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Preservice Teachers' Perception of Program Coherence and its Relationship to their Teaching Efficacy

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ABSTRACT

More often than not, campus based courses have been criticized as a set of disconnected individual courses and that these courses lack the coherence with the realities of teaching and learning. To this end, one teacher education university has made efforts to make its teacher education program more coherent. Thus, this study reports on this university's preservice teachers' perception of program coherence and associating it with their teaching efficacy. The analysis from 454 preservice teachers, collected through a 30-item perception of program coherence questionnaire and a 12-item Malaysian Teachers' Sense of Efficacy Scale, indicated significant relationships between the two. Overall, the preservice teachers perceived their teacher education programs as fairly coherent. However, more importantly, when these preservice teachers perceived that what they learnt in campus (their theoretical studies) and their practical experiences (during their practicum) were coherent or aligned, this connection helped them to handle issues relating to how they engage students in learning, planning lessons, using appropriate teaching strategies, and classroom management. A coherent teacher education program is able to contribute to preservice teachers' feelings of efficacy and in turn, to a positive stance towards their own functioning as teachers. This finding underscores the importance for foundational theory learnt in the campus to be coherently connected to courses in teaching methodologies and finally to actual classroom teaching. The purpose of any

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re-design of a teacher education program conceptualized around coherence is about making better connections between theory and practice and to ultimately strengthen teaching.

Keywords: Preservice teachers, program coherence, program coherence questionnaire, teacher education, teaching efficacy

INTRODUCTION AND BACKGROUND

Borko and Putnam (1996) expressed that all too often teacher education programs presented teaching as a vocation, not dissimilar to, for example the education of a technician, prescribing a static curriculum and giving little attention to the nature of teaching. They maintained that preservice teachers needed an understanding of the pedagogical and educational imperatives that drove the practice of teaching because "the knowledge, beliefs, and skills that enable them to teach … are fundamentally different from how they were taught" (Borko & Mayfield, 1995). Preservice teachers cannot continue to be prepared in a program that reinforces a transmission model of education. They need opportunities to examine and reconcile theory with practice (Zeichner, 1992). Ten years later, Darling-Hammond (2006) lamented that there was still little "explanation about pedagogical approaches tied to direct opportunities for inquiry and application". Teacher education programs continued to contribute towards the dichotomy of theory and practice. Now, Hammerness and Klette (2015) alluded this as a 'gap' between what teacher education taught and what preservice teachers needed. This gap originates from a perceived inability of teacher education to enable preservice teachers to construe an understanding of teaching as constructed between and connected to both theory and practice (Darling-Hammond, 2014). To obtain this understanding, a coherent teaching program is crucial in itself as well as for graduating effective teachers (Hammerness & Klette, 2015).

Teacher education programs are responsible for preparing preservice teachers with the required knowledge and skills enabling them to function effectively in schools. However, teachers in Malaysia report a disconnect between the skills and knowledge they receive in their teacher preparation and the realities of their classroom environment (Goh & Blake, 2015). Educational stakeholders are concerned that Malaysian teacher education is preparing teachers who know much about theory but struggle to implement it in practice (Goh & Matthews, 2011; Goh & Wong, 2014). Internationally, the growing discontent of voices that teacher education coursework is too theoretical has grown louder (Reid, 2011). Similarly, voices from Malaysian beginning teachers have indicated that they need more opportunities to 'practice' their teaching and to examine their own understanding of themselves as teachers. A phenomenological study of Malaysian beginning teachers finds them grappling with the need to re-examine

and connect theory and practice (Goh & Wong, 2014). Their first experience of teaching, once they enter the classroom, is surviving the workplace challenges. They are inundated with the complexities, ambiguities, and uncertainties of a teacher's work and of learning to teach, and the transition from teacher preparation to the classrooms in schools can be characterised as a 'reality shock' (Fatiha et al., 2013). The reality of the actual teaching situation sometimes differs greatly from what preservice teachers have been taught. As a result, preservice teachers, thinking about their practicum, may have concerns about the classroom experiences they will encounter and may feel less confident in handling these.

