Peer feedback in teacher professional development

Jin, X.

Chapter 3

Effects of a Teacher Professional Development Programme in Chinese Vocational Education on Efficacy and Professional Engagement of Novice Teachers

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Abstract

The self-efficacy and professional engagement of novice teachers were examined in the context of a teacher professional development (TPD) programme in Chinese vocational education and training (VET). A pre- and post-test control group design was used. The experimental and control groups contained 41 and 42 novice teachers, respectively, who were mostly in the first year of their career. Multivariate analysis of co-variance and paired samples *t*-tests showed that teachers participating in the programme reported a significantly higher value for their efficacy of 'classroom management' and 'student engagement', and the sub-scale 'planned persistence' of professional engagement, compared to teachers in the control group. Possible explanations of these findings are discussed, and suggestions for future TPD programmes and further research are proposed.

3.1 Introduction

Many educators, policy makers and researchers around the world are concerned about the development of novice teachers because of the praxis shock that means novice teachers often become aware of the gap between teaching practice and what they have learned in college. As shown in previous research, there is a high turnover rate in the first several years of novice teachers' career in various countries (Alliance for Excellent Education, 2004; CentERdata, 2013; O'Brien, Goddard, & Keeffe, 2008). In China, this situation seems to be even more serious in vocational education and training (VET) than in general secondary schools. In a study surveying 558 VET teachers, Chen and Xu (2011) found that 79.0% would like to teach in a general secondary school instead of VET schools, because working in a general secondary school usually yields a higher salary, better social reputation, better work environment and more opportunities for achieving success. There are also no strict requirements for teaching practicums in teacher education in China, and student teachers are allowed to gain practical experience by taking an internship in professions that are not directly relevant to teaching. This situation means that teachers in Chinese vocational secondary education are not always well prepared, and that additional teacher professional development (TPD) programmes are needed for most teachers to improve their competences and increase their retention.

In order to achieve these goals, various TPD programmes are being conducted in the Chinese VET system. Although these programmes are regarded as useful for the further development of novice teachers, the effects of these programmes are yet to be examined. Previous research on similar programmes in other countries provides some indications of possible effects (Ronfeldt & McQueen, 2017; Lyne, 2016; Mintz, 2019). For example, in a study on the effects of teacher induction in the United States, Ronfeldt and McQueen (2017) conducted a secondary analysis of a large sample of Schools and Staffing and Teacher Follow-Up Surveys (SASS/TFS) and the Beginning Teacher Longitudinal Survey (BTLS). The results show that receiving induction support in the first year led to less teacher migration and attrition in general. Effective support activities included mentoring, seminars for beginners and supportive communication with administrators or department chairs. The available studies are mostly about teachers in general education, however, using one-group only design or self-reported questionnaires. The current study focuses on a TPD programme that was carried out in a Chinese VET context, and the effects of

the TPD programme on the self-efficacy and professional engagement of novice teachers were examined using a pre- and post-test control group design.

3.2 Theoretical background

3.2.1 Novice teachers and teacher development in the Chinese VET context

Novice VET teachers in China may encounter challenges to accepting their identity as vocational school teachers, coping with non-motivated students, and managing the classroom, because the reputation and social acceptance of VET in China is lower than that of general education. A survey of 320 VET students and 230 parents of VET students showed that 52.0% of students and 44.8% of parents believe VET has a lower status compared to general secondary education (Gu, 2012). Students who attend vocational schools are usually those who have been rejected by general secondary schools, and they often have low academic performance and learning motivation. Research has shown that VET students in China have more behavioural problems in class than students in general schools, which means that VET teachers may have more difficulty motivating students for school, managing their classes, adapting their teaching to a proper level, and adjusting their expectations of their students (Ma et al., 2018; Ren, 2018). This context may also yield a lower teaching efficacy and higher turnover for Chinese VET teachers. Tong et al. (2008) examined 185 VET teachers and 153 general high-school teachers on their general teaching efficacy and personal teaching efficacy. The former involved teacher beliefs about the role of education in improving students in general, and the latter involved teacher beliefs in their own teaching ability. The results show that Chinese VET teachers had significantly lower efficacy in both dimensions, compared to teachers from general high schools. Bian and Zhang (2019) found that 51.1% of the 276 VET teachers included in their study reported an intention to leave the teaching profession, and they found that age, working pressure, working intensity, opportunity for promotion, the social status of VET, student numbers and student ability were significantly associated with VET teachers intending to leave the profession.

