Gateways to Leading Learning

Teachers’ Conceptions of Excellent Teaching and Its Relationships to Self-reported Teaching Practices

Junjun Chen, Gavin T. L. Brown, John A. C. Hattie and Pam Millward
We are pleased to introduce this series of monographs as part of the ongoing collaboration between the Asia Pacific Centre of Leadership and Change (APCLC) and the Hong Kong Principals’ Institute (HKPI). Both organizations are focused on promoting deeper understanding of school leadership through innovative research and to improved leadership practice in schools. We believe that working partnerships between organizations such as ours provide fertile tracts within which ways to more successful leadership can be explored, tested, practiced and disseminated in ways that neither partner can achieve individually. We hope that you enjoy reading the monograph and that it in some way helps you reflect on what you do as a leader, regardless of where that is.
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Highlights

- Survey validated new Teachers’ Conceptions of Excellent Teaching inventory.
- Chinese middle school teachers identified 5 factors for excellent teaching.
- Student-oriented ideas of excellence were endorsed more than examination success.
- Excellence factors predicted similar importance of factors of teaching practices.
- Professionalism factor predicted both examination and student-engagement practices.

Abstract

This study surveyed Chinese middle school (n = 951) teachers’ conceptions of excellent teaching and examined the relationship of those conceptions to their self-reported teaching practices. Responses were analyzed using confirmatory factor analysis and structural equation modeling. These teachers identified one examination-oriented dimension and four interactive, pedagogical dimensions of excellent teaching and four dimensions of teaching practice. The structural model indicated a high consistency rate (83%) between teachers’ conceptions of excellent teaching and the corresponding self-reported practices. Implications for teaching standards, teacher professional development, and examination system are discussed.
Introduction

China is going through massive education reforms in order to prepare more students for success in the 21st century (Feng, 2006). A key to the success of the reforms is the quality of teachers and their teaching methods (Zhang & Collis, 1995). Chinese teachers tend to rely heavily on traditional forms of teaching highly focused on school examinations, hence, the success of the reforms depends in part on changing how teachers carry out their pedagogical role (Gao & Watkins, 2002). Research in China has shown that unless teachers realize the need for a new approach to teaching and challenge their traditional views of the nature of learning and teaching, real change is unlikely to occur (Gao, 1992; Gao et al., 1989). As Liu (1995) claimed: “Changing the conceptions of teaching and schooling is now the key to improving students’ quality” (p. 9). Thus changing how teachers conceive of teaching appears to be urgent in the current Chinese educational context. However, first it is important to understand teachers’ current conceptions of teaching excellence.

Excellent teaching is considered the basis for enhancing student learning, achieving school effectiveness, improving teacher evaluation, and designing and improving teacher education programs (Betoret & Artiga, 2004; Skamp & Mueller, 2001). It would be useful to understand how teachers conceive of excellent teaching and how their conceptions relate to teaching practices as a way of informing education reforms in China. It may be that a clearer understanding of how excellent teaching relates to teaching practices will contribute to improved teaching and student learning.
Literature Review

2.1 International Perspectives of excellent teaching

Researchers have been investigating the very best teaching for decades. A variety of terms have been used: for example, ‘good’ (Watkins & Zhang, 2006), ‘effective’ (Witcher, Onwuegbuzie, & Minor, 2001), ‘highly accomplished’ (National Board for Professional Teaching Standards (NBPTS), 1987), ‘excellent’ (Kane, Sandretto, & Heath, 2004), and ‘qualified’ (Darling-Hammond & Youngs, 2002). Despite the variation in terminology, all of the studies seem to be describing a similar set of attributes concerning the very best teaching. Hence, the term ‘excellent’ is used in this study to describe the very best teaching.

Much of the significant research into teaching excellence has focused on identifying the characteristics of excellent teachers and excellent teaching and developing models of an excellent teacher and excellent teaching. A substantial body of research around conceptions of teaching has also been developed. An influential framework for understanding teachers’ conceptions of teaching seems to be Kember’s (1997) three major approaches. The ‘teacher-centered’ orientation involved imparting information and transmitting structured knowledge. The ‘student-centered’ orientation included facilitating understanding and encouraging
conceptual change. The ‘student-teacher interaction’ conception acted as a bridging conception between the two contrasting orientations. Most of the identified conceptions of excellent teaching can be located on this teacher-student continuum.

However, it might be argued that there are alternative ways of conceiving teaching. For example, Brown, Lake, and Matters (2009) suggested that teacher- and student-orientations may be parallel emphases rather than opposites and further suggested, based on an analysis of the teaching conception frameworks in Pratt (1992) and Fenstermacher and Soltis (1998), that there may also be an individualistic versus collectivist approach to understanding teaching conceptions.

The point of teaching quality or excellence is that excellent teachers work more on the nature of tasks and activities so as to engage their students in conceptual understanding, analytical thinking, and reasoning during instruction rather than engage in either teacher-centered or student-centered teaching practices (Boston & Smith, 2009; Rittle-Johnson, Siegler, & Alibali, 2001). Indeed, Kember and Wong (2000) found that Hong Kong university students were more interested in the quality of teaching, rather than whether it was teacher- or student-oriented. Nonetheless, the teacher-student continuum approach to interpreting conceptions of teaching has
been productive and reasonably robust (Kember, 1997) and, thus, was used as a framework for interpreting data in this study.

