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## Teachers' teaching and learning motivation in China

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# SUMMARY AND GENERAL DISCUSSION





## 7.1 Introduction

This research project intends to contribute to our understanding of possible ways to stimulate teachers' learning motivation and improve their learning performance in professional development (PD) programmes. In China, New Basic Education is a PD programme that is initiated by Chinese researchers, aimed to improve teaching quality to meet the challenges of a fast-changing society. This research is based on three assumptions: (1) Teaching quality has been significantly improved after a period of study in NBE, (2) teachers' teaching quality and their learning motivation are interrelated, and (3) teacher personal characteristics and school working conditions are important for their learning motivation. Accordingly, the general aim of this research project is threefold. First, it aims to explore the effects of NBE on teaching quality. Second, it intends to investigate the relationship between teachers' learning motivation and teaching quality when they participated in NBE. Third, it aims to find important factors that can be used to stimulate teachers' learning motivation and enhance teaching quality when they participate in NBE. To achieve the above-mentioned goals, teachers who were involved in NBE from Shanghai participated in this project to explore teachers' perceptions of learning motivation, and their students are asked to indicate their perceptions of teaching. In addition, we also invite 10 academic supervisors from NBE to evaluate teaching. The results drawn from the data set are discussed in Chapter 2 to 6.

The next sections first provide an overview of the findings of each Chapter. Second, the general discussion is presented, followed by limitations and suggestions for future research, and implications of this study for PD aimed at enhancing teachers' learning motivation and learning performance.

## 7.2 Summary of the studies

### 7.2.1 Chapter 2

The first aim of this research project is to explore the effects of NBE on teaching quality. In line with this purpose, in Chapter 2, we explored how students and supervisors evaluate teaching quality, and addressed the following research questions: *1. What is the relationship between supervisors' and students' evaluations of instructional quality? 2. What are the evaluation criteria used by supervisors and students?*

To answer these questions, a total of 20 teachers from 12 primary schools participated in this project and their classroom teaching practices were videotaped and sent to 10 supervisors for evaluation. Moreover, 497 students of 20 teachers participated in this study to evaluate their teachers' teaching. Mix methods were applied to explore students' and supervisors' evaluations of teaching quality.

Our results indicate that students rated most of their teachers as good quality instructors, whereas supervisors held the opinion that the majority of teachers had a relatively low level. Moreover, it seems that students and supervisors used different quality criteria, and focussed on different aspects of instructional quality. Students seemed to be more focused on learning climate, activating teaching and adaptation of teaching, whereas supervisors seemed to pay more attention to classroom management, clarity of instruction, and teaching strategies. Given both observations and student surveys have strengths and weaknesses, both methods should be seen as complementary ways to evaluate teaching.

### 7.2.2 Chapter 3

This research project firstly intends to explore the influence of NBE on teaching quality. Therefore, we explored the effect of NBE on teachers' teaching, the following research questions are addressed: *1. Do teachers improve their teaching quality as evaluated by their students during participation in the NBE program? 2. How are teacher characteristics, school working conditions and principal's transformational leadership related to the changes in teaching quality?* To answer these question, two waves of questionnaire data from 375 teachers were collected. The first questionnaire (T1) was administered in October 2017, and the second (T2) in April 2018. A paired-samples t-test was carried out for two teaching quality scales together at two different times to test whether the change was significant. Then stepwise regression analyses were performed to assess the relationship between teacher personal factors, working conditions and principal transformational leadership, on the one hand, and changes in teaching quality, on the other hand.

Results of regression analyses show that teachers generally received higher scores on teaching quality after the program than before. Three factors are significantly and negatively related to the changes in quality: the negative influence of school leaders, emotional pressure, and teachers' educational level on the development of teachers'

teaching quality during the NBE. It means the support from Chinese school principals, emotional pressure, and teachers' educational level could be crucial for the improvement of teachers' teaching quality when teachers are involved in a PD program that emphasizes new teaching approaches. In particular, principals could offer teachers sufficient scaffolding and autonomy when teachers participate in educational reforms, which may help teachers to benefit from PD program that will make them be more innovative and forward-looking.

