

## **Teachers' Conceptions of Approaches to Teaching: A Chinese Perspective**

### **Abstract**

Teachers' belief systems about the nature and purposes of a phenomenon such as teaching and learning influence strongly how they teach and what students learn and achieve. A sample of 891 Chinese middle school teachers from 15 middle schools in a province in China responded to a 48-item questionnaire which explored their conceptions of approaches to teaching. Confirmatory factor analysis was utilised to generate a model of approaches to teaching. This model comprised five factors, namely, Being Authorities and Teacher-centred, Focusing on Examination Practices, Developing Life-long Learners, Engaging Students in Learning, Being Responsible for Teaching and Home Connections. Differences in approaches to teaching were associated with various teacher characteristics including sex, age, teacher certificate, and the year level they taught. The results strongly indicated a reliance on traditional Chinese teaching, but also identified some more student-centred teaching in Chinese middle schools. Implications for teaching improvement and professional development are discussed.

### **Introduction**

Teachers' belief systems about the nature and purposes of a phenomenon such as teaching and learning influence strongly how they teach and what students learn and achieve (Fives and Buehl 2012). Due to socialisation processes, teacher beliefs have been found to be context-dependent (Gao and Watkins 2002) and ecologically rational (Rieskamp and Reiser 2007). Teachers' conceptions of approaches to teaching at the tertiary level have been investigated in Western contexts (Prosser and Trigwell 2006; Trigwell et al. 2011) and findings have shown that teachers' thinking on approaches to teaching influence teaching approaches they adopt in the classroom, which in turn influences their students' approaches to learning. These have impacts on students learning process and learning outcome (Prosser and Trigwell 2006; Trigwell et al. 2011). This paper examines how teachers perceived their approaches of teaching in Chinese middle schools.

### **The China Context**

China is currently going through massive education reforms in order to prepare more students for success in a global knowledge-based economy in the 21st century (He and Pan 2003). Curriculum reform which currently dominates basic education in China was initiated in 2001 by the Ministry of Education of the People's Republic of China (MOE), attempting to transform current Chinese education into a more student-oriented quality education (Hughes and Yuan 2005). The concept of student-oriented quality education (in Chinese Su Zhi Jiao Yu) was first formally used as the antithesis to 'examination-oriented education' and has become a guiding principle of education policies in China until now (MOE 2010). The quality rhetoric has endured and continues to act as a broad framework for the major goals of many other current reforms. The increasing emphasis on quality also signals that curriculum reform focus has shifted to the improvement of schooling, teaching, and student qualities from teaching and learning for examination (Li 2004; Walker and Qian 2012). One key to a successful transition is the quality of teachers and their teaching methods through

reforming Chinese classroom pedagogy (Author and Day, 2014; Zhang and Collis 1995). Cuban (2007) argued that how teachers teach – their classroom pedagogy – is a powerful tool in getting students to learn and succeed. The ‘National Outline for Mid and Long-Term Education Reform and Development 2010-2020’, released by MOE (2010), claimed that the current teaching methods in Chinese schools were too outdated to achieve quality-oriented education. The former Chinese Vice Premier Lanqing Li lamented, “students are buried in an endless flood of homework and sit for one mock entrance exam after another, leaving them with heads swimming and eyes blurred” (Li 2004, p. 337). There is growing concern that too many Chinese students have become the sort of stressed-out, test-focused drones who lack the cultural skills, creative thinking, and practical experience of teamwork that multinational employers in a global era are looking for (Farrell and Grant 2005). Indeed, Chinese teachers tend to rely heavily on traditional forms of teaching highly focused on school examinations, hence the success of reforms depends in part on changing how teachers carry out their pedagogical role (Gao and Watkins 2002). Therefore, Chinese schools must strive to seek innovative teaching methods to liberate Chinese students from endless homework and examinations, gear their efforts to each individual student, and give full scope to students’ ideological, moral, cultural and scientific potential (MOE 2010).

However, the changing of current teaching practices into more student-oriented teaching practices has been to prove perhaps the most problematic to implement since it would, by definition, challenge both the existing purposes, practices, values and beliefs of many teachers and the continuing prioritization of examination success required by the highly competitive Chinese secondary education and higher education system (Author and Day 2014). Hence, before changing the current teaching approaches, it is necessary to understand how current Chinese school teachers report what they actually do in classrooms. Based on a previous qualitative study (Authors 2010, 2012), this paper investigates how teachers conceive their approaches to teaching using a large sample of 891 Chinese middle schools. It is expected that findings from these Chinese teachers will generate a pattern of their teaching approaches.