Beishuizen, Hof, Van Putten, Bouwmeester, and Asscher (2001) examined students’ and teachers’ conceptions of excellent teachers in the Netherlands at the primary and high school level by asking participants to write about the characteristics of an excellent teacher. The results indicated that excellent primary teachers were conceived as acting as competent instructors focusing on transmitting knowledge and skills. Excellent teachers at high school were conceived as establishing the student-teacher relationship. This study focused more on teacher subject knowledge, pedagogical knowledge, and interactions between the teacher and students, which were embedded in the teacher-centered orientation and the teacher-student interaction. However, this study overlooked human dimensions (e.g., charisma, passion, compassion, egalitarianism, and a sense of humor) that have been frequently advocated in the Western literature. This human dimension “gives all teachers, whether in the classroom, the sports arena, or the home, their power as effective influencers” (Kottler & Zehm, 2000, p. 2).

Kottler and Zehm (2000) reported a number of characteristics of excellent teachers, at the primary and high school level in the United States, which included sound subject
knowledge, proper methods of instruction, and other related skills. In addition, they claimed that teachers were more responsible for presenting subject knowledge and assisting their students in achieving high scores rather than teaching as “a way of life” (p. 20). More recently, Kottler, Zehm, and Kottler (2005), added this humanistic perspective as one of the essential characteristics of excellent teachers. Their work, therefore, identified three categories of excellent teaching: that is, the teacher-centered conception (sound subject knowledge), and the two more student-centered conceptions (i.e., proper pedagogical strategies and skills and way of being a person).

Another study from the United States (Witcher et al., 2001) examined 219 pre-service teachers’ perceptions of excellent teachers at the tertiary level and identified the three categories: that is, a teacher-centered category (classroom and behavior management and knowledge about subject), a teacher-student interaction category (teaching methodology and enthusiasm for teaching) and a student-centered category (love for students and being supportive of them). In a follow-up investigation, Minor, Onwuegbuzie, Witcher, and James (2002) found a fourth category termed as professionalism. These findings were confirmed by Onwuegbuzie et al. (2007).

Rather than just identifying characteristics of excellent teachers, the
characteristics, sound subject and pedagogical knowledge, classroom climate and management, student-teacher relationships, professionalism, and the effects of these categories on student progress. Most categories identified in these studies can be located on Kember’s (1997) teacher-centered and student-centered continuum.

Research into conceptions of excellent teaching is still at the very beginning stage in China. Watkins and Zhang (2006) reviewed several related studies, which were conducted across all school levels in Hong Kong or Mainland China. They concluded that an excellent Chinese teacher had a deep level of knowledge, focused on knowledge delivery, helped students to
compared with findings from Western literature, some similar categories were identified. These included sound subject and pedagogical knowledge, student-teacher relationships, a commitment to teaching and an understanding of students’ development. However, Chinese conceptions of excellent teaching excluded the notion of professionalism and personal and professional characteristics. Western conceptions of excellent teaching on the other hand did not include being a moral guide or caring about a student’s personal life. In summary, the studies on teaching excellence provided a theoretical framework to inform this study and to guide the construction of an instrument aimed at collecting teacher thinking about excellent teaching.

When these conceptions were
2.2 Teaching practices

Researchers have classified teaching practices using different dimensions. Each of these dimensions could exemplify Kember’s (1997) continuum ranging from more student-centered perspectives to more teacher-centered perspectives. The teacher-centered perspective is associated with transmission-oriented practices, while the student-centered approach involves more progressive practices (Brown, Lake, et al., 2009; Onwuegbuzie, Witch, Filer, & Downing, 2000). The progressive student-centered practice focused on human development, interacting with the world of people and materials, and building humanist values (Nager & Shapiro, 2000). Progressive practices linked school learning to students’ lives outside the school context. Thus, decisions concerning practices implemented by progressive teachers were based on students’ personal experiences and were more likely to develop practical abilities and skills (Zhao, 2007). On the other hand, transmissive teachers adopt a set of teacher-centered practices that emphasize dispensing knowledge to students, using the lecture as a primary teaching method, and assessments that focus on memorization of facts and details (Brown, Lake, et al., 2009).

Similarly, teaching practices in China could be placed on the teacher-centered and student-centered continuum (Kember, 1997). The Chinese model of teaching is characterized by the transmission of knowledge principally through an imitative, repetitive, and memorizing process (Hughes & Yuan, 2005; Paine, 1992; Tang & Absalom, 1998). The role of a teacher is to deposit knowledge into students (Zhang & Collis, 1995). Teaching methods are largely expository and teacher-directed activities include drilling for externally-mandated, high-stakes or consequence examinations (Watkins & Biggs, 2001). The teaching process is teacher-centered and text-based. Both the teacher and the textbook are regarded as authoritative sources of knowledge (Cortazzi & Jin, 1996). This description indicates that Chinese teaching practices are very teacher-centered, but it does not exclude the possibility of student-centered practices. This review of the literature enabled the authors to develop an instrument relating to statements of teaching practices in this study.
The relationship of teaching conceptions to practices

Kember (1997, p. 207) concluded that "the methods of teaching adopted, the learning tasks set, the assessment demands made and the workload specified are strongly influenced by the orientation to teaching". Kember and Kwan (2000) concluded that teachers who conceived of excellent teaching as transmitting knowledge were more likely to use content-centered approaches to teaching. On the other hand, teachers who conceived of excellent teaching as facilitative in nature tended to use learning-centered approaches. Similar patterns have been reported elsewhere (Gow & Kember, 1993; Ho, Watkins, & Kelly, 2001; Samuelowicz, 1994).