### 7.2.3 Chapter 4

The second aim of this research project is to explore the influence of teachers' motivation on their teaching quality. Therefore, in Chapter 4, we explored the impact of teachers' learning motivation, as well as other personal and environmental factors on teaching practices, the following question: *1. How are working conditions, school leadership, and teacher psychological factors related to students' perceptions of teaching? 2. Do teacher psychological factors mediate the relationship between working conditions, principal leadership, and students' perceptions of teaching?* To answer these question, 419 teachers and 11705 students from 12 primary schools in Shanghai participated in this project. Structural equation modelling was performed to explore the relationship between teachers' personal factors, working conditions and teaching quality.

The results indicate that teacher self-efficacy had a direct effect on the student perceptions of teaching. Support from colleagues had both direct and indirect effects on student perceptions of teaching. The perceived leadership from school leaders and teacher educators, task autonomy had indirect effects on the student perceptions of teaching via teachers' self-efficacy in teaching. These findings affirm the importance of teachers' self-efficacy to student perceptions of teaching quality. It not only directly affects student perceptions of teaching quality, but also indirectly affects teaching quality as an important mediator. Future research should pay more attention to the possible role of teacher self-efficacy in teachers' teaching and professional development.

### 7.2.4 Chapter 5

The third aim of this research project is to explore the factors that influencing teachers' motivation. Therefore, in Chapter 5, we explored how teachers' characteristics and school working conditions are both related to their learning motivation, the following questions: *"How are factors at the personal and school levels related to teachers' motivation to participate in professional learning?"* To answer these questions, 472 teaches participated in this study. Multivariate analyses of variance were performed with teacher characteristics and environmental factors as independent variables and the three motivation scales as dependent variables.

Our results indicate that that teachers' prior experience, self-efficacy in teaching, the conception of students' ability and their own ability, emotional pressure and principal leadership are significantly positively related to teacher autonomous motivation for learning. Teacher conception of students' ability, emotional pressure, and principal leadership showed a significant negative relationship with external regulation. Finally, only efficacy in teaching shows a significant positive relationship with introjected regulation. The results indicate that school leaders should reinforce the personal and social identity of teachers with the organization by initiating and identifying a vision in order to improve teachers' collective cohesion. Policy officials should give teachers more freedom in tasks and make teachers feel involved in the decision-making in the training programme.

### 7.2.5 Chapter 6

Since teachers' autonomous motivation is positively related to teacher learning outcomes. In Chapter 6, we specifically focused on teachers' autonomous motivation to explore the relationship between workplace conditions in schools and teachers' autonomous motivation to learn. The following research questions direct our study: *1. Which workplace conditions are related to teachers' autonomous motivation to learn? 2: Which workplace conditions moderate the relationship between teachers' characteristics and their autonomous motivation to learn?* To answer these questions, a questionnaire was completed by 472 teachers from 12 primary schools in Shanghai. Multilevel regression analyses were performed with factors at level 1 and 2 as predictors of teachers' autonomous motivation.



The results indicate that perceived support from colleagues had a positive effect and perceived work pressure had a negative effect on teachers' autonomous motivation to learn. In addition, these two variables moderated the relationship between teachers' teaching experience and their task autonomy, on the one hand, and their autonomous motivation to learn, on the other hand, with stronger relationships with high collegial support and low work pressure. Given this, school leaders could build a culture of an autonomy-supportive working environment within schools through providing more challenges to experienced teachers to make their work more satisfying and giving low-efficacious teachers more freedom to decide how they design their teaching.

### **7.3 General discussion**

Based on our findings, the general discussion focuses on three main themes: the effect of NBE on teaching quality; the relationship between teachers' learning motivation and teaching quality; and the factors which are important for teachers' learning motivation.