### **Approaches to Teaching in the Literature**

Research has shown that two worldwide broad traditions of teaching have shaped classroom instruction: teacher-centred and student-centred (Samuelowicz and Bain 2001; Biggs 1999; Trigwell and Prosser 1999; Kember 1997; Lindblom-Ylänne et al. 2006). Teacher-centred teaching refers to teachers controlling what is taught, when, and under what conditions. Teachers transmit knowledge, skills, and values to students. In teacher-centred teaching, teachers “talk far more than students, the entire class is most often taught as one group with occasional small groups and independent work, and students regularly use texts to guide their daily work” (Cuban 2007, p. 3). In student-centred teaching, teachers see students as more than cognitive units; instead, teachers recognise that students bring to school an array of physical, psychological, emotional and intellectual needs plus experiences that require both nurturing and prodding. A student-centred classroom is usually arranged and rearranged frequently to permit students to work together in large and small groups or independently. Student talk has a significance at least equal to, if not greater than, teacher talk. Materials are distributed around the classroom for small groups and individual students to use. “Guided by teachers, students learn content and skills through

different tasks such as going to activity centres in the room, joining a team to produce a project, and conducting independent work” (Cuban 2007, p. 3).

Onwuegbuzie et al. (2007) similarly proposed that there are two types of teaching approaches namely progressive and transmissive. Progressive teaching (similar to student-centred) focuses on human development, interaction with the world of people and materials, and building humanist values (Nager and Shapiro 2000). Progressive teaching links school learning to students’ lives outside the school context. In this mode, decisions concerning practices implemented by progressive teachers are based on students’ personal experiences and then students are more likely to develop practical abilities and skills (Zhao 2007). Transmissive (similar to teacher-centred) teachers adopt an opposite set of approaches. These teachers emphasise dispensing knowledge to students and they use the lecture as a primary teaching method. Existing literature suggests that more pre-service teachers hold a transmissive orientation rather than a progressive orientation in their teaching (Onwuegbuzie et al. 2007).

Fenstermacher and Soltis (2004) invoked three conceptually incompatible but practically integrated metaphors to describe three teaching approaches – executive, facilitative, and liberationist. The executive approach views the teacher as a skilful manager of learning and focuses on the acquisition of knowledge, skills, understandings, and competencies. The facilitative approach (previously called the therapist approach) refers to teachers who focus on the development and nurturing of each student’s unique capacities and personal characteristics to help them attain authenticity and self-actualisation. The liberationist approach views the teacher as a liberator of the mind. The classical liberationist stresses initiation into ways of knowing and the development of the student’s intellectual and moral virtues. The emancipationist variation of the liberationist approach stresses freeing the minds of students from false consciousness about their class, race, gender, and other forms of social repression. In overview, however, there would appear to be broad similarities between the teacher-centred and student-centred approaches proposed by Kember (1997) and the executive, facilitative, and liberationist approaches proposed by Fenstermacher and Soltis (2004).

Trigwell and Prosser (2004) identified five different approaches to teaching. Approach A is a teacher-centred strategy which focuses on transmitting facts and skills, but not on the relationships between these two. Approach B is teacher-centred and helps students acquire the concepts of the discipline and the relationships between them. The difference between approaches A and B is that students in Approach A are only expected to be able to recall facts and solve problems, but students in Approach B are also expected to be capable of relating concepts and solving problems. Approach C is an interactive strategy between teacher and students. This approach aims at helping students acquire discipline-based concepts and the relationships between them through an active teaching-learning process. Approach D is a student-centred strategy which assists students in developing the worldviews or conceptions that they already have. Unlike Approach D, Approach E requires students to reconstruct their knowledge to produce a new worldview or conception without teachers transmitting their own conceptions to the students (Trigwell and Prosser 2004). Approaches to teaching in the West have generally been characterised by a duality and/or plurality of these and these can all be set onto the teacher-centred to the student-centred continuum (Kember 1997).

Chinese teaching is heavily influenced by both the Confucian tradition and the socialist ideology of the last fifty years (Hsueh and Tobin 2003). The traditional Chinese model of teaching is characterised by the transmission of knowledge

principally through an imitative, repetitive, and memorising process (Hughes and Yuan 2005). The role of a teacher is to deposit knowledge into students (Zhang and Collis 1995). Teachers prepare structured lessons and have everything under control. Students are viewed as being dependent on teachers to gain knowledge and mostly incapable of learning about the world without the teacher's strong guidance and advice (Hughes and Yuan 2005). Students are expected to be well-controlled and well-behaved in classes with a large teacher-student ratio. Teaching methods are largely expository and teacher-directed activities which include drilling for externally-mandated, high-stakes examinations (Watkins and Biggs 2001). The teaching process is teacher-centred and text-based. Both the teacher and the textbook are regarded as authoritative sources of knowledge. Teachers select points of knowledge from authoritative sources such as textbooks and teacher handbooks. Teachers interpret, analyse and elaborate on these points for students, deliver a carefully sequenced dose of knowledge for the students to memorise, repeat, and understand, and help them connect the new points of knowledge with old knowledge (Watkins and Biggs 2001). The immediate importance and potential application of the knowledge is taught. Traditional Chinese teaching sees learning as a linear movement from teachers to students (Zhao 2007). The teacher is the focus and students are believed to be passive, rote learners (Watkins and Biggs 2001).