As a result, TPD programmes that aim to improve the teaching ability of novice teachers and their retention are commonly held in many Chinese VET schools. One of the most important school-based TPD programmes is the Teaching Research Group, which is widely conducted in almost all Chinese areas as a basic

school-based teacher learning activity in both vocational schools and general schools (Yang, Ran, & Zhang, 2020; Yang & Zhang, 2018). The Teaching Research Group works with peer communication meetings, where all teachers of the same school subject get together to discuss their teaching practice once a week or fortnight. Some government funded TPD programmes are also available for novice VET teachers in China. These government funded TPD programmes are usually comprehensive programmes consisting of a combination of different learning activities, which might be different in different areas. Typical activities in these programmes include lectures on vocational pedagogy, novice-expert interactions, teacher apprenticeships and teacher practices in companies, and some studies provide indications that such activities are effective in improving teaching expertise, professional engagement and vocational skills, (Jin et al., 2019; Shao & Zhou, 2013; Wang, 2016). For example, novice-expert interaction is commonly used in the TPD programme for Chinese vocational schoolteachers, which involves expert teachers providing feedback to novice teachers about their teaching performance. Research has suggested that this has positive effects on novice teachers' teaching concepts, competences, general strategies and emotional experience (Jin et al., 2019). Research has usually focused on examining one single activity in these programmes, however, and there are no studies in China investigating the effects of these comprehensive programmes as a whole.

In sum, the available research provides an overview of the special situation of novice teachers and their development in a Chinese VET context, which highlights the need to further examine the effects of local TPD programmes on the competence and retention of teachers.

3.2.2 Efficacy and professional engagement in teacher development

Teacher efficacy can be understood as a good indicator of teacher attitudes to teaching, and may predict their teaching competences and retention. Teachers with a high sense of self-efficacy generally show less professional burnout and higher job satisfaction, compared to teachers with lower teaching efficacy (Minghui et al., 2018; Oakes et al., 2013; Zhu et al., 2018). For example, Zhu et al. (2018) surveyed 1892 teachers from 74 schools across seven geographical regions of China to examine the relationship between a teacher's self-concept, efficacy and burnout. Structural equation modelling showed that teacher efficacy was a mediator between teacher self-concept and burnout. The burnout dimensions of emotional exhaustion, depersonalisation and reduced personal accomplishment were all affected by

self-concept via teacher efficacy. A teacher's sense of efficacy also predicted student achievement and their relationship with students. Studies have consistently found that high-efficacy teachers are more likely to promote students' learning motivation and academic performance, and they are usually better at coping with students' emotional and behavioural difficulties (Cantrell et al., 2013; Kim & Seo, 2018). In their study of student reading ability, Cantrell et al. (2013) investigated nine sixth-grade teachers, eleven ninth-grade teachers, and their students. They found that a teacher's efficacy was a significant predictor of students' reading comprehension and overall reading achievement.

Professional engagement is another crucial factor that can be used as an indicator of the effectiveness of TPD programme on teacher retention, and which is also closely related to a teacher's sense of efficacy. Research has found that a teacher's engagement and commitment to teaching is based on their sense of efficacy (Li et al., 2019; Minghui et al., 2018; Skaalvik & Skaalvik, 2014). For example, Minghui et al. (2018) surveyed 1027 special education school teachers in China and found that a teacher's self-efficacy was significantly correlated with both social support and professional engagement. Their engagement is also often associated with teaching motivation and professional satisfaction. In a study of the relationship between teacher engagement, job satisfaction and self-efficacy, Granziera and Perera (2019) collected data from 600 teachers in Australia and found that a teacher's engagement mediates efficacy and job satisfaction. Professional engagement can also predict a teacher's organisational behaviour and their intention to leave the profession. Somech and Bogler (2002) examined the relationship between a teacher's professional and organisational commitment and organisational citizenship behaviour (OCB). An analysis of 983 completed questionnaires from 25 middle schools and 27 high schools suggested that greater professional commitment may cause more OCBs when helping students. Teachers with greater organisational commitment were also more willing to help students, collaborate with colleagues and contribute to the school. In a study on the intentions of 249 health science teachers to leave the profession, Park and Johnson (2019) found that work engagement and job satisfaction were both negatively correlated with a teacher's intention to leave the profession.