#### ***7.3.1 The effects of NBE on teaching quality***

To explore the influence of NBE on teaching quality, we use students' perceptions to evaluate the change in teaching quality after six months of participation in NBE. Our results show that teachers generally receive higher scores on teaching quality after the program than before. However, the differences are very small. It indicates that the effect of NBE on teaching quality is weak, and it seems difficult for teachers to change the way they teach the class in a short period of time when they collaborate with supervisors from universities. The reason for this might be that the training time is not long enough to change their classroom teaching. Maskit (2011) claims that it is always difficult for teachers to adjust their teaching within a short time, especially for experienced teachers. In this study, we assume that the new practices addressed in the NBE bear little resemblance to either teachers' current teaching approaches or the way they have learned from traditional programmes. Consequently, it is difficult for teachers to change the way they teach in the classroom at only six months period of learning time. Future studies could extend the pretest-posttest time to evaluate the change in teaching.

Another possible reason is the differences between teachers' prior learning experience. In this research project, teachers differed in the learning experience with the NBE, some teachers have participated in NBE for more than 5 years, however, some teachers only with 1 year or less experience. For the teachers with a long learning experience, it is possible that their teaching quality has been greatly improved after a long time of study, therefore, compared to teachers with a short learning experience, it might be more difficult for them to continuously improve their teaching during 6 months of learning in the NBE. As a consequence, the differences in scores on teaching quality are very small.

### ***7.3.2 The relationship between teachers' learning motivation and teaching quality***

One assumption of this research project is that teachers' learning motivation and their teaching quality are related. However, unlike our expectation, our results indicate that teachers' learning motivation and their teaching quality are not related. One possible explanation could be explained by the cultural difference between Western countries and Eastern countries. Chinese culture places more emphasis on collectivism rather than individualism (Ho & Chiu, 1994). According to Bochner (1994), in collective societies, such as those found among Chinese teachers, the individual is more absorbed in, and attached to, the group, and people are encouraged to do what is best for the community rather than the individual. In that case, Chinese teachers may be reluctant to offer straight and negative information about their learning motivation. For example, previous studies have indicated that if teachers with reasons for participating in PD are entirely external, such as avoiding punishment, or getting rewards, their learning performance is often associated with negative outcomes (Blais, Lachance, Vallerand, Briere, & Riddle, 1993; Deci et al., 2001; Gagné et al., 2010). However, in practice, Chinese teachers may be reluctant to offer such information when they fill in the motivation questionnaire as they are absorbed in schools. This may explain why teachers' learning motivation and their teaching quality are not related.

Although teachers' learning motivation is not related to teaching quality, this research project still explored the factors which are important for teaching quality and its development. Our result indicates that for teaching quality, teachers' self-efficacy

seems important. Many studies have reported the importance of self-efficacy for teaching (Gan et al., 2018; Georgios Gorozidis & Papaioannou, 2014; Lam et al., 2010; Thoonen et al., 2011). Aligned with previous studies, our results also highlight the importance of teachers' sense of self-efficacy for their learning and implementation of educational measures. For the development of teaching quality, our results report that emotional pressure and principal leadership are important. Just like the statement of Pelletier et al. (2002), teachers who are under more pressure are more likely to teach in a routine way, keeping their current method of instruction, and avoiding change and possible mistakes. Louws et al. (2018) also report that external support, especially the help from school leaders, is very important for teachers who decide to adapt their instruction to meet PD's requirement.

### ***7.3.3 Factors which are important for teachers' learning motivation***

In Chapter 5 and 6, we explored the effects of teacher personal factors, school working conditions and principal leadership on teachers' learning motivation. In line with our expectations, we found that several factors are related to their learning motivation. In addition, we also found that working conditions have the potential to have moderating effects on the relationship between teacher personal factors and their autonomous motivation to learn. It indicates that the relationship between teachers' characteristics and their learning motivation may vary across different workplaces with different conditions. Since no previous empirical research addressed this moderating effect, we assume this finding has the potential to fill the gap of current research, and provide us with more details and new views to understand teachers' learning motivation.