These days, however, Chinese teachers are being asked to achieve new curriculum standards which aim to support creativity and individuality so that education is more responsive to students' needs and the evolving Chinese society (Zhao 2007). Teachers are also being exposed to Western views of teaching and social ideologies. The influence of the hybridity of Chinese and Western education and social ideologies of teaching is becoming a major issue in China (Zhao 2007). Given this situation, it is claimed that Chinese teaching approaches must shift from a teacher-centred to a student-centred approach (Hughes and Yuan 2005), and the role of the teacher should change from one of being an authority over knowledge to that of a facilitator of lifelong learning (Hsueh and Tobin 2003).

Western studies have already provided a range of information about what teachers conceive constitutes teaching, but how Chinese perceive their approaches to teaching is much less understood. As there seem to be differences between Western and other cultures' attitudes to education, it may be that different teaching approaches arise in relation to the different contexts. Therefore it seems important to explore teaching approaches in teaching environments that differ greatly from that of Western studies (Gao and Watkins 2002). This is particularly relevant to China, which has one of the largest educational systems in the world.

### **The Theory of Planned Behaviour**

The theory of planned behaviour (Ajzen 2002, 2005) provides a powerful framework for positioning research into conceptions and practices. What people believe, the amount of control they have or perceive they have, societal norms, and people's intentions interact to shape the behaviors and practices people carry out. Generally speaking, the more favorable the attitudes and subjective norms with respect to a behavior, and the greater the perceived behavioural control, the more likely it is that people will perform the behaviour in accordance with their intentions (Ajzen 2005). In addition, it seems that the stronger conceptions are, the more likely they are to influence the corresponding behaviour, while weak conceptions have little impact on behaviour (Ajzen 2002). It is noted that subordinates (e.g., teachers) are especially

influenced by the normative views of their superiors (e.g., principals) to whom they are accountable (Lerner and Tetlock 1999). Not every belief-action process, however, moves in this consistent chain. In some instances, people's actions are not consistent with their conceptions (Ajzen 2005). Ajzen suggested reutilization of behaviour as a possible explanation for any inconsistencies.

The aim of the study is to help teachers to raise awareness of their thinking and teaching approaches and to understand how variation in this practice might be related to their students' approaches to learning and learning outcomes (Trigwell et al. 2005). Professional development programs could then be offered to help them make any necessary changes in their teaching approaches to meet the requirements of educational reform (MOE 2010).

## Method

This survey study is based on a previous qualitative study which examined approaches to teaching in Chinese middle schools (Author 2007) and on previous empirical findings regarding approaches to teaching reviewed above. The study used a questionnaire to examine the approaches to teaching that teachers adopt in Chinese middle schools on a frequency scale. The data were handled using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

### Instrument

Based on the authors' former studies (Authors 2007, 2012) and the reviewed literature, a research instrument was developed to evaluate the teachers' self-reported approaches to teaching in Chinese Middle Schools. This anonymous 48-item questionnaire comprised two parts. Part 1 consisted of a list of 48 statements of possible approaches to teaching in Chinese middle schools. Participants were instructed that each teaching approach did not need to occur over an entire class period in the last semester. Teachers were asked to indicate how frequently they utilized each approach on the list. The frequency scale had five responses with identical scores (e.g., 1 = *only rarely*, 2 = *sometimes*, 3 = *about half the time*, 4 = *frequently*, and 5 = *almost always*). In Part 2, teachers were asked to give their personal demographic information.

### Sample

A sample of 1,500 Chinese middle school teachers, from 15 middle schools in Liaoning province in China, was approached and 891 valid questionnaires were returned giving a response rate of 59.4%. While population demographic characteristics for China middle school teachers are not available, the current sample of 891 relative to the population of just over 5,000,000 middle school teachers in China produces a margin of error, based on sampling theory<sup>1</sup>, of only 3.28%, meaning that great confidence can be placed in the sample means. After approval was received from the principals in 15 middle schools in Liaoning province in China, researchers visited the schools to distribute participation information sheets, consent forms, and questionnaires to volunteer teachers. Out of these teacher participants, 78% of the teachers held Bachelor qualifications, around 65% of the teachers were female, about 43% of them were aged between 33-40 years, 45% of the teachers held intermediate

---

<sup>1</sup> Values calculated at <http://www.raosoft.com/samplesize.html>.

teacher certificates, approximately 30% had eight years work experience, 40% had 8-15 years work experience, 35% of the teachers taught Years 7, and 39% taught Year 9.

## Analysis

A cross-validation method (Gerbing and Hamilton 1996) with Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) was utilized to generate and then to confirm the model. More specifically, EFA was used on one randomly selected half of the sample (445) to generate a new exploratory model, and CFA was used on the other half (446) to test the replicability of the modified model. An advantage of the cross-validation method is that it allows the testing and modification of the exploratory model on an independent subset of the sample (Gerbing and Hamilton 1996). EFA with maximum likelihood estimation and oblique rotation was employed to test the approaches to teaching model (Costello and Osborne 2005) using SPSS 21. Items were removed that had loadings smaller than .30 on their intended conceptual factors or which did not match logically and theoretically with other items in the same factors. In this procedure, eight items were discarded and 40 items were included in the CFA procedure.