Kane, Sandretto, and Heath (2002), however, commented that Kember and Kwan (2000) had missed an opportunity to examine the extent to which teachers’ conceptions of excellent teaching were related to their claimed teaching practices. In addition, the Kember and Kwan study did not reveal how these conceptions were inter-related or cross-related. Apart from Hay McBer’s (2000) model for excellent teaching, it seemed that no other projects had developed the categories of excellent teaching into an entire model. Even Hay McBer’s model did not explore the relationships between the categories. The studies in teaching practices are in a similar situation.

Theoretical framework - the theory of planned behavior

The theory of planned behavior (Ajzen, 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 behavioral control, the more likely it is that people will perform the behavior 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 behavior, while weak conceptions have little impact on behavior (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 & 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, 2002, 2005). Ajzen (2005) suggested reutilization of behavior as a possible explanation for any inconsistencies.

Therefore, it would be worthwhile to explore not only what teachers’ conceptions of excellent teaching are
but also how they relate to their self-reported teaching practices. The research instruments employed in this study would be helpful in making explicit the participants’ conceptions of excellent teaching and practices.

2.5 The contemporary Chinese educational context

In order to understand teaching excellence in Chinese middle schools, it is necessary to understand more about the context of middle schools in China. Note that middle school in China includes three grades (i.e., Years 7, 8, and 9). Currently, the Chinese Ministry of Education is the country’s highest policy body. Since the late 1990s, Chinese basic education has adopted a new system characterized by “central leadership, local responsibility, and management at various levels” (Wang, 2003, p. 3). The central government has assigned the responsibility of popularizing compulsory education to provincial and municipal governments. Thus, Chinese education is still greatly centralized, but has begun to be decentralized over the past two decades (Cheng & DeLany, 1999). Authorities at local or higher level run schools and these schools have consultative powers in terms of school management. The Compulsory Education Law in 1986 stipulated what was to be the management system of compulsory education. In most cases, a 6-3-3 system has been established. Basic education in China includes six years of primary school, three years of middle school, and three years of high school education. The first nine years (i.e., primary and middle school) of education are compulsory and the central government pays for tuition. Students who are six years old are eligible to start their primary education.

In China, primary school students are able to move to the middle school without sitting for a selective examination. At the end of middle school, however, students have to sit for the high school entrance examination to gain promotion to high school since high school education is not included in compulsory education in China. High schools enroll students based on students’ examination scores in the high school entrance examination. The local educational bureau and the school board, however, make decisions about school entry (Liu, 2005). Each high school has its own entrance score and the students who reach the school’s entrance score are able to attend the school by paying the required tuition fee. A high school also has the right to enroll the students whose scores are lower than the school entrance score, but within a certain score range by charging a higher tuition fee and/or an additional fee. The score and fee ranges are dependent on the policy of the individual school. In general, the lower a student’s score is,
Based on the theory of planned behavior (Ajzen, 2005) and the related previous empirical findings regarding the relationship between teachers’ conceptions of teaching and their practices, it was hypothesized firstly that teachers’ conceptions of excellent teaching would have statistically significant relationships to self-reported teaching practices. Specifically, it was expected that there would be alignment between more teacher-centered and student-centered conceptions of excellent teaching with more teacher-centered and student-centered teaching practices.

2.6 Research questions and hypotheses

The immediate goal of this study was to identify the conceptions of middle school teachers in one province of China concerning the nature of excellent teaching and their self-reported teaching practices, and to explore the relationship of those conceptions to their teaching practices. The long-term goal of the study was to inform the development of excellent teaching standards for use in teacher education and professional development in Chinese middle schools. The two research questions in this study were proposed:

1) What are the conceptions of excellent teaching and self-reported teaching practices of Chinese middle school teachers?

2) How are Chinese middle school teachers’ conceptions of excellent teaching related to their teaching practice?
Findings
This section highlights the early findings in the study. Two key categories are discussed: Singapore school principals' vision development and implementation and an emerging category of how Singapore school principals care for teachers in order to provide a conducive working environment for teachers. The following figure provides a visual view of the process of how Vision is developed and implemented.
Method
This study was based on two pilot studies from the same sample population (Chen, 2010). One was a qualitative study that independently explored how Chinese middle school teachers, students, and principals conceived of excellent teaching. The findings were used to construct the questionnaires of excellent teaching and teaching practice in Chinese middle schools. The other study was a quantitative study to explore teachers’ conceptions of excellent teaching using trial versions of the self-administered questionnaires with a relatively small sample of middle school teachers. The present study used the revised questionnaires to investigate the strength of agreement toward various conceptions of excellent teaching and teaching practice among a large sample of teachers. The data were examined independently in two models and then examined concurrently in a structural model.
3.1 Sample

A sample of 2200 Chinese middle school teachers, from 29 middle schools in nine cities from one province in China, was approached and 951 valid questionnaires were returned giving a response rate of 43.2%. While population demographic characteristics for China middle school teachers are not available, the current sample of 951 relative to the population of just over 5,000,000 middle school teachers in China produces a margin of error, based on sampling theory,\(^1\) of only 3.18%, meaning that great confidence can be placed in the sample means. The majority of the teachers (62.0%) were female. Most (81.1%) of the teachers held a Bachelor qualification, 13.9% held a Diploma qualification, and only 5.0% held a Master qualification. Most teachers were relatively young (i.e., 25.3% under 33 years old and 40.1% aged between 33 and 40 years), with only 34.6% over 40 years old. Years of teaching experience were consistent with age (i.e., 29.9% < 8 years, 40.0% 8-15 years, and 30.1% > 15 years). Just over a quarter of the teachers held a junior teacher certificate, 40.3% of the teachers held an intermediate teacher certificate, and about one-third held a senior teacher certificate. There were 42.1% of the teachers taught social science and 57.9% of them taught science. Approximately equal percentages of the teachers taught at Years 7 (32.5%), 8 (31.5%), and 9 (33.5%) in the middle school years in China, and only 2.5% taught across three years.