## **7.4 Methodological reflections**

### ***7.4.1 Measurement of teaching quality***

In this research project, we used student questionnaires and classroom observation to evaluate teaching quality. However, the results indicate that there is a fairly low correlation between students' and supervisors' evaluations of teaching. Given this, it might be necessary to include more measurements to evaluate teaching quality. For example, teachers' self-report could be included to triangulate the measurement of

teaching quality from students and supervisors. Teachers' self-report could provide us with the opportunity to gain insight in how they perceive these new classroom practices, and what challenges they faced during implementation, which might be helpful for the validity and reliability of the measurement.

### ***7.4.2 Mediating and moderating effects***

In this research project, we explore the mediating effects of teacher characteristics on the relationship between working conditions and students' perceptions of teaching (*see Chapter 4*), and the moderating effects of working conditions on the relationship between teacher characteristics and teachers' autonomous motivation to learn (*see Chapter 6*). Baron and Kenny (1986) identified the mediator as a variable that explains the relation between the independent and the dependent variable, and how or why there is a relation between two variables. In the area of teacher education, several studies have shown that teachers' self-efficacy, motivation to learn, beliefs of learning have the potential to be treated as a mediator to explain the relation between school working conditions and teachers professional learning and teaching (Bandura & Adams, 1977; Liu, Yuan, & Zhang, 2018; Richardson, 1996). Based on these findings, in this research project, we treat teacher characteristics as mediators to explain how the influence of working conditions on teaching quality through teacher individual characteristics. We assume that particular work features such as work pressure and lack of autonomy may affect teacher characteristics such as self-efficacy, which in turn, would influence their teaching quality.

Moderators are variables that affect the direction and strength of the relationship between an independent or predictor variable and a dependent or criterion variable. Moderators indicate when or under what conditions a particular effect can be expected (Baron & Kenny, 1986). Studies in the field of human resource development reported that workplace conditions should be considered as important moderators for people's goal pursuits since the goals may differ depending on their perceptions of various working conditions (Kasser & Ryan, 1993). In this research project, we assume that teachers' autonomous motivation may vary across different schools, the working conditions such as work pressure, collegial support would affect the strength of the relation between teacher personal factors (e.g., beliefs of learning, self-efficacy) and their autonomous motivation.

However, Baron and Kenny (1986) also report that some variables can be both mediators and moderators. In this research project, we assume that besides mediators, teacher characteristics also have the potential to play the role of moderators for the relation between school working conditions and teaching quality. For example, teachers' sense of self-efficacy may have a moderating effect on the relationship between principal leadership on teaching quality, since many studies have reported that compared to low-efficacious teachers, high-efficacious teachers are more possible to change their teaching practices when they follow with principals with a high level of leadership (Supovitz, Sirinides, & May, 2010; Zhao, Valcke, Desoete, Sang, & Zhu, 2014).

### ***7.4.3 Issues of generalisability***

Firstly, the generalisability of the conclusions from this research project should be carefully discussed. In these studies, empirical data have been collected from students and teachers from primary schools in Shanghai, China. We should be careful about generalizing our conclusions to teachers from rural regions in China. Shanghai is one of the largest cities and the economical centre of China, teachers from Shanghai are well-trained and have many opportunities to participate in various professional learning activities. However, the teachers in Shanghai might not be representative of teachers in rural areas in China. Teachers from rural areas are less-trained and lack sufficient opportunities to participate in PD programmes to improve their teaching quality. The huge gap in learning opportunities may their different attitudes toward participation in PD, and therefore prevent us to generalize our conclusions to teacher education in other regions in China.