In summary, teachers' sense of efficacy and professional engagement are significantly related to their job satisfaction, teacher retention, teaching quality and student achievement. A teacher's sense of efficacy and professional engagement can therefore be understood as important learning outcomes of TPD programmes. Most

of the TPD programmes conducted in China include several different local learning activities which have not yet been fully examined. This study set out to examine the effects of a TPD programme on the self-efficacy and professional engagement of novice VET teachers in a Chinese context. The programme examined in this study contains three different types of learning activities (lectures on pedagogy, lectures on professional ethics and mentoring teaching practice) that aim to improve the teaching expertise and retention of novice VET teachers. The research questions are:

- What is the effect of the TPD programme on novice teachers' sense of efficacy?
- What is the effect of the TPD programme on novice teachers' professional engagement?

3.3 Method

3.3.1 Setting

Data was collected from the Standard Training Programme for Novice Vocational School Teachers in Shanghai (China), which is an annual programme organised by the Shanghai Municipal Education Committee and the Institute of Vocational and Technical Education of Tongji University (Shanghai, China). The programme lasted some nine months, from October 2017 to July 2018. Novice teachers attended the programme activities on a Wednesday almost every week, and it took 30 weeks and 240 hours to complete all courses. In 2018, when we collected the data, and 144 novice teachers participated in the programme on a voluntary basis.

The main goals of this programme are increasing teacher retention in vocational schools and supporting the development of teaching expertise in novice teachers. In order to achieve these goals, three training modules are conducted, each taking ten weeks to complete: 1) theories of VET teaching, which is a series of lectures on the current situation and development of VET, pedagogy in VET, and educational psychology in VET; 2) a teacher's professional ethics, which also includes lectures, but on the topic of classroom management, theories of moral education, and student-teacher interaction; and 3) teaching practice, which is a special training part that is carried out in the form of novice-expert interaction. The latter typically contains activities such as expert feedback on teaching videos of novice teachers, observing expert teachers teaching, and joint lesson design. The expert teachers, who are paid by the local government for their participation, are responsible for providing lectures, feedback, and practice instruction to novice teachers.

3.3.2 Respondents and data collection

A pre-test and post-test control group design was used in this study to examine changes in novice teachers after participating in the programme. All the respondents had less than three years of teaching experience and were participating in the same school-based teacher learning activity, called the Teaching Research Group, where teachers hold communication and discussion with peers in the same teaching subjects every week or fortnight. Novice teachers in the experimental group participated not only in this basic school-based activity, but also attended the additional programme with lectures on the pedagogy of vocational education, mentoring from external expert teachers and training on professional ethics.

Data was collected from 83 novice teachers from seven VET schools in Shanghai. Invitation e-mails were sent to all 144 participants of the TPD programme as the experimental group. The questionnaire was only sent to the 41 novice teachers who agreed to complete both the pre-test and post-test. Data for the control group was collected using snowball sampling by asking teachers from the TPD programme to invite novice VET teachers who hadn't participated in that programme. For the control group, 42 novice teachers completed both pre-test and post-test. The questionnaire was anonymous and all participants were informed that the data would be only used for research purposes. Table 3.1 provides an overview of the demographic characteristics of the 83 participants of this study. Research clearance was obtained from the Ethical Committee of the ICLON Graduate School of Teaching, Leiden University, file number: ICLON-IREC 2019-09.

Table 3.1 Demographic information for the respondents

Demographic variables		Experimental group		Control group	
		Frequency	Percentage	Frequency	Percentage
Gender	Female	25	60.98%	28	66.67%
	Male	16	39.02%	14	33.33%
Teaching experience	< 1 year	24	58.54%	25	59.52%
	1-2 years	15	36.59%	14	33.33%
	2-3 years	2	4.88%	3	7.14%
	> 3 years	0	0%	0	0%
Teaching subject	General course	18	43.90%	15	35.71%
	Vocational course	23	56.10%	27	64.29%
Educational background	Secondary vocational education	0	0%	0	0%
	Higher vocational education	1	2.44%	3	7.14%
	Bachelor's degree	24	58.54%	26	61.90%
	Master's degree	15	36.59%	13	30.95%
	Doctorate	1	2.44%	0	0%