CFA was utilised to test the model using Amos 21 with the same sample of participants (Anderson and Gerbing 1988). According to general recommendations for selection in psychometric theory and applied multivariate research, most fit indices are sensitive to different conditions (e.g., sample size, model complexity, or model misspecification), thus it is recommended that multiple fit indices are reported when assessing model fit (Byrne 2010; Fan and Sivo 2007). In this study, five absolute and incremental fit measures were employed to evaluate the data fit to the model: (1) the  $\chi^2$  package ( $p$ ,  $\chi^2/df$ ); (2) CFI; (3) RMSEA; (4) SRMR with 90% CI; (5) gamma hat. In terms of the cut-off values for the above indices, acceptable fit occurs when  $\chi^2$  is roughly equal to its  $df$  and good fit is inferred when the ratio of  $\chi^2$  to  $df$  has  $p > .05$ . When RMSEA and SRMR are  $\leq .05$ , fit is good and when  $\leq .08$ , it is acceptable. When the 90% CI for RMSEA falls in the range from .050 to .080, fit is acceptable. When CFI and gamma hat are  $\geq .95$ , fit is good and when they are  $> .90$ , fit is acceptable (Byrne 2010; Marsh et al. 2004). As with the EFA procedure, Items were removed that had loadings smaller than .30 on their intended conceptual factors, or which did not match logically and theoretically with other items in the same factors, or which caused negative error variance by being overly correlated with each other. During this process, 16 items were dropped.

## Results

The approaches to teaching model consisted of five-factor inter-correlated factors based on 24 items ( $\chi^2 = 564.49$ ;  $df = 242$ ;  $\chi^2/df = 2.33$ ; RMSEA = .054, 90% CI = .050 ~.058; SRMR = .049; CFI = .91; and gamma hat = .94) with good fit (see Figure 1). The three more traditional Chinese teaching approaches comprised Being Authorities and Teacher-centred, Focusing on Examination Practices, and Being Responsible for Teaching and Home Connections. Being Authorities and Teacher-centred focuses on strict practices to discipline students (i.e., create classroom rules) and teacher-centred approaches (i.e., ask students to copy your notes). Focusing on Examination Practices consists of the items: do a mastery quiz; do a period test; drill with examination-type items; and asking students to remember by rote, which suggest that examination-

based practices must be aligned to examinations and to prepare students for success. Being Responsible for Teaching and Home Connections refers to the responsibility as a teacher to support students to learn. It includes lesson preparation, checking student work, and setting expectations and goals for each student, even through home phone calls and liaising with parents. The two more student-centred approaches consist of Developing Life-long Learners, and Engaging Students in Learning. Developing Life-long Learners focuses on developing all-round students including skills, knowledge, character, habits, and attitudes, interacting with effective in-class teaching approaches. Engaging Students in Learning refers to encouraging students to achieve better learning outcome through adopting a variety of teaching student-centred strategies.

All remaining item loadings were greater than .50, which indicated that the items were related to each other as a separate factor in the model. The inter-correlations between the five factors ranged from .51 to .82 with an average value of .67 (see Figure 1). These correlations indicate that the five factors had much in common but still varied in sufficient ways. Some correlations ( $> .70$ ) were very high and these may lead to some redundancy in using multiple factors. However, the quality of fit is better by allowing these two factors to co-exist rather than forcing them to be one factor. In other words, alternative modeling produces worse fits and that there is some independence between factors sufficient to permit separate identification of the two constructs. In addition, based on Muthén and Muthén (2012), correlation values between .70 and .85 may be not problematic. Hence, they will be kept as these five factors. Another interesting finding is that these five factors were positively correlated with each other. This indicated that these teacher participants may not considered that one out of two clusters of teaching approaches (i.e., teacher-centred and student-centred) is superior to the other. Both of these teaching approaches have their own functions in terms of different objectives in the Chinese contexts.

Alphas within the range of .70 to .79 with an average value of .74 were good, indicating that the items had sufficiently robust reliabilities such that these items could be meaningfully used in further analysis (see Table 1).

[insert Figure 1 about here]

Table 1 shows the descriptive statistics for the five factors. Teachers endorsed most frequently Being Responsible for Teaching and Home Connections ( $M = 4.15$ ,  $SD = .58$ ) followed by Focusing on Examination Practices ( $M = 3.78$ ,  $SD = .73$ ), Developing Life-long Learners ( $M = 3.76$ ,  $SD = .72$ ), Engaging Students in Learning ( $M = 3.67$ ,  $SD = .83$ ), and gave least frequency (albeit still positive) to Being Authorities and Teacher-centred ( $M = 3.61$ ,  $SD = .76$ ). This model portrayed middle school teachers in China as being highly teacher-oriented and preparing students for examinations in their approaches to teaching, without neglecting engaging students in learning and developing life-long learners.