\(^1\) Values calculated at [http://www.raosoft.com/samplesize.html](http://www.raosoft.com/samplesize.html)
3.2 Instruments

Two instruments were developed for this study based on the reviewed literature and the two aforementioned pilot studies (Chen, 2010). The Teachers’ Conceptions of Excellent Teaching (TCET) comprised 58 statements about the nature of excellent teaching in Chinese middle schools. Teachers were asked to indicate how strongly they agreed that each statement located in the first column was the part of excellent teaching in Chinese middle schools. They were asked to tick one box using a six-point, positively-packed agreement response rating scale in the second column. This response scale included two negative and four positive agreement responses with identical scores (e.g., strongly disagree = 1, mostly disagree = 2, slightly agree = 3, moderately agree = 4, mostly agree = 5, and strongly agree = 6). Positively-packed rating scales are known to generate discrimination in contexts of social desirability (Brown, 2004; Lam & Klockars, 1982).

The Teaching Practice (TP) questionnaire had 48 statements about the importance of teachers’ own teaching practices (e.g., linking new knowledge to prior knowledge; criticizing students when they made mistakes or misbehave) used in Chinese middle schools. Teachers were asked to indicate how important they considered each practice on the list to be. The importance scale had two negative and three positive responses (e.g., not important = 1, of little importance = 2, of some importance = 3, of considerable importance = 4, and of critical importance = 5).
3.3 Administration

Three qualified research assistants, who were trained in China by the first author, conducted the survey. Since they had helped collect data for the two previous pilot studies, they clearly knew the process of data administration and collection. In the first step, the research assistants contacted 50 middle schools in nine cities from one province in China. The research assistants visited 29 schools that had agreed to cooperate. They briefed each principal with a written Participant Information Sheet, and asked for permission to conduct the research within the school. Once each principal signed a consent form, they were asked to call for teacher volunteers within their school. Teacher Participant Information Sheets and questionnaires were then distributed to teacher volunteers by the principals. Teachers were asked to return them directly to the research assistants within four weeks using the addressed stamped envelopes supplied with the questionnaires.
3.4 Analysis

The two inventories (i.e., excellent teaching and teaching practice) were analyzed separately. First, variables and cases with more than 5% missing values were removed and values for missing responses were calculated using the expectation maximization (EM) missing values procedure (Dempster, Laird, & Rubin, 1977). Since 106 variables had less than 5% missing values, all items in the questionnaire were kept for analysis. However, the 100 cases with more than 5% missing values were removed. The EM procedure is a two-stage process of estimating the value of missing data and modeling the parameters (i.e., means, standard deviations, and correlations) assuming the missing data are as estimated. The data distribution of the variables was checked before analysis. Skewness values ranged from .09 to 1.95, and kurtosis ranged from .77 to 1.39. Thus, it was concluded that the variables had a sufficiently normal distribution for further analysis (Byrne, 2010). Note validity and reliability of the instrument had been checked in the two earlier pilot studies.

The two models, TCET and TP, were generated using exploratory factor analysis with maximum likelihood estimation and oblique rotation (Costello & Osborne, 2005). Items were removed that had loadings smaller than .30 on their intended conceptual factors, or which had cross loadings greater than .30 on other factors, or which did not match logically and theoretically with other items in the same factors. Confirmatory factor analysis (CFA) (or rather a restrictive factor analysis) was utilized to test these two models (Anderson & Gerbing, 1988) using Amos 18 (Arbuckle, 2009). Items were removed in CFA that still had low loadings (<.30) on their conceptual factors or which had strong modification indices to other factors. At this stage, the linear structural relations for the two measurement models were identified and estimated (Marsh & Hocevar, 1985). Note that estimates of reliability (α) for the TCET model factors were within the range of .74-.89, with an average value of .82, and for the TP model alpha fell in the range of .72-.88, with an average value of .81. These values indicated that the items were sufficiently consistent within each factor so as to permit meaningful further analysis.
Structural equation modeling (SEM) is a good method for testing hypotheses about linear relations among latent factors (Wegener & Fabrigar, 2000). SEM was employed to identify the statistically significant paths between the two different structures (i.e., teachers’ conceptions of excellent teaching and teaching practices) (Hoyle, 1995; Klem, 2000; Thompson, 2000). In structural models, paths between latent factors are standardized beta regression weights (β), meaning that a path value of 1.0 indicates that the dependent variable increases by one standard deviation for every standard deviation increase in the predictor variable. When testing the hypothesized regression paths in this study, three criteria were applied. The first of these was that the introduction or elimination of regression paths improved the quality of fit. The second was that the introduced regression paths did not cause negative error variances. The last one was that introduced regression paths had statistically significant values.
In CFA and SEM, fit indices indicate how well a model fits the data and whether there is sufficient evidence that the model should or should not be rejected. It is known that most fit indices are sensitive to different conditions (e.g., sample size, model complexity, or model misspecification). The $X^2$ statistic is extremely sensitive to large sample size (Byrne, 2010; Kline, 2005; Vandenberg & Lance, 2000). Some goodness-of-fit indices (e.g., Tucker-Lewis Index and Comparative Fit Index) are overly sensitive to complex models, that is, those with more than three factors or with hierarchical structure (Cheung & Rensvold, 2002). The most popular index, the root mean square error of approximation (RMSEA), is sensitive to complex models and specification error (Fan & Sivo, 2007). In contrast, the standardized root mean square residual (SRMR) and gamma hat have been shown to be relatively resistant to the impact of large samples, complex models, and model misspecification (Fan & Sivo, 2007).