3.3.3 Instruments

The questionnaire used in this study was presented in Appendix A, and it contained two scales that separately aimed at measuring teaching efficacy and professional engagement. Teaching efficacy was measured using the longer form of the Teachers' Sense of Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001). The TSES is one of the most widely used measures of teacher efficacy, and has already been validated in many Asian countries (Chong et al., 2010; Ruan et al., 2015; Scherer et al., 2016). The authors adapted and translated the questionnaire into Chinese. The original TSES is a nine-point Likert scale including three factors: 1) student engagement, which refers to a teacher's sense of ability to motivate their students (e.g., "How much can you do to foster student creativity?"); 2) instructional strategies, which refers to a teacher's confidence in their ability to conduct the

course (e.g., “To what extent can you craft good questions for your students?”); and 3) classroom management, which means a teacher’s efficacy in handling the classroom (e.g., “How much can you do to get children to follow classroom rules?”). Each of the three factors contains eight items. One item, “How much can you assist families in helping their children do well in school?” was deleted in the adapted version, as it is not a common duty of teachers in Chinese vocational schools to collaborate with a student’s family. The current version used a seven-point Likert scale ranging from 1 (not at all) to 7 (always), in order to make it easier for novice teachers to make a choice. A translation-back-translation procedure was applied to guarantee that the original meaning of the items was followed. Exploratory factor analysis with varimax rotation shows that all the items were clearly grouped into the original three factors, except two items that show cross-loading (factor loadings >0.45 on more than one factor). After deleting the cross-loaded items, the explained variance was 69.66% and the Cronbach’s alphas for each scale were 0.92 for instructional strategies, 0.94 for classroom management, and 0.92 for student engagement.

We used the ‘planned effort’ and ‘planned persistence’ sub-scales from the Professional Engagement and Career Development Aspirations scale (PECDA; Watt & Richardson, 2008) to measure the professional engagement of novice teachers. ‘Planned effort’ indicates how much effort teachers are willing to spend on their work, with an example item “how much will you work at being a good teacher?”. ‘Planned persistence’ refers to a teacher’s will to remain in teaching, which contains items like “How certain are you that you will remain in teaching?” The five-point Likert-type scale of the original version was adapted into a seven-point Likert scale, with 1= not at all and 7= always. A translation-back-translation procedure was used to guarantee that the original meaning of the items was regained. Exploratory factor analysis with varimax rotation shows that all items are grouped in the two original factors, explaining 81.09% of the total variance. The reliability of the ‘planned effort’ and ‘planned persistence’ sub-scales in terms of Cronbach’s alpha are 0.90 and 0.94, respectively.

3.3.4 Analysis

In order to examine the effects of the programme on novice VET teachers’ sense of efficacy, a multivariate analysis of covariance was conducted (SPSS25) with the condition (experimental or control) as factor, the post-test scores on all three sub-scales in teacher efficacy as dependent variables, and their pre-test scores as

covariates. Paired sample t-tests were conducted on the changes in self-efficacy within the experimental group. Similar analyses were performed to answer the second research question on a teacher's professional engagement.

3.4 Results

3.4.1 Teachers' sense of efficacy

Table 3.2 summarises the descriptive statistics for self-efficacy. The multivariate analysis of covariance shows a significant effect of condition on the post-test score of a teacher's self-efficacy (Wilk's λ (3, 82) = 0.711, $p < .001$, $\eta 2 = 0.289$) with significant differences for the dimension of student engagement (F (1, 82) = 15.70, $p < .001$, $\eta 2 = 0.168$) and classroom management (F (1, 82) = 14.01, $p < .001$, $\eta 2 = 0.152$). No significant difference was found between the experimental and control conditions for the dimension of instructional strategies (F(1, 82)=1.46, p=.23, $\eta 2=0.018$). These results show that the TPD programme conducted in the current study had a significant effect on a teacher's self-efficacy with regard to student engagement and classroom management. Paired-samples t-tests show that teachers in the experimental group scored significantly higher on the post-test than on the pre-test for 'student engagement' (t (40) = -7.99, $p < .001$, d = 0.58), 'instructional strategies' (t (40)= -4.28, $p < .001$, d = 0.47), and 'classroom management' (t (40)= -7.54, $p < .001$, d = 0.66). This indicates that all three dimensions of a teacher's sense of efficacy are increased during the nine months, although the current programme only changes efficacy on student engagement and classroom management.