Confidence, enthusiasm for, and persistence in teaching are various educational outcomes that are associated with positive teaching efficacy (Tschannen-Moran & Hoy, 2007). Teachers with positive teaching efficacy have the "capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (Tschannen-Moran & Hoy, 2001). Teachers' perception of their own efficacy can affect the action s/he is willing to put into teaching. They, furthermore, are more likely to be more confident to accept new ideas and to use productive teaching approaches and practices to optimize student learning compared to teachers with inadequate teaching efficacy. Ashton (1984) opined, as do Tschannen-Moran and Woolfolk-Hoy (2007), that preservice teachers could still be directed towards positive teaching efficacy in the early years of their teacher education preparation. Similarly, Hoy and Spero (2005) found that preservice teachers' teaching efficacy could be influenced by the program they were engaged in during teacher preparation. It is possible to mould preservice teachers' efficacy beliefs during their early years of learning to teach. An integrated teacher preparation with authentic experiences is an important factor for building teaching efficacy (Gurvitch & Metzler, 2009; Smith et al., 2013). Stoughton (2007), on a study of primary school teachers, found that there still existed disconnects between the preparation these teachers received and their teaching efficacy. This appears to be true in the Malaysian context as well, as shown in a study by Rahimah et al. (2014). They found that preservice teachers perceived a lack of connection between the information provided in teacher preparation programs and classroom realities consequently influencing their teaching efficacy. As there is little integration of the knowledge obtained by the preservice teachers across their coursework – they do not feel confident to carry out the practical aspects of a teachers' work in the classroom. As such, there appears to be a lack of coherence between these parts of teacher preparation, something which also has been reported to be the case in other teacher education programs (Hammerness & Klette, 2015; Weston & Henderson, 2015).

Following disparaging remarks about the shortcomings of new teachers, in 2010,

a teacher education university in Malaysia decided to restructure its curriculum to better align the theoretical studies and practical experiences of their preservice teachers. What followed was a re-examination of the purposes and practices of the curriculum within a framework of contemporary needs in the schools and the philosophy of the Malaysian educational system. What emerged from this process were new courses focused on the combination of theory and practice which aimed at more coherence throughout the program. However, since its inception, as far as we are aware, no studies have been conducted to examine whether the preservice teachers perceived the restructured curriculum as enabling an integration of theory and practice, potentially resulting in more teaching efficacy. Therefore, we set out to explore preservice teachers' perceptions of program coherence in the restructured teacher education program and whether these perceptions are associated with these preservice teachers' teaching efficacy. We used a quantitative methodology to examine the following research questions:

1. How much teaching efficacy do the preservice teachers report?
2. How coherent do the preservice teachers experience their teacher education program to be?
3. To what extent are preservice teachers' perceptions of program coherence and their teaching efficacy related.

PROGRAM COHERENCE

The coherence of the educational program and curriculum, be it at the primary, elementary or higher education, which the students are enrolled in have been found to influence learner outcomes (Clarà, 2015; Goh et al., 2012; Hammerness et al., 2014; Nurulhuda et. al, 2016; Smeby & Heggen, 2014). Students' motivation to be engaged in the learning tasks is enhanced if the students find that their learning experiences are coherent within the classrooms and in their curricular materials. Students are better able to transfer concepts from different subjects and from their learning outcomes to other contexts if they perceive there is subject coherence (Newmann et al., 2001). In Schmidt et al.'s (2005) study, the achievement scores in science and mathematics were related to the coherence of the students' learning curriculum.

Muller (2009) differentiated coherence in curricula by dividing it into 'conceptual coherence' and 'contextual coherence'. Conceptual coherence is referred to as courses which are prerequisites to the next course. Without the earlier courses, preservice teachers will not be able to understand the later courses. On the other hand, contextual coherence is the alignment of courses to practical or clinical experiences. Building on the work by Muller's (2009) description of coherence, Hammerness (2006) conceptualized two distinct forms of program coherence. First, the conceptual coherence refered to the organization of the content of a program towards providing alignment between

theory and practice. Structural coherence, on the other hand, refered to building a program that providesdan integrated learning experience for preservice teachers which aligned university courses with their practicum. Canrinus et al. (2015) succinctly summarized program coherence "as a process, in which all courses within a program, be it theoretical or practical, are aligned based on a clear visions of good teaching". Program coherence is also "established through coherence between university courses … and field experiences … and includes student teachers' opportunities to make connections across ideas and to build their own understanding as features of program coherence".