[insert Table 1 about here]

Teacher characteristics were examined as a possible source of variance in teachers' views about approaches to teaching. Multivariate analysis of variance (MANOVA) with main interaction was used to test whether teacher characteristics caused any statistically significant mean difference for the factors of teaching approaches. Multivariate statistics found that four teacher characteristics (sex:  $F_{5,440} = .97$ ,  $p < .05$ ; age:  $F_{5,412} = .04$ ,  $p < .00$ , teacher certificate:  $F_{5,439} = .03$ ,  $p < .00$ ; and year level they taught:  $F_{5,437} = 1.89$ ,  $p < .05$ ) had statistically significant mean differences in the frequency of their views on teaching approaches (see Table 2).

[insert Table 2 about here]

When checking how great were these mean differences caused by teacher characteristics, effect sizes were ranging from 0 to .33 with an average effect size of .14 (see Table 3). Only two effect sizes were clearly of medium sizes (Cohen 1988): Being Responsible for Teaching and Home Connections with teacher age ( $d = .33$ ), and Focusing on Examination Practices with the year level that teachers taught ( $d = .31$ ).

These effect sizes reveal that younger teachers aged less than 33 years were more likely to do more about lesson preparation, other duty work, and home connections than their elder counterparts ( $d = .33$ ). It appears that younger teachers took more responsibility for liaising extramural connections and teacher routine work. Teachers who taught Years 8 and 9 tended to do more examinations practice than their peers who taught Year 7 ( $d = .31$ ). It is obvious that the pressure of the secondary entrance examination made this difference.

[insert Table 3 about here]

## Discussion

Generally speaking, approaches to teaching in the model identified by these Chinese middle school teachers ranged from teacher-centred to student-centred on the continuum (Kember 1997; Trigwell et al. 2005). Being Authorities and Teacher-centred, Focusing on Examination Practices, and Responsible for Teaching and Home Connections were all more teacher-centred. The other two approaches, Developing Life-long Learners, and Engaging Students in Learning, were more student-centred. Unlike the extreme duality of teaching approaches proposed by some researchers (Maxwell et al. 2001; Onwuegbuzie et al. 2007), the findings in this research were pluralistic, and identified multiple teaching approaches ranging from teacher-centred to student-centred (Kember 1997; Trigwell et al. 2005). These results align with the findings in the reviewed literature (Fenstermacher and Soltis 2004; Trigwell and Prosser 2004). The approaches, we identified, cluster on the teacher-centred and student-centred continuum. This is not consistent with Cuban's (2007, p. 6) finding that teacher classroom approaches in the United States "have been in the middle of the [teacher-centred and student-centred] continuum rather than clustered at its polar extremes". Cuban investigated teaching approaches in three districts in the United States using multiple sources and methodologies between 1993 and 2005. In combination with the findings of related reviewed literature between the 1890s to the 1980s, he found that teachers in the United States exhibited "mixes of teacher-centred and student-centred practices" hugging in the middle of the continuum (Cuban 2007, p. 20). The reasons for the differences are not clear, and further investigations are needed.

The results seem to be consistent with the strong examination-oriented culture of China's education system. Approaches to teaching were predominantly in terms of teacher extramural responsibilities to support student learning and strict examination practices. This appears to be an entirely rational response to the impact of the Chinese public examination system on teachers. Especially, the secondary school entrance examination which happens at the end of middle school is crucial. Since China has never had a national education quality assessment system, examinations such as the university entrance examination and secondary entrance examination have been the de facto measures of the quality of education. They are the summative evaluation of students, teachers, and schools (Zhao 2007). Thus teachers, students, school leaders, and parents put a very high value on examinations in Chinese middle schools. The

teachers keep strict discipline and examination routines in order to help students to achieve higher outcomes, quality teaching, and a better reputation for schools (Liu 2004). This might explain why Focusing on Examination Practices was identified as playing an important role in Chinese middle school teaching approaches. Interestingly, the participants paid considerably less regard to engaging students in learning and developing life-long leaders. This may explain why the current teaching approaches that dominate in Chinese middle schools are still teacher-centred. This raises a concern about a conflict between the requirements for more student-centered teaching methods by educational reforms and current teacher-centred teaching approaches (MOE 2010).

Not surprisingly, Being Authorities and Teacher-centred was included in the model. The image of Chinese students as rote memorisers being taught by authoritarian teachers has led to a concept deemed the paradox of the Chinese learner (Watkins and Biggs 2001). Large classes (over 50 students in normal urban schools, but sometimes over 80 students in rural schools) in China, with expository instructions, relentless norm-referenced testing, and a teacher-centred classroom climate, seems not to be conducive to optimal learning according to Western standards (Tatsuoka and Corter 2004). In the Programme for International Student Assessment (PISA) exam in 2010, however, China wowed the world education community: Chinese students from Shanghai were not only placed first in all areas including math, reading, and science but scored remarkably higher than their counterparts (OECD 2010). PISA exam items frequently demand the application of concepts to challenging, real-life situations. To understand how students taught by memorization and teacher authority could score so well on PISA exams suggests it is worth investigating how various cultures actually implement 'memorization' (Watkins and Biggs 2001). Chinese students are taught at early ages how to memorise the text, such as Tang Dynasty poems and Three Character Primer by their parents using baby talk (Tardif et al. 1999). Later, students learn how to be active memorisers and how to use memorisation as a tool for concept development (DeHaan 2008). According to Li (2001), rote learning as used in Chinese classrooms is not mere memorisation, but a consolidation of knowledge and a deepening of understanding. In this model, Chinese teachers train students using exam taking or mastery quizzes to enhance students' memory for examination items, but also to deepen students' understanding of conceptual knowledge. This provides an alternative way of looking at the teacher-centred approach of memorization in the Chinese context. Therefore, because of different educational situations and educational ideologies, the teacher-centred approaches could be utilized for concept development in the Chinese context which may be different from the Western understanding. Please note that although the sample of this study is from Liaoning province, the Northeast of China, which is far away from Shanghai, the Southeast of China, the ideologies of educating children and the expectations of parents from early ages are similar across the country. Teaching strategies and ideologies may be more advanced in Shanghai since it has been regarded as the most developed education area in China. However, it's estimated that teaching strategies and ideologies may not vary in very different ways since teachers in Shanghai and Liaoning province exchange frequently in educational activities.