Table 3.2 Descriptive statistics of self-efficacy scale

		Experimental (*n*=41)		**Control (*n*=42)**	
		M	**SD**	**M**	**SD**
Student engagement	pre-test	4.76	0.75	4.77	0.53
	post-test	5.17	0.66	4.89	0.58
Instructional strategies	pre-test	4.84	0.65	4.70	0.70
	post-test	5.14	0.64	5.15	0.58
Classroom management	pre-test	4.79	0.75	4.71	0.82
	post-test	5.24	0.60	4.93	0.64

3.4.2 Teachers' professional engagement

Table 3.3 presents the descriptive statistics for professional engagement. The results from the multivariate analysis of covariance show that the conditions have a positive effect on the post-test score for professional engagement (Wilk's λ (2, 82) = 0.914, $p < .001$, $\eta 2 = 0.086$) with a significant difference on the sub-scale of planned persistence (F (1,82) = 7.25, p = .009, $\eta 2 = 0.084$). No significant difference was found between the experimental and control conditions for planned effort (F (1,82) = 0.51, p = .476, $\eta 2 = 0.006$). The findings suggest that the programme has a significant effect on the a teacher's planned persistence, rather than planned effort. The results of the paired sample t-test for a teacher's professional engagement show a similar effect. Teachers in the experimental group show a significantly higher score in the post-test for 'planned persistence' compared to the pre-test (t (40) = -4.54, $p < .001$, d = 0.48), however, no difference was found between pre-test and post-test on 'planned effort' (t (40) = -1.95, p = .058). This indicates that a novice teacher's persistence increases during their participation in the programme, but their planned effort remains unchanged.

Table 3.3 Descriptive statistics of professional engagement scale

		Experimental (*n*=41)		**Control (*n*=42)**	
		M	**SD**	**M**	**SD**
Planned effort	pre-test	5.65	0.95	5.44	0.76
	post-test	5.79	0.72	5.58	0.62
Planned persistence	pre-test	5.84	0.89	5.59	1.23
	post-test	6.21	0.61	5.86	0.78

3.5 Discussion and Conclusion

This study examined the effects of a comprehensive TPD programme on the efficacy and professional engagement of novice VET teachers. Effects were found for two efficacy scales, 'student engagement' and 'classroom management', and for one professional engagement scale, 'planned persistence'. No effects were found with respect to self-efficacy in 'instructional strategies' or to professional engagement in 'planned effort'.

3.5.1 Effects on teachers' sense of efficacy

With respect to self-efficacy, the programme examined in this study demonstrated effects on particular sub-scales of teaching concerning interaction between and with students in class. The effect on efficacy in instructional strategies was non-significant. This different result can be understood from the perspective of Fuller's seminal work on a teacher's concerns. According to Fuller (1969), novice teachers are mainly concerned about self-protection and self-adequacy in their early phase of teaching career. The specific issues they need to deal with during this stage are 'class control, subject matter adequacy and finding a place in the power structure of the school and understanding expectations of supervisors, principal and parents' (Fuller, 1969, p. 211). This focus of a novice teacher's concerns may explain their significant increase of efficacy in classroom management and student engagement, and the absence of an effect on efficacy in instructional strategies, as the latter merely indicates an emphasis on student learning. The context of Chinese VET may also need to be taken into account for understanding a teacher's specific concerns during their participation in the TPD programme. As introduced in the second section, VET teachers in China encounter more problems in motivating students, managing classrooms, adapting their teaching to the proper level, adjusting their expectations and understanding their students than teachers from general secondary schools (Ma et al., 2018; Ren, 2018). This probably leads novice teachers to consciously pay more attention to improving their ability to engage students and manage their classroom during the programme, instead of instructional strategies (although instructional strategies are also an important goal of this TPD programme, as described in the setting section). We thus reasonably argue that it is not only how the programme is organised or the parts in the programme, but also the context and a teacher's learning needs that influence the effects of TPD programme.

The non-significant effect on a teacher's efficacy on instructional strategies can be explained by the combination of different learning activities in the TPD programme. According to previous research, lectures and consultation with expert teachers, which are the main activities in the current programme, may be not the only or best ways of improving a novice teacher's self-efficacy. A qualitative case study with nine junior pre-service teachers conducted by Yurekli et al. (2020) found that a combination of six learning activities in a teacher education programme (lecture hours, group work, peer presentations, feedback on group work, assigned readings and examination) affected a pre-service teacher's self-efficacy with

different resources. In the current programme setting, the lack of group work and examinations might explain why the programme of this study was not found to affect a novice teacher's efficacy in instruction.