As early as in the 1990s, Buchmann and Floden (1991) had attempted to describe coherence as something that had "direction, systematic relations, and intelligible meaning, thus conveying a sense of purpose, order and intellectual as well as practical control" and caution against subjecting students to isolated or disconnected ideas and practices. Buchmann and Floden further described coherence as connectedness with "consistency and accord among elements". Nevertheless, although these are important fundamentals in planning a coherent program, they also advise against overdoing coherence to the point that students have little avenue to investigate new connections or to create new conceptualisations from their learning. Tatto (1996) in her study of teacher education added that coherence was not about 'thinking the same', but rather a:

> *"... shared understanding among faculty and in the manner in which opportunities to learning have been arranged (organisationally, logistically) to achieve a common goal – that of educating professional teachers with the knowledge, skills and dispositions to more effectively teach diverse students".*

This is similarly echoed by Fullan and Quinn (2016), Grossman et al. (2008), Hammerness (2006), and Ingvarson et al. (2014) that a shared vision of good teaching underlied the essence of coherence in a teacher education program. In a coherent program, courses have sequence and are built on each other. Hammerness and Klette (2015) described a coherent program as "a set of courses that are conceptually linked; is designed to deliberately build understanding of teaching over time; and has careful alignment between university coursework and field placements". To allow preservice teachers to integrate the theory and practice of learning, they should be able to explore and comprehend the interdependence of the various elements (e.g. learn how to teach and what it means, understand impacts of teaching on students, assess and reflect on one's own teaching) (Hammerness & Klette, 2015; Korthagen et al., 2006) within the teacher education program resulting in the construction of their own professional understanding (Canrinus et al., 2015). A coherent teacher education program will assist preservice teachers' understanding and integration of the new

and complex demands and ideas they may encounter across the settings in which they learn (Honig & Hatch, 2004). On the other hand, when a program lacks connectedness, courses are developed with little attention as to how they can be aligned to provide an effective preparatory program for preservice teachers. In some situations, academic staffs are more interested in developing courses that interest them rather than provide the necessary opportunities for preservice teachers to learn how to teach (Ingvarson et al., 2014).

Program coherence is "increasingly being acknowledged to be an important feature in teacher education programs" (Ingvarson et al., 2014). Tatto et al. (2012) found a strong relationship between program coherence and teachers' perceptions of readiness to teach in the IEA Teacher Education and Development–Mathematics (TEDS-M) study. Research, although few in numbers, shows that well-integrated programs with authentic experiences impact preservice teachers' teaching efficacy (Gurvitch & Metzler, 2009; Smith et al., 2013). Results from the study by Geoghegan et al. (2004) revealed, for example, a link between the accessibility, meaningfulness, and relevance of the instruction at the teacher education program, as perceived by the preservice teachers, and the preservice teachers' teaching efficacy. Until now, to the best of our knowledge, no research has been performed explicitly exploring this relationship, let alone investigating this linkage in a Malaysian context. In the present paper we will explore this relationship and contribute to the expansion of strengthening the knowledge about the potential impact of program coherence as well as to contribute to the knowledge base on what might influence preservice teachers' teaching efficacy. Although we acknowledge that a coherent program also implies an integration of theory and practice at the preservice teachers' school placement, we focus on campus courses in this study. Studying coherence in schools would imply too much contextual variability which we would not be able to control for.