Watkins and Biggs (2001) claimed that the image of the Chinese teacher as authoritarian might be also misconstrued. As influenced by Confucianism, China has always been, and remains, a cultural, political, and social hierarchy. The hierarchical relationship requires authority, responsibility, and wisdom from superiors and requires loyalty, obedience, and dedication from subordinates (Watkins and Biggs 2001).

Confucius expects learners to respect and obey authority figures, and in this case, the teacher-student relationship is characterised as hierarchical. Therefore, superiors (teachers) have absolute authority over their subordinates (students). Students are expected to respect and not to challenge their teachers. This hierarchical structure reinforces strict Chinese teaching pedagogies (Wang 2007). Ho (2001) reviews an extensive body of literature showing that in authoritarian situations, Westerners focus on the restriction of freedom of choice, whereas Chinese looking at the same situation focus on the responsibility of the person in authority to care for the interests of their charges. Where strictness in Western classrooms may be viewed as reflecting animosity or inadequate teaching skills, it is seen in the Chinese context as parental-like nurturing that enhances motivation in students.

Another concept, namely Being Responsible for Teaching and Home Connections also reflects more traditional Chinese teaching. The central idea in this concept is teacher responsibility, which is an old Confucian conception advocated widely in China. In the traditional Chinese view, the teacher is regarded as ‘completely devoted to the job’. Chinese people have high expectations for their children’s education which results in a high demand for teacher responsibility. Further, Watkins and Zhang (2006) found that excellent modern Chinese teachers cared for students’ personal problems. Chinese teachers in the current study were identified as being responsible for their students both inside and outside the classroom, and even outside the school. These demands included keeping contact with parents through home visits, having meetings with parents, and making phone calls to parents or students. A similar conception was mentioned by the National Board for Professional Teaching Standards (NBPTS 2009, p. 3), which was - “teachers are committed to students and their learning”. However, it only focused on the classroom rather than beyond the classroom. Interestingly, from this research, it seems that teacher responsibility for students and their learning both inside and outside the classroom is a unique teaching practice in Chinese middle schools.

The developmental student-centred perspective, Developing Life-long Learners, embraced teachers’ proficiencies in developing students’ abilities in learning and life, good habits, and positive attitudes. From the traditional Chinese view, excellent teachers ‘teach as well as cultivate good persons’ (Jiao Shu Yu Ren). To some degree, this conception is similar to Fenstermacher and Soltis’ (2004) liberationist approach which stresses initiation into ways of knowing and the development of the student’s intellectual and moral virtues. However, the liberationist approach goes much further in terms of freeing the minds of students from false consciousness about their class, race, gender, and other forms of social repression than the conception of this study. The other more student-centred conception, Engaging Students in Learning, refers to involving students in peer and teacher-student interactions using a variety of instructional strategies. This is aligned with the result by Onwuegbuzie et al. (2007).

## **Conclusion**

In conclusion, Chinese middle school teachers’ conceptions of teaching approaches in this study highly reflected the traditional Chinese teaching features and partly reflected the findings of Western sources. These included an examination orientation, extramural connections with parents, teacher responsibility, and student development. As mentioned above, educational reform requires that Chinese schools must strive to seek innovative teaching methods to liberate Chinese students from endless homework and examinations, gear their efforts to each student, and give full scope to

students' ideological, moral, cultural and scientific potential (MOE 2010). Regarding the conceptions in this study, it seems that the current teaching approaches meet most of these requirements, but there is still a long way to go to liberate students from endless homework and examinations. Please note that, as aforementioned about the paradox of Chinese learners and teachers and the positively correlated five factors in the model, the meanings of teacher-centred approaches in the Chinese context may be different from those in the Western contexts. It is also noted that, like other studies (Cuban 2007; Onwuegbuzie et al. 2007), this study did not argue that one out of two clusters of teaching approaches (i.e., teacher-centred and student-centred) is superior to the other. Both of these teaching approaches have their own functions in terms of different objectives in different educational stages and contexts (i.e., China).

