativity, flexibility, communication, interpersonal, collaboration, leadership and, global and cross cultural awareness. After explanation, participants were asked whether they learn these skills. Where possible, participants were asked to provide examples of how they learn those particular skills. The majority of the participants indicated that most of the skills outlined above have been integrated into the programme in one way or the other. It was found that some of the skills are acquired through class activities such as group work which involves collaboration among the learners. For example the participants noted that at times they could be given a group or individual task which could involve critical thinking. The way teacher trainers teach teacher trainees has a very profound effect on what type of teachers the trainees would become. That is why Darling-Hammond (2006) proposes the type of teaching that will make the teacher trainee to be adaptive to different situations. This adaptation could only be possible if the trainees develop different skills. The teacher trainees also indicated that they learn and develop other skills as they participate in the learning activities. These skills include evaluation skills and vocational management skills. The acquisition of such skills would enable the teacher trainees to be able to deal with the ever changing terrain of the contemporary teaching profession (Msiska & Salik, 2016).

PARTIALLY INTEGRATED SKILLS

While it was found that some 21st century skills were fully integrated, participants noted that some skills such as computer skills were not fully integrated. They were however quick to note that computer skills are very important in today's world and especially that China is rapidly advancing technologically. One respondent argued, ".....Yes, I think computer skills especially how to use internet is very important in the 21st century China, so we can make full use of the abundant information and resources on the internet to improve our teaching". The respondents felt that learning how to use internet is very important in the 21st century China where information explosion is very high. Using the right information is what matters. However it was noted that internet and related information technology is not adequately taught. This seems to contradict the Chinese government argument that it is committed to integrating information technology in the curriculum. In 2000 for example, the Ministry of Education (2000) issued a policy document for information technology curriculum guide in primary and secondary schools. The policy stipulates that primary and secondary schools should offer information technology courses to students. One would think that by integrating technology in primary and secondary schools, pre-service teachers would be adequately prepared in ICT skills for the challenges lying ahead.

Participants also noted that skills such as global and cross cultural awareness and interpersonal skills are not effectively learnt. It was particularly emphasized that interpersonal skills are very important in the Chinese societies because of one child policy. Participants seemed to suggest that as prospective teachers, they need to learn how to relate with others because they are brought in an environment of seclusion where mother and father are the only people they look up to. One of the participants seemed to ask, "...if we are in the field how are we going to relate with other teachers as well as students?" For this reason, participants seemed to suggest that interpersonal skills should be emphasized in the curriculum. In their perspective however, in China some 21st century skills have not reached the importance they command in the world. For example, according to some participants, skills like global and cross cultural awareness are not really necessary for teachers who teach in rural areas where the population is not quite open to the outside world.

The views of the professors on global and cross cultural awareness seemed to contradict that of students. According to them, these are important skills that teachers in the modern China should possess. It was argued

that China is becoming open to the outside world more than ever before. This means that people from the outside world are coming to China, making China and its classes more diverse. Therefore, the staff members believe that it is very important for teachers to be culturally and globally aware. This is in support of Young, Grant, Mounbriand and Terriault (2001) who argued that intercultural skills are very important in today's world. Apart from this, the staff members believe that they are training students who not all of them will spend their life in China or only work with their Chinese counterparts. This means that at one point in time they will face the reality of the world by interacting and working with people from different backgrounds which will require someone to be culturally and globally aware. Additionally, writing about pedagogical courses in teacher training programmes, Haciomeroglu, (2013) argues that such courses are important in equipping students with cultural knowledge which could be linked to the skill of cross cultural awareness in the list of 21st century skills. It is thus important that global and cross cultural skills are adequately integrated in the programme.

More similar to the above is the idea of effective communication which encompasses reading, writing, speaking and listening as to be essential to pre-service teachers. The participants argued that teachers need to know other languages such as English. It was observed that teachers need to know how to communicate and thus interact with a variety of students and this is only possible when global languages such as English are learnt. Knowledge of such languages would spark competency in other skills such as intercultural skills and global awareness as this would be a medium of communication with diverse students and people. This validates the argument made by Chen, (as cited in song 2008) who argued that students have to be internationally prepared with international knowledge, strong training in languages, and deeper cultural understanding.