Nonetheless, it is recommended that multiple fit indices are reported when assessing model fit (Fan & Sivo, 2005; Hu & Bentler, 1999). In this study, the following values for the various fit indices are used to test a model fit: the $X^2$ package including $X^2$, df, $X^2$/df, SRMR, RMSEA with 90% CI, CFI, and gamma hat. For the $X^2$ package, perfect fit occurs when $X^2$ is roughly equal to its df and good fit is inferred when the ratio of $X^2$ to df has $p>.05$. When RMSEA and SRMR are $\leq .05$ fit is good and when $\leq .08$, it is acceptable (Browne & Cudeck, 1989; Byrne, 2010; Hu & Bentler, 1999). When the 90% CI for RMSEA falls in the range from .050 to .080, fit is acceptable (Kenny, 2008). For goodness-of-fit indicators, when CFI and gamma hat are $\geq .95$, fit is good and when they are $>.90$, fit is acceptable (Byrne, 2010; Hoyle, 1995).
Results

4.1 TCET Model

Initial analysis identified five factors of excellent teaching: Examination-oriented, Developing Lifelong Learners, Student Focused, Being Responsible For Engaging Students In Learning, and Being A Professional Learner. However, it was clear from inspection of factor inter-correlations that the examination-oriented factor was relatively independent of the four other factors that were highly inter-correlated. Hence, a hierarchical model with two dimensions and five first-order factors was tested. This model correlated the examination factor with a second-order
factor under which the four other factors were aggregated. This model, based on 26 items, of teacher conceptions of excellent teaching had good fit ($X^2 = 1154.19$, $df = 294$, $X^2/df = 3.93$, $p = .05$; RMSEA = .055, 90% CI = .052 - .059; SRMR = .055; CFI = .91; gamma hat = .94) (see Fig. 1). The interactive, pedagogical dimension of excellent teaching had only a weak inter-correlation ($r = .25$) with the examination dimension of excellent teaching.

Figure 1.  
Chinese middle school teachers’ conceptions of excellent teaching model. Error terms removed for simplicity.
Multivariate analysis of variance (MANOVA) with main effects found that all seven teacher characteristics had statistically significant mean differences in their levels of agreement with these conceptions of excellent teaching (sex:

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellence As Examination-oriented</td>
<td>3.98</td>
<td>1.10</td>
<td>.77</td>
</tr>
<tr>
<td>Excellence As Developing Lifelong Learners</td>
<td>5.26</td>
<td>.69</td>
<td>.80</td>
</tr>
<tr>
<td>Excellence As Student Focused</td>
<td>5.21</td>
<td>.68</td>
<td>.85</td>
</tr>
<tr>
<td>Excellence As Being Responsible For</td>
<td>4.85</td>
<td>.80</td>
<td>.70</td>
</tr>
<tr>
<td>Engaging Students In Learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellence As Being A Professional Learner</td>
<td>5.16</td>
<td>.72</td>
<td>.70</td>
</tr>
</tbody>
</table>
$F_{5,930} = 5.75, \ p < .001; \text{ age: } F_{101,794} = 2.46, \ p < .05; \text{ teacher certificate: } F_{101,806} = 2.30, \ p < .05; \text{ qualification: } F_{101,730} = 2.25, \ p < .05; \text{ subject: } F_{5,919} = 2.80, \ p < .05; \text{ year: } F_{152,521} = 2.12, \ p < .05; \text{ work experience: } F_{101,822} = 2.04, \ p < .05$).

However, only one effect size was clearly of medium size; teachers with College qualifications ($M = 5.37$) were more likely to see excellence in terms of developing their students as lifelong learners than their colleagues holding Bachelor or Master qualifications ($M = 5.10$) ($d = .36$). Otherwise, all differences in mean endorsement were either trivial or small. School type led to a statistically significant mean difference for all five factors with an average effect size of $d = .21$. Teachers in urban schools tended to agree more with all conceptions than teachers in rural schools. MANOVA found that school size had statistically significant mean differences in their levels of agreement with Examination-oriented ($d = .34$) and Being Responsible For Engaging Students In Learning ($d = .20$). The teachers in schools larger than 1600 students held the highest level of agreement for all factors compared to teachers who worked in small or medium schools with an average effect size of $d = .15$. The consistency of the mean level of endorsement for these five factors across school and teacher characteristics suggests that the TCET taps into stable priorities in how Chinese middle school teachers conceive of excellent teaching.
4.2 TP Model

A four factor, inter-correlated model of self-reported teaching practices had good fit \( \chi^2 = 1047.85, \ df = 291, \ \chi^2/df = 3.60, \ p = .06; \ RMSEA = .052, \ 90\% \ CI = .049-.056; \ SRMR = .049; \ CFI = .90; \) and \( \gamma \hat{=} .94 \) (see Fig. 2). This model involved four major factors, although one of which had two first-order factors (i.e., Being Strictly Teacher-Oriented). The four factors were Being Strictly Teacher-oriented, Using Novelty And Variety Of Methods, Keeping Extramural Connections, and Encouraging Student Involvement. The two first-order factors for Being Strictly Teacher-oriented were Teacher is In Charge and Doing Examination Practices. Unlike the four factors of TCET, the inter-correlations between the four major practices were moderate indicating that the practices were relatively independent of each other.