### **Implications**

It is hoped the current study would make a contribution to professional development and teaching improvement. As some teachers' conceptions of approaches to teaching have now been identified, other teachers may be able to reflect and discover the conceptions of teaching approaches that have been shaping their daily teaching. This study may encourage teachers to find a variation on their teaching approaches and see how such a variation might be related to their students' approaches to learning and learning outcome. Through critical self-evaluation, teachers may try to dispense with some ineffective routines and be willing to take up the challenges entailed in achieving professional preparation improvement and later, teaching effectiveness. Additionally, researchers and policymakers could use the model to design and implement more effective professional development programs which could result in changes in teacher conceptions, and in turn have an impact on their actual teaching approaches. Of course, this process takes time, however, the findings of this study may serve as a starting point for this change. This would help to meet the requirements of curriculum reform on liberating students' burden from endless homework and examinations. Most importantly, this study provides a baseline data for investigating whether the beliefs of Chinese teachers could be changed as they transit into practice in order inform both current teachers' professional development and future teachers' aspirations.

## References

- Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modelling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411-423.
- Authors. (2007). [details removed for peer review].
- Authors. (2012). [details removed for peer review].
- Author and Day. (2014). [details removed for peer review].
- Ajzen, I. (2002). Residual effects of past on later behavior: habituation and reasoned action perspectives. *Personality and Social Psychology Review*, *6*(2), 107-122. doi:10.1207/S15327957PSPR0602\_02.
- Ajzen, I. (2005). *Attitudes, personality, and behavior* (2nd ed.). Milton-Keynes, UK: Open University Press/McGraw-Hill.
- Biggs, J. (1999). *Teaching for quality learning at university*. Buckingham: Open University Press.
- Byrne, B. M. (2010). *Structural equation modelling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Routledge.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: Lawrence Erlbaum.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment Research and Evaluation*, *10*, 18-37.
- Cuban, L. (2007). Hugging the middle: Teaching in an Era of testing and accountability 1980-2005. *Educational Policy Analysis Archives*, *15*, 1-29.
- DeHaan, R.L. (2008). National Cultural Influences on High Education. In R. L. DeHaan & V. Narayan (Eds.), *Education for Innovation: Implications for India, China and America* (pp. 133-165). Rotterdam: Sense Publishers.
- Fan, X., & Sivo, S. A. (2007). Sensitivity of fit indices to model misspecification and model types. *Multivariate Behavioural Research*, *42*, 509-529.
- Farrell, D., & Grant, A. (2005). *Addressing China's Looming Talent Shortage*. Retrieved from McKinsey Global Institute: <http://web.rollins.edu/~tclairson/china/chitalentshort.pdf>
- Fenstermacher, G. D., & Soltis, J. F. (2004). *Approaches to teaching* (4th ed.). New York: Teachers College Columbia University.
- Fives, H., & Buehl, M. M. (2012). Spring cleaning for the “messy” construct of teachers’ beliefs: What are they? Which have been examined? What can they tell us? K. R. Harris, S. Graham, & T. Urdan (Eds.), *Individual differences and cultural and contextual factors* (pp. 471-499). Washington, DC: APA.
- Gao, L., & Watkins, D. A. (2002). Conceptions of teaching held by school science teachers in P.R. China: Identification and cross-cultural comparisons. *Science Education*, *24*(1), 61-79.
- Gerbing, D. W., & Hamilton, J. G. (1996). Viability of exploratory factor analysis as a precursor to confirmatory factor analysis. *Structural Equation Modeling*, *3*, 62-72.
- He, R. L., & Pan. Y. L. (2003). General education, practical skills internationalization: Trends of curriculum development in the transitional period and their implications. *Qinghua University Education Research*, *1*, 98-103.
- Ho, I. (2001). Are Chinese teachers authoritarian? In D. A. Watkins & J. B. Biggs (Eds.), *Teaching the Chinese learner: Psychological and pedagogical perspectives* (pp. 99-114). Hong Kong: Comparative Education Research Centre, University of Hong Kong.