METHODS

Participants

The 454 participants in this study came from a teacher education university located in the state of Perak, Malaysia. This university lies under the direct administration of the Ministry of Higher Education, Malaysia and is the only teacher education university in Malaysia. Ethical approval to conduct the study was obtained from two review boards which were given detailed information on data collection procedure. The teacher preparation program consisted of a sequence of university courses from the first to the sixth semesters, followed by a 16-week practicum experience in selected government schools in the seventh semester. Preservice teachers were prepared to become secondary school teachers and had declared an academic major and minor. They had recently returned to the university for their eighth and final semester upon completion of their practicum when this study was carried out. The participants were 84 males (18.5%) and 370 females

(81.5%), with a mean age of 24 (SD = 0.96, Min: 22 years; Max: 29 years).

Measures

To assess preservice teachers' perception of program coherence, a perception of program coherence questionnaire developed by Hammerness et al. (2014) was used. The questionnaire consisted of 38 items and was developed by the authors when they initiated the Coherence and Assignment Study in Teacher Education (CATE). The questionnaire had two dimensions. The first dimension assessed the extent to which preservice teachers have the opportunity to enact practice during methods courses (19 items). The second dimension was designed to tap into whether there are opportunities for preservice teachers to connect different elements of the program and asks about the perceived coherence within the program (19 items). Items within the first dimension were rated on a four-point scale: 1 = none, 2 = touched on it briefly, 3 = explored in some depth, 4 = extensive opportunity. Items of the second dimension were rated on:1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree.

As all the courses within the program were in the Malaysian language, and to provide a common linguistic response, the questionnaire was translated into Malay. As part of the translation process, independent certified translators translated the questionnaire into Malay and another translator translated it back to English for verification. During the translation process, two items in the first dimension were omitted as translating them would produce almost similar meaning to some of the other items. As in any translation process, the translators had to use strategies like omission, deletion or classifier, as there were cases where words or concepts in the translated language were almost identical and could be used interchangeably (Jakobson, 2000). Certain words were changed and modifications to some sentences were also made to make the items suitable to the Malaysian preservice teachers. For example, the term 'course' was used to mean individual subject/unit while 'program' referred to the whole teacher education program. Two terms 'K-12' and 'K-12 classroom' were changed to 'classroom'. 'K-12' was not a familiar term used in the Malaysian context to refer to secondary level education. To test the appropriateness of the wording change and minor sentence modification of the final 36 items, a pilot study with a group of 20 preservice teachers, who were not part of the final participants, was carried out. There were no misleading words or sentences and the preservice teachers were able to understand the requirements of each item.

Teaching efficacy was measured using the Malaysian Teachers' Sense of Efficacy Scale (MTSES; Goh, 2009). The MTSES was tested to have 3 dimensions, similar to the Teachers' Sense of Efficacy Scale by Tschannen-Moran and Hoy (2001): personal efficacy in motivating and engaging students' interest (4 items), efficacy in typical teaching situations (asking questions, assessment, and use of teaching strategies) (4 items) and teachers' efficacy in classroom

management and discipline (4 items). Items were measured on a 5-point scale (1 = not at all - 5 = a great deal).

Data Analyses

To ensure that the sample was appropriate for the analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy index was conducted and presented an index of 0.87. The second test, the Bartlett's test of Sphericity, had a significant result of x^2=1392.8, p<0.01. These two indicators revealed that the sample and correlation matrix were within an acceptable range for the analysis. Next, we performed an exploratory factor analysis (EFA) to establish the integrity of the dimensions of the program coherence questionnaire as this is the first attempt to validate the questionnaire in a Malaysian context. Additionally, as the only published result about the instrument (Canrinus et al., 2015) also uses an EFA to validate the dimensions, we feel that it is more suitable to use an EFA here. Fabrigar et al. (1999) advised that if the factor structure of a particular instrument was relatively new, there was still a need to build up a strong a priori assumption about the dimensions within the questionnaire. Therefore, it is advisable to use an EFA over a confirmatory factor analysis (CFA). Kline (2005) furthermore recommended using the same method in various samples instead of directly basing the CFA on a previous EFA. Although it is preferable that a comparison be made between the published result and our observed scales, this was not possible as the analysis by Canrinus et al. (2015) was only applied to the second part of the instrument.