Teachers endorsed as most important the factor Encourage Student Involvement \( (M = 4.13) \) and gave the least importance (albeit still positive) to Teacher Is In Charge \( (M = 3.65) \) (see Table 2).

This model showed that middle school teachers in China reported thinking that highly student-oriented teaching practices, as well as strongly teacher-oriented practices as well as strongly
teacher-oriented practices focused around preparing students for examinations, were related. The much stronger inter-correlation between examination-oriented and interactive, student-oriented teaching practices showed the most salient difference in the thinking of Chinese middle school teachers. While examinations were clearly not part of their conception of excellent teaching, they were seen as a highly consistent teaching practice.
As with the conceptions of excellent teaching, MANOVA with main effects found that six teacher characteristics excluding work experience had statistically significant mean differences in their views of importance of teaching practices (sex: $F_{5,930} = 4.56, p < .01$; age: $F_{101,794} = 2.44, p < .01$; teacher certificate: $F_{101,806} = 3.00, p < .01$; qualification: $F_{101,830} = 1.88, p < .05$; subject: $F_{5,919} = 3.51, p < .05$; year: $F_{152,521} = 2.00, p < .05$). All effect sizes were small and only one effect size was $d = .30$ related to teachers with a junior or intermediate teacher certificate being more likely to think that keeping extramural connections was important than their colleagues with a senior teacher certificate. There was a statistically significant mean difference for school type and size on the same factor e Strict Teacher-Oriented practice. Teachers who worked in rural schools and those working in schools with between 1300 and 1600 students gave lower importance for this teaching practice than the teachers in urban ($d = .26$), as well as larger and smaller schools ($d = .13$). Otherwise, mean scores only had small to trivial differences according to school or teacher characteristics. The consistency of the mean level of endorsement for these four factors suggests that the TP taps into stable priorities in how Chinese middle school teachers conceive of the importance of various teaching practices.

<table>
<thead>
<tr>
<th>Scale</th>
<th>$M$</th>
<th>$SD$</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being Strictly Teacher-oriented</td>
<td>3.70</td>
<td>.69</td>
<td>.80</td>
</tr>
<tr>
<td>Using Novelty And Variety of Methods</td>
<td>3.76</td>
<td>.72</td>
<td>.72</td>
</tr>
<tr>
<td>Keeping Extramural Connections</td>
<td>3.65</td>
<td>.83</td>
<td>.79</td>
</tr>
<tr>
<td>Encouraging Student Involvement</td>
<td>4.13</td>
<td>.55</td>
<td>.81</td>
</tr>
</tbody>
</table>
4.3 TCET and TP structural model

In keeping with the Ajzen model of beliefs acting as predictors of behavior, we examined the predictive value of the five conceptions of excellent teaching on self-reported teaching practices. To answer Research Question 2, we regressed the TCET factors on the TP factors and removed statistically non-significant paths. The structural model revealed that Chinese middle school teacher conceptions of excellent teaching were meaningful predictors of the conceptually similar teaching practices ($X^2 = 4477.09$, $df = 1257$, $X^2/df = 3.56$, $p = .06$; RMSEA = .052, 90% CI = .050 - .054; SRMR = .07; CFI = .83; gamma hat = .90) (see Fig. 3).

In general, the two major dimensions of excellent teaching conceptions were conceptually aligned to their corresponding teaching practices. The teacher-centered, examination-oriented conception of excellent teaching significantly predicted the Being Strictly Teacher-oriented teaching practices. Likewise, the student-centered Excellence As Being Responsible For Engaging Students In Learning conception significantly predicted the teaching practice of Keeping Extramural Connections with families.

Two more of the student-centered conceptions of excellent teaching (i.e., Excellence As Developing Lifelong Learners and Excellence As Student Focused) each predicted one of the more student-centered teaching practices (i.e., Encouraging Student Involvement and Using Novelty And Variety Of Methods). It appeared that the first pair shared an element of
preparation for life beyond school, while the second pair both had to do with high-quality classroom environments. However, the purportedly student-centered conception, Excellence As Being A Professional Learner, significantly predicted both the Being Strictly Teacher-oriented teaching practice and student-centered practice of Encouraging Student Involvement. However, the path to the latter, conceptually similar, factor was almost twice as strong as to the teacher-oriented practice factor.

These results show that statistically significant, strong regression paths, which explained a substantial proportion of variance (see SMC values), existed between teachers’ conceptions of excellent teaching and their conceptions of the importance of four major types of teaching practices and that these paths were generally aligned between teacher-centered and student-centered orientations. However, the conception that excellent teaching required the teacher to be a professional learner, contrary to the distinction made between teacher- and student-centered approaches, contributed to both teacher- and student-centered teaching practices. Thus, it would appear that teacher perceptions of excellent teaching around sustaining their own excellence serves both the goal of exercising control and providing preparation for examinations, as well as encouraging student involvement in learning. Nonetheless, professionalism exists to serve student involvement much more ($\beta = .60$) than it does to explain teacher control for examination practices ($\beta = .37$). Thus, inclusion of teacher conceptions of excellent teaching does aid in understanding how teachers perceived the importance of teaching practice.
Figure 2. The structural model of Chinese middle school teachers' conceptions of excellent teaching and teaching practices. ET = Excellent Teaching; TP = Teaching Practice; *p < .05; **p < .01. Correlations removed for simplicity.