- Hsueh, Y., & Tobin, J. (2003). Chinese early childhood educators' perspectives. *Early Childhood Research*, 1, 73-94.
- Hughes, I., & Yuan, L. (2005). The status of action research in the People's Republic of China. *Action Research*, 3, 383-402.
- Kember, D. (1997). A reconceptualisation of the research into university academics' conceptions of teaching. *Learning and Instruction*, 7, 255-275.
- Lerner, J. S., & Tetlock, P. E. (1999). Accounting for the effects of accountability. *Psychological Bulletin*, 125(2), 255-275.
- Li, L. (2004). *Education for 1.3 Billion – Former Chinese Vice Premier Li Lanqing on 10 Years of Education Reform and Development*. Beijing, China: Foreign Language Teaching and Research Press, Pearson Education.
- Li, X. (2001). *A positive cultural perspective on rote learning in China: An analysis of views from 100 Chinese learners of English*. Retrieved from <http://www.baleap.org.uk/primreports/2001/shu/li.htm/>
- Lindblom-Ylänne, S., Trigwell, K., Nevgi, A., & Ashwin, p. (2006). How approaches to teaching are affected by discipline and teaching context. *Studies in Higher Education*, 31(3), 285-298.
- Liu, L. H. (2004). *Imperial examination system and study of imperial examination*. Guiyang, China: Guizhou Educational Press.
- Marsh, H. W., Hau, K., & Wen, Z. (2004). In search of golden rules: comment on hypothesis-testing approaches to setting cutoff values for fit indices and dangers in over generalizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, 11(3), 320-341.
- Maxwell, K. L., McWilliam, R. A., Hemmeter, M. L., Ault, M.J., & Schuster, J. W. (2001). Predictors of developmentally appropriate classroom practices in kindergarten through third grade. *Early Childhood Research Quarterly*, 16, 431-452.
- Ministry of Education of the People's Republic of China (MOE). (2010). *National Outline for Mid and Long-Term Education Reform and Development 2010-2020*. Retrieved from [http://www.gov.cn/jrzg/2010-07/29/content\\_1667143.htm](http://www.gov.cn/jrzg/2010-07/29/content_1667143.htm)
- Minor, L. C., Onwuegbuzie, A. J., Witch, A. E., & James, T. L. (2002). Preservice teachers' educational beliefs and their perceptions of characteristics of effective teachers. *The Journal of Educational Research*, 96, 116-127.
- Muthén, L.K. & Muthén, B.O. (2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.
- Nager, N., & Shapiro, E. K. (2000). *Revisiting progress pedagogy*. New York: State University of New York Press.
- National Board for Professional Teaching Standards (NBPTS). (2009). *What teachers should know and be able to do: National Board for Professional Teaching Standards*. Retrieved from [http://www.nbpts.org/UserFiles/File/what\\_teachers.pdf](http://www.nbpts.org/UserFiles/File/what_teachers.pdf)
- Onwuegbuzie, A. J., Witch, A. E., Collins, K. T., Filer, J. D., Wiedmaier, C. D., & Moore, C. W. (2007). Students' perceptions of characteristics of effective college teachers: A validity study of a teaching evaluation form using a mixed-methods analysis. *American Educational Research Journal*, 44(1), 113-160.
- OECD (2010). *Shanghai and Hong Kong: Two Distinct Examples of Education Reform in China*. Retrieved from <http://www.oecd.org/dataoecd/34/45/46581016.pdf>
- Prosser, M., & Trigwell, K. (2006). Confirmatory factor analysis of the approaches to teaching inventory. *British Journal of Educational Psychology*, 76, 405-419.

- Rieskamp, J., & Reimer, T. (2007). Ecological rationality. In R. F. Baumeister & K. D. Vohs (Eds.), *Encyclopedia of Social Psychology* (pp. 273-275). Thousand Oaks, CA: Sage.
- Samuelowicz, K., & Bain, J. D. (2001) Revisiting academics' beliefs about teaching and learning. *Higher Education*, 41, 299–325.
- Tardif, T., Gelman, S. A., & Xu, F. (1999). Putting the 'noun bias' in context: A comparison of English and Mandarin. *Child Development*, 70, 620-635.
- Tatsuoka, K. K., & Corter, J. E. (2004). Patterns of diagnosed mathematical content and process skills in TIMSS-R across a sample of 20 countries. *American Educational Research Journal*, 41, 901-926.
- Trigwell, K., Ellis, R. A., & Han, F. (2011). Relations between students' approaches to learning, experienced emotions and outcomes of learning. *Studies in Higher Education*, 37(7), 811-824.
- Trigwell, K., Prosser, M., & Ginns, P. (2005). Phenomenographic pedagogy and a revised Approaches to teaching inventory. *Higher Education Research & Development*, 24(4), 349-360.
- Trigwell, K., & Prosser, M. (2004). Development and use of the Approaches to teaching inventory. *Educational Psychology Review*, 16(4), 409-424.
- Trigwell, K., Prosser, M., & Waterhouse, F. (1999). Relations between teachers' approaches to teaching and students' approaches to learning. *Higher Education*, 37, 57-70.
- Walker, A., & Qian, H. (2012). Reform disconnection in China. *Peabody Journal of Education*, 87(2), 162-177. doi: 10.1080/0161956X.2012.664462
- Wang, V. C. X. (2007). Chinese knowledge transmitters or Western learning facilitators adult teaching methods compared. In K. P. King & V. C.X. Wang (Eds.), *Comparative adult education around the globe* (pp. 113-1370). Hangzhou, China: Zhejiang University Press.
- Watkins, D. A., & Biggs, J. B. (2001). *Teaching the Chinese learner: Psychological and pedagogical perspectives*. The University of Hong Kong, Hong Kong: Comparative Education Research Centre and Australian Council of Educational Research.
- Watkins, D. A., & Zhang, Q. (2006). The good teacher: A cross-cultural perspective. In D. M. McInerney, M. Dowson, & S. V. Etten (Eds.), *Effective schools* (pp. 185-204). Greenwich: Connecticut Information Age Publishing.
- Zhang, J., & Collis, B. (1995). Comparison of teaching models in the West and in China. *E-Journal of Instructional Science and Technology*, 1, 3-15.