The internal consistencies of both instruments were assessed using Cronbach's Alpha. Finally, quantitative analysis of the questionnaires was undertaken by calculating the means and standard deviations of the factors in program coherence and teaching efficacy together with a correlation matrix to discover any significant relationships between program coherence and teaching efficacy. All statistical measures were completed using the IBM SPSS Statistics for Windows, version 21.0 (IBM Corp., Armonk, N.Y., USA)

Procedure

Preservice teachers participated between the second and sixth week during their classes in 2015. They were briefed on the purpose of the study and the instruments. On average, it took about 20 minutes for the participants to complete the questionnaire. Participation was voluntary and confidentiality of all collected information was assured.

RESULTS

Factor Structure and Reliability Indexes

A principal component analysis with varimax rotation was used to facilitate the interpretation of the factor structure of the 36-item program coherence questionnaire. The factor loading criteria for inclusion was set at 0.40. All items loaded on one factor, except six items which had a loading < 0.40. These items were removed and the analysis re-run. The results of this second analysis

are presented in Table 1 and reveal four underlying factors with an eigenvalue value >1 and explaining 51.39% of the variance. These factors were re-specified to Factor 1 (7 items) 'Opportunity to Enact Practice'; Factor 2 (6 items) 'Opportunity to use Theory and learn about Research'; Factor 3 (5 items) 'Vision and Opportunities to Link Theory to Practice'; and Factor 4 (12 items) 'Coherence between Courses and Practical Experience'. Table 1 presents the factor loadings per item per factor, as well as the internal consistency of each factor.

Previous studies observed good internal consistencies for each dimension of the Malaysian Teachers' Sense of Efficacy Scale (e.g. Goh, 2009). In the present study we observed similar internal consistencies, ranging from α = 0.74 for efficacy in student engagement to α = 0.85 for efficacy in instructional practices. Factor analysis of previous study revealed a single factor which accounted for 54.1% of the variance when used with Malaysian preservice teachers (Goh, 2009). Similarly, in the present study, a single factor was also found

Table 1

Factor structure and reliability indexes

	Factors				Cronbach Alpha
Items	1	2	3	4	
Opportunities to enact practice					
Item 1	0.79				0.79
Item 2	0.76				
Item 3	0.62				
Item 4	0.63				
Item 5	0.47				
Item 6	0.76				
Item 7	0.43				
Item 8		0.82			0.86
Item 9		0.77			
Item 10		0.68			
Item11		0.59			
Item 12		0.57			
Item 13		0.46			

Table 1 *(Continued)*

	Factors				Cronbach Alpha
Vision and Coherence					
Item 14			0.51		0.83
Item 15			0.62		
Item 16			0.66		
Item 17			0.72		
Item 18			0.71		
Item 19				0.42	0.85
Item 20				0.48	
Item 21				0.48	
Item 22				0.42	
Item 23				0.42	
Item 24				0.64	
Item 25				0.62	
Item 26				0.59	
Item 27				0.47	
Item 28				0.50	
Item 29				0.72	
Item 30				0.69	
Eigenvalue	10.29	2.19	1.94	1.42	
Percentage explained	13.86	13.03	12.31	12.14	
Cumulative percentage explained variance	13.86	26.93	39.24	51.39	

Note: Full instrument in Bahasa Melayu can be obtained from the corresponding author

in the current Malaysian Teachers' Sense of Efficacy Scale which accounted for 66% of the variance.

Means and Standard Deviation

As shown in Table 2, the preservice teachers' capability to manage the classroom had the

highest mean (M = 3.55) and preservice teachers had the least confidence in adequately using instructional strategies (M = 3.47). The ability to engage students in the classroom (M =3.53) was at a level between the other two scales.

Preservice teachers' ratings of the dimension 'Coherence between Courses and Practical Experience' were the highest (M = 3.24) followed by 'Vision and Opportunity to Link Theory to Practice' (M = 3.15) and 'Opportunity to Enact Practice' (M = 3.11). The current data indicates that 'Opportunity to use Theory and Learn about Research' has the lowest mean (M = 3.00).