Figure 3. The structural model of Chinese middle school teachers' conceptions of excellent teaching and teaching practices. ET = Excellent Teaching; TP = Teaching Practice; *p < .05; **p < .01. Correlations removed for simplicity.
Discussion

This study answered two research questions about the structure and relationship of teacher conceptions of excellent teaching and the importance of various teaching practices. The survey of Chinese middle school teachers established further the usefulness of the teacher-centered vs. student-centered continuum (Kember, 1997) in understanding teachers’ thinking. The teacher-centered conception of excellence was the most weakly endorsed and was very much focused on examinations. While this conception had only a weak correlation with the dominant, student-centered conception of excellent teaching, it had a strong relationship to strictly teacher-oriented practices. In contrast, the teachers agreed strongly with the student-centered conceptions of excellence which were aligned with student-centered teaching practices.

The one exception to this alignment was the dual relationship of the excellent teacher as professional learner to both strict examination practices and student-centered practices. It is noted that these teachers were predominantly student-
centered in the importance they gave to various practices and the path from professionalism to student-centered practices was much stronger than to teacher-centered practices.

The student-centered emphasis is somewhat surprising given the traditional emphasis on examinations in China. Nonetheless, in general, this study shows that Chinese middle school teachers’ conceptions of excellent teaching are consistent with those results previously reported in both Chinese and Western research literature.

However, unlike the extreme duality of teaching practice proposed by some researchers (Chiu, 2006; Maxwell, McWilliam, Hemmeter, Ault, & Schuster, 2001; Onwuegbuzie et al., 2000), the teacher conceptions of excellence in this study were rather more pluralistic; that is, excellence included, to some extent, multiple teaching conceptions ranging from the examination-oriented, teacher-centered perspective to the learning-oriented student-centered perspective. The bias, however, was definitely toward the student-centered views, unlike Cuban’s (2007) findings, that “teacher classroom practices” in the Unites States “hugged the middle of the continuum” (p. 6).

The reasons for the stronger student-centered orientation in conceiving of teaching excellence and important teaching practices seem to lie in Confucian approaches to teaching (e.g., Lao Tzu’s aphorism ‘yi ri wei shi, zhong sheng wei fu’; a teacher for a day equals a father for life) and in the early adolescent stage of human development in which the teachers were working (i.e., Chinese teachers consider that middle school students are not yet ready for the responsibility of high school and the pressures of performance for examinations).

It can be seen that teachers’ conception of Excellence As Being A Professional Learner was related to both teacher-oriented and student-oriented teaching practices. Some contextual factors may contribute to this plurality (Beach, 1994; Brown, Lake, & Matters, 2011; Fang, 1996; Lim & Chai, 2008; Sapon-Shevin, 1991; Windschitl, 2002). The three most likely factors are expounded. Firstly, the assessment system matters since examinations for entry to high school play a large part of the third year of middle school (i.e., Year 9).
Secondly, cultural consequences may influence teachers’ conceptions (Brown, Lake, et al., 2011) since the students’ high school entrance examination results are used to demonstrate the quality of school performance and the higher these are, the more highly regarded a middle school is, the more readily schools will be able to attract excellent students, recruit excellent teachers, and obtain more funding and support from government. Thirdly, educational bureaus and school leadership may have high expectations for student performance in the high school entrance examination, and therefore, set stringent requirements on teaching practices.

Hence, teachers are required to participate in professional training programs focused on acquiring the necessary knowledge to help students succeed in the high-stakes high school entrance examinations. Under this pressure, improving student achievement becomes a practice related to the professional status of the teacher, as much as it is a systemic requirement. This, however, as this sample of teachers has indicated, is only one element of excellent teaching.

There are many student-oriented values and practices that characterize middle school teacher thinking and attitudes in China. Nonetheless, the role of examinations as an aspect of excellent teaching is a complex phenomenon.
5.1 Understanding the Chinese aspects of middle school teacher conceptions

Under the influence of the Confucian culture, Chinese peoples have an extremely high regard for education. Traditionally, an individual’s merit, worth, and value were ascribed through academic performance (China Civilisation Centre, 2007) and high examination results reflect the moral quality of an individual. High results depend on a serious commitment to loving learning and perfecting oneself morally (Li, 2009; Tsui & Wong, 2009). The recipe for success, then, involves hard work by the students themselves, combined with having devoted teachers and supportive parents (Feng, 1994; Smith, 1992).

One surprising major finding was that the conception of Excellence As Examination-oriented held the lowest mean score and was least correlated with other conceptions. Under the influence of Confucian culture, examinations play a crucial role in the Chinese middle schools since enrollment in high schools depends heavily on students’ examination scores (Liu, 2004, 2005). Gao and Watkins (2002) also found that Chinese science teachers seemed to regard improving student examination performance as the most important indicator of excellent teaching. Thus, Excellence As Examination-oriented was expected to have had a higher mean score and be highly correlated with other conceptions. This, however, was not the case.

A number of explanation are possible. Firstly, with the recent, increasing openness of China to the West (e.g., teachers traveling and/or studying outside the country) it may be that teachers’ thinking has been influenced by western educational awareness and ideology (Ding, 2001). Secondly, the Basic Education Curriculum Reform issued by the Ministry of Education in China in 2001, which has the objective of changing pedagogical approaches from examination-oriented education to quality-oriented education, criticizes indoctrination, and requires teachers to actively interact with students, cultivate a spirit of innovation, and individuality of students, may have had an impact (Dello-Iacovo, 2009; Ministry of Education (MOE) of the People’s Republic of China, 2001). Thirdly, it seems only rational that excellent teachers, in an ecology that judges school quality by student examination results as it does in China, should want their professionalism to support
students’ doing well in examinations. Indeed, it is ecologically rational (Rieskamp & Reimer, 2007) that a professional, excellent teacher should engage in examination-related practices given the importance examinations have had historically and culturally for Chinese student life-chances (China Civilisation Centre, 2007). Hence, it may be that teachers in Chinese middle schools are aware that examinations should not play such a significant role in modern China, whilst still accepting their place in Chinese middle school education.