3.5.2 Effects on teachers' professional engagement

This study found a significant effect on the professional engagement of teachers only in the dimension of 'planned persistence', which means after the programme, novice teachers are more sure about staying in the teaching profession. This could be related to the aim of the programme, which is to improve the retention and teaching ability of novice teachers. It might be that the expert mentoring of a novice teacher's practice was mainly responsible for this effect. Similar learning activities, such as 'peer review of teaching', 'mentoring' and 'teacher learning communities' have been found useful in keeping novice teachers engaged with the profession (Parker, Ndoye, & Imig, 2009; Ronfeldt & McQueen, 2017; Whalen, Majocha, & Van Nuland, 2019). In a study with a large sample of 8838 novice teachers who were mentored by more experienced teachers during their first two years of teaching, Parker et al. (2009) found that mentoring programmes in which participants (mentor and mentee) were matched by grade level and met at least once a month were effective in improving the commitment of novice teachers to the profession.

The effort teachers are willing to put into teaching might be related to other factors. In their research on teacher motivation for the profession, Fokkens-Bruinsma and Canrinus (2012) found that a teacher's perception of working conditions, task difficulties and career value are important predictors of their teaching efforts. Similar results have also been found by Fresko, Kfir, and Nasser (1997). They collected data from 175 teachers and found that job satisfaction was the only variable that was directly related to their professional commitment, while other factors, such as professional self-image, teaching abilities, gender, and pupil grade level were indirectly related. These results indicate that many factors are relevant with teachers' work effort, and that job satisfaction seems to be the most important one. However, the working conditions in Chinese VET schools may decrease a teacher's job satisfactions. In research it has been reported that teachers in Chinese vocational schools usually have a lower salary, poorer social status, fewer promotion opportunities and higher workload than those in a general secondary school, and this can cause an increase of VET teachers' turnover intentions and negative attitudes towards their career (Bian & Zhang, 2019; Chen & Xu, 2011). Thus, it might be that TPD programmes are not very effective in

improving a teacher's planned effort unless the weak position of VET in China is to change.

3.5.3 Limitations

Since the TPD programme conducted in our research is a comprehensive programme which contains different kinds of learning content (such as vocational education pedagogy, teacher ethic and teaching practice) and learning activities (lectures, mentoring and lesson observation), it is hard to attribute the change in a teacher's efficacy and professional engagement to specific aspects of the programme. Future research might examine the effectiveness of these separate aspects by, for example, comparing various programme alternatives.

3.5.4 Practical implications

One practical implication of this study is that the change in a teacher's efficacy means that the context and a novice teacher's concerns may influence the effect of a TPD programme. Teachers may consciously choose the learning content and activities they need most and neglect the content they don't need. We thus suggest that future TPD programme be more targeted to a novice teacher's learning needs, so as to help novice teachers to improve the skills they need the most to meet the challenges of their teaching context. We also suggest further research on a teacher's learning preferences and their relationship with a differential effect of TPD programmes. The specific learning activities conducted in TPD programmes seem to be relevant to particular aspects of a teacher's sense of efficacy. For example, the lack of group work in the programme in the current study may have prevented novice teachers from acquiring enough mastery, experience and affective state, and observing peers teaching may have provided novice teachers with vicarious experience (Yurekli et al., 2020). The mastery experience, affective state and vicarious experience are important elements that construct a teacher's self-efficacy. We therefore suggest that future TPD programmes include more activities and adaptively match these activities to the needs of the teachers in order to support a teacher's development of different aspects of self-efficacy.

Secondly, the change in a teacher's professional engagement suggests that the current programme may contribute more to increasing a teacher's willingness to stay in the teaching profession than to improving their work effort. According to previous studies, working conditions, job satisfaction, task difficulty and a teacher's perception of career value are some of the predictors of work effort, and job

satisfaction seems to be the most crucial of these (Fresko, Kfir, & Nasser, 1997). These findings imply that future teacher induction programmes might need to focus on developing not only a novice teacher's pedagogy, but also their perception of the value of a teaching career. With regard to working conditions and job satisfaction, we suggest policy makers and school leaders in a special teaching context (such as vocational education, special education and early childhood education) should consider improving the work environment of teachers, raising their salaries and hiring more staff.

3.5.5 Concluding remarks

After analysing the questionnaires using a pre- and post-test control group design, we concluded that the comprehensive TPD programme in the context of Chinese vocational education has been effective in improving the willingness of novice teachers to remain in the profession, and their self-efficacy in classroom management and student engagement. However, the programme in its current form does not seem to be effective in improving novice teachers' efficacy in instruction and the effort they put into their work. One possible reason for the non-significant effects may be relevance of the programme in the light of the different concerns and learning needs of teachers.