Secondly, our results indicate that principal leadership and emotional pressure related to Chinese teachers' learning motivation, which is the same as in previous research conducted in Western countries. However, for the colleague support and task autonomy, which are understood to affect Western school teachers, are not related to Chinese teachers' learning motivation. This discrepancy may be attributed to the Chinese collectivistic culture. Teachers may be reluctant to ask for help and obligated to sacrifice their freedom in performing a task for the greater performance of the school. Therefore, we argue that the Chinese context might be so specific that it would be careful to generalize to teacher education in Western countries. Yet we assume that

our conclusions could be generalized to other Asian countries with a similar culture of teaching and learning, such as Japan and Korea. In addition, the findings of the current study also generate hypotheses about factors related to teaching and motivation that can be tested in contexts outside East-Asia.

## 7.5 Implications

Several practical implications for teacher professional learning in schools can be drawn from this study on two levels: (1) teachers' learning performance, and (2) teachers' learning motivation. These implications relate to how to stimulate teachers' learning motivation and how to improve learning performance when they participated in a professional learning activity.

### 7.5.1 *Stimulation of teachers' learning motivation*

Our results indicate that task autonomy is important for teachers' learning motivation, to stimulate teachers' learning motivation. Therefore, PD should not be organized top-down, but should be organized together with teachers. Teachers should be provided with an autonomy-supportive working environment to reduce their pressure, and encouraged to develop their confidence in their ability to change their teaching (Pelletier et al., 2002). In addition, PD should reinforce the personal and social identity of teachers within the organization by initiating and identifying the vision of teaching and learning. As a result, teachers may feel more willing to internalize organizational goals as their personal goals, which-in turn-might increase their autonomous motivation to learn.

Moreover, our results indicate that compared to inexperienced teachers, experienced teachers were less motivated to participate in learning activities. Given this, school leaders could provide more challenges to experienced teachers to not only make their work more satisfying and fulfilling, but also stimulate them to implement acquired capacities and knowledge into their teaching practices. These new challenges can be related to innovative pedagogies such as inclusive teaching or the use of adaptive technology to support student learning, but also to other roles in school as mentoring newly arrived teachers and providing workshops for their colleagues. Secondly, our findings indicate that the level of task autonomy in school is crucial for low- effica-

cious teachers' participation in professional learning activities. School leaders could give low-efficacious teachers more freedom in the decision-making in the learning process, and built a culture of an autonomy-supportive working environment within schools.

### ***7.5.2 Support teachers' learning performance***

We have explored the factors which are important for teaching quality and its development when they participated in NBE in Chapter 3 and 4. The results from Chapter 3 seem to stress the importance of self-efficacy. Consequently, if school leaders aim to improve teachers' instruction quality, they need to discuss possible strategies for individual teachers to help each teacher to develop more self-efficacy and resilience in dealing with future challenges in their teaching and make teachers feel more confident in their teaching behaviour. For example, establish specific short-term goals that will challenge the teachers, however, are still viewed as attainable, or help teachers lay out a specific learning strategy and have them verbalize their plan. Principals also should reinforce their leadership and give more support and freedom to increase teachers' self-efficacy – for example, set up some areas of the professional learning activities that allow teachers to make their own decisions, such as flexible assignment options or self-determined due dates.

We have found that the work pressure is negatively related to the change in teaching quality in Chapter 4. Accordingly, if principals want to improve teaching quality, they should first to take measures to reduce teachers' work pressure. For example, spend time and dialogues with teachers to try to understand their concerns, treat teachers with respect in front of other colleagues, value teachers' ideas and opinions, and design strategies for an individual teacher to further improve teaching practices.

## **7.6 Final conclusion**

In closing, we can conclude that teachers' learning motivation and their teaching quality are not interrelated, however, we have identified several factors which are important for teachers' learning motivation and their teaching quality. To support teachers' learning and teaching, policymakers should value individual needs in setting the agenda for PD, and provide individual and intellectual support within a safe

learning climate. At the same time, it is not only policymakers who can improve the effectiveness of PD, but also teachers themselves. It is important for teachers to show recognition in PD, and understand that they could be beneficial for the overall learning activities. Participation in PD is not only about becoming better in the teaching job, but also about personal development. These measures may be beneficial to stimulate teachers' learning motivation and improve the quality of teaching.