Being Strictly Teacher-oriented in the TP model, however, accounts for a relatively important place in Chinese middle school teaching practices and stands in contrast to the three student-oriented practices identified in the same model. One probable reason for the relative prominence of these practices is the high school entrance examination that may push teachers, students, school leaders, and parents to put a high value on the examination in Chinese middle schools. The teachers are being strict around examinations in order to help students to achieve high outcomes. This is consistent with other studies of how Chinese teachers conceive assessment purposes which showed that the student and school accountability roles of assessment were highly correlated with improvement of teaching and learning (Brown, Hui, Yu, & Kennedy, 2011; Brown, Kennedy, Fok, Chan, & Yu, 2009).
5.2 Contrasting Chinese middle school teachers’ conceptions to Western perspectives

Compared to the Western literature on teaching excellence, these Chinese teachers did not conceive of excellence in terms of working collaboratively with school boards and communities or understanding state and local educational objectives. Further, Chinese teachers seemed to have little awareness of curriculum development, whilst the NBPTS model (2009) and other Western literature (e.g., Lee, 2006; McGee, 2006) stress this conception. This result, however, is consistent with the context in China in which curriculum development is more a top-down set of regulations and teachers do not have opportunities to be involved in such development. Chinese teachers teach subject knowledge to students using the assigned textbooks and teacher reference books. The textbooks provide the curricula that teachers follow and the teacher reference books provide the goals and objectives that students are required to achieve.

These Chinese teachers endorsed and gave much importance to being involved in activities outside of the classroom, such as extracurricular activities, after-school activities, home calls or visits, and meetings with parents. The Western literature on teaching excellence rarely mentions these practices or approaches even though a strong relationship between students and teachers is advocated as one of characteristics of excellent teaching (Reilly, Lilly, Bramwell, & Kronish, 2011). These Chinese teachers also expected to be holistic role models for students, which is absent from the Western literature.
5.3 Implications

The findings about excellent teaching reported here may contribute to the development of advanced teaching standards that are absent in China but have been employed in the West for decades. The TCET model was established through a large sample of teachers. Thus, this model could provide policymakers and researchers with a baseline for designing teaching standards for middle schools and advanced teaching standards for teacher promotion and evaluation systems. The current evaluation and promotion standards in Chinese middle schools include two major sections (i.e., moral and political requirements and academic requirements), with the former accounting for more than half of the total number of pages in the document. Academic requirements do not address details about teaching practice. It is expected that this study could provide a reference point for establishing a sound basis for developing excellent teaching in Chinese middle schools.

The current study may make a contribution to professional development and teaching improvement. Since teachers’ conceptions of excellent teaching, teaching practices, and their relationship have been identified, teachers may be able to reflect and discover their own conceptions of excellent teaching that have been shaping their daily teaching. Through a critical self-evaluation teachers may try to dispense with their ineffective routines and be willing to take up the challenges entailed in the renewal endeavor (Pang, 1999) to achieve professional preparation improvement (Clark, 1988) and later teaching excellence (Hofer, 1994). On the other hand, researchers and policymakers could design and implement effective professional development programs which could result in changes in teacher conceptions, and, in turn have, an impact on their actual teaching practices. Further, exploring teachers’ conceptions of excellent teaching and their relation to teaching practices is essential in order to facilitate the changes (Sakofs, Armstrong, Proudman, Howard, & Clark, 1995). Thus, the findings could inform both current teachers’ professional development and future teachers’ aspirations, which, in turn, could lead to an improvement in teaching.

This study also alerts us to the importance of examinations as an independent aspect of excellence and as part of being a professional rather than being for student development in Chinese middle schools. Chinese policymakers and the school boards should consider why this has appeared and played an important role for
excellent teaching in Chinese middle school. The National Outline for Mid and Long-Term Education Reform and Development 2010-2020 (MOE of the People’s Republic of China, 2010) has stressed only that the university entrance examination should be changed in the next ten years, but has ignored the high school entrance examination which has an influential impact on teaching in basic education including middle schools. Policymakers may consider setting an urgent agenda for changing the high school entrance examination in such a policy as well, and then researchers and the school boards may set down specific strategies to implement these in teachers’ professional development.

A limitation to this study was the relatively low response rate of only 43.2%. This may be a consequence of having the questionnaires returned by mail, which is not a robustly reliable mechanism in all parts of China. Alternative collection methods (e.g., face-to-face collection or the creation of a drop-box within participating schools) should be considered in future studies. The relatively low response rate may mean that the results reflect the views of teachers who perceive their own practices as ‘excellent’. Nonetheless, as an initial study of middle school teachers in China, such a bias, should it exist, is effective in identifying how such teachers conceive of excellence.

It is recommended for further research to use multiple data sources in the form of classroom observations, teacher interviews, and focus-group discussions as this would make the data more valid given that self-reported practices do not necessarily reflect teachers’ actual practices. It would be valuable to have teacher focus-group discussions to explore the reasons for the key findings, the exceptions, and the surprising findings. Furthermore, if student achievement was included in the conceptions of excellent teaching and teaching practice, the classic triangle, conception-practice-achievement, could be established. If the relationships between these three aspects or between any two of them could be established, such a study would be most valuable. This could then lead to a series of professional development programs, hopefully resulting in the improvements to teaching practice, and, thence, to student learning gains.
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