CHALLENGES TO INTEGRATION OF 21ST CENTURY SKILLS

Even though the 21st first century skills are critical, the Chinese educational curriculum seems to not successfully match with the 21st century skills requirements. It was observed that teacher trainees cover too many courses per semester. As such they spend most of the time memorizing the subject matter so that they pass the exams rather than internalize the skills. The respondents stated such skills as critical thinking and knowledge application skills as difficult to develop since they rush through and memorize content in order to pass the examination. However, one would think that because they cover many subjects per semester, one could become a more critical thinker, more creative and more imaginative since he/she has to think, study and work hard in order to make sense and successfully navigate through the courses.

Another challenge is that Chinese teacher education focuses more on theory and less on practice (Lu 2013). Moreover, the time for practice is not sufficient to prepare the teachers for working in the field (Zhou & Zhu, 2007). In a study about teacher education in China, Msiska and Salik (2016) found that the duration of the practicum is only 10 weeks. On the other hand, Darling-Hammond (2006) observes that strong teacher training programmes among other things are those that have an extended period of internship. This therefore means that teacher education programmes in China are not aligned with teaching practice (Zhu and Han 2006) and thus do not appeal to the 21st century learning. All these hamper the development and transmission of 21st century skills.

Similarly, it was noted that the Chinese way of teaching is a challenge to successfully integrate 21st century skills in the teaching and learning. It was noted that most teachers use same old lecture methods that do not make students get involved. This deprives teachers a chance to teach students some skills compared to when other teaching methods are used such as group discussions. Making students involved in the learning process would allow them to learn intercultural skills, communication skills, team work, critical thinking, imagination and leadership skills which are necessary for the 21st century China. Loughran, Korthagen and Russel, (2015) also allude to the fact that teacher education programmes are being accused of misalignment between teacher training and reality in schools where they note that there is too much reliance on lectures during theory work. In-service training for instructors was suggested so that they learn how to use modern teaching methods and thus adapt to the needs of the 21st century learner. Even though document analysis shows that university training modules for teacher education show a clear commitment to increasing opportunities for language teachers to develop the requisite linguistic and intercultural competencies (Gu, 2006), this seems to only appear on paper.

OPPORTUNITIES

Even though, there are some challenges for integrating 21st century skills in the teacher education programmes, there are opportunities to be exploited. It is asserted that the rapid development of information technology in china has made more schools to be equipped with advanced educational technology, including computers and internet services. This provides an opportunity for educators to integrate these technological facilities in the

teacher education programs. It should be noted that 21st century learning requires someone to be computer literate and at least have information, media and technical skills so that he/she should be able to access, understand, and analyze media and media messages (Pacific Policy Research Center, 2010) and this forms the basis of lifelong learning. One would point out that technological facilities should not only be accessible or taught to students in the programs related to ICT. All students regardless of the program should have access to these facilities so that they can master some of these skills for day today survival and the rapid advancement in technology in China presents a greater opportunity.

It would also be argued that an opportunity exists for Chinese pre-service teachers to learn global and cross cultural awareness and interpersonal skills. It is asserted that of all international students in the world, China hosts a little less than 10% (Onsman, as cited in Kayange & Msiska, 2016). This actually shows that higher learning institutions have a diversity of students who if educators use effectively can ensure that pre-service teachers learn interpersonal and global skills. Educators might offer programs for both local and international students in English which is one of the core subjects for a student to master in the 21st century learning (Kay & Greenhill, 2010). The interactions that would take place in those classes would facilitate the development of social, cross cultural and global skills.

CONCLUSION

21st century skills are very important and China does not want to be left behind in as far as teacher preparation is concerned. Even though China has not fully reached the satisfactory level of the 21st century skills, most of the skills that are required for the 21st century are taught. Chinese teacher preparation programme is therefore on track towards achieving what has to be learnt in the 21st century and it does so through some class activities and examinations that requires critical thinking and other high order skills. There are however several areas where the Chinese teacher education programmes need to improve. Such areas include technological literacy as well as cross cultural and global awareness skills. As noted through literature analysis, teaching practicum period is not enough to adequately prepare teachers for the 21st century learning. There is therefore need to extend the teaching practicum. There is also need to strengthen cross cultural awareness, interpersonal and other skills that have not yet been fully integrated into the Chinese teacher training programmes so that the teachers are fully equipped for the 21st century demands. This could be enhanced by integrating international students and local students in the same classrooms especially those taught in English. The Chinese teachers teaching methodologies also need to change. They need to dessert the individualistic teacher-centric traditional methods which Lemley and Schumacher (2014) note that are fast becoming irrelevant. They should however adapt to new collaborative, team-centered methods that appeal to the 21st century learning environment.

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