Correlations

Correlations between all scales are also presented in Table 2. The interrelationships between the four dimensions of program coherence and the three measures of teaching efficacy were all strong and statistically significant. In, general, the perception of program coherence was significantly correlated to teaching efficacy (r = 0.41, p < 0.01) with correlations between the scales ranging from r = 0.21 between efficacy engagement and opportunity to use theory and learn about research to r = 0.51 between efficacy in instructional practices and vision and opportunity to link theory to practice.

Table 2

Correlation between perception of program coherence and teacher efficacy together with their mean scores

Measures		1	2	3	4	5	6	7	Mean	SD
Perception of Program Coherence										
1.	Opportunity to Enact Practice	1							3.11	0.48
1.	Opportunity to use Theory and Learn about Research	0.57**	1						3.0	0.5
1.	Vision and Opportunity to Link Theory to Practice	0.65**	0.63**	1					3.1	0.5
1.	Coherence between Courses and Practical Experience	0.62**	0.52**	0.60**	1				3.2	0.3
Teachers' Sense of Efficacy										
1.	Efficacy in Student Engagement	**0.24***	**0.21***	**0.40****	**0.30****	1			3.53	0.55
1.	Efficacy in Instructional Practices	**0.34****	**0.25****	**0.51****	**0.36****	0.76**	1		3.4	0.6
1.	Efficacy in Classroom Management	**0.28****	**0.23***	**0.43****	**0.32****	0.84**	0.77**	1	3.5	0.6

* p<0.05 ** p<0.01

DISCUSSION

Although a large body of research exists on teachers' self-efficacy, the present study adds to this knowledge base in relating preservice teachers' perceptions of program coherence within their teacher education program and the preservice teachers' teaching efficacy. We investigated: a) how much teacher self-efficacy preservice teachers report, b) how coherent these preservice teachers perceive their program to be, and c) the extent to which a and b are related.

Overall, the preservice teachers in our study felt fairly confident in their teaching yet with ample room for improvement. They rated the three self-efficacy scales very similar with their efficacy in classroom management and student engagement only slightly higher than their reported efficacy in instructional practices. This difference makes sense as student engagement and classroom management are the first competencies teachers tend to acquire (Van de Grift et al., 2014).

Regarding the perceptions of program coherence, we observed that, overall, the preservice teachers in this study perceive their teacher education programs as fairly coherent. This finding underscores the importance for foundational theory learnt in the campus to be connected to courses in teaching methodologies and vice versa. With strong linkages between these courses, transfer of these concepts to actual practice is improved (Canrinus et al., 2015).

'Coherence between Courses and Practical Experience' had the highest rating compared to the other scales as revealed by the relatively high mean score obtained on this scale. There have been concerns that in preservice teachers' period of 'rite of passage' during their practicum, preservice teachers may have difficulty applying pedagogical theory learnt at university to actual classroom practice (Goh & Matthews, 2011). However, in this case, it can be inferred that most preservice teachers perceived that they were able to apply, integrate, or modify their new knowledge into their field experiences. They were given the opportunity to critically examine the purposes of teaching and to use it in actual practice. This positive experience could be attributed to the perception that their university courses have helped them in their roles and that they are able to connect the knowledge they learned in courses with their teaching experiences. This is a positive finding as Shoval et al. (2011) stressed that linking the education to practice was an important and continuing challenge for teacher educators. Hammerness and Klette (2015) wrote what they called "talk about field placement" and also stressed the importance of teacher educators linking teaching about theory back to what was actually happening in schools. Our finding relates to what Smeby and Heggen (2014) called 'transitional coherence' in which the knowledge and skills acquired during education and those acquired during the first years as a qualified professional were linked. Our preservice teachers, to a certain degree, also combined the learnings from their education with their practical experiences. Muller (2009) referred to 'contextual

coherence' implying that what was taught was contextually relevant and appropriate in a specific context. From our findings it seems that our preservice teachers have perceived the interconnectedness of theory and practice and obtained knowledge relevant for the context they were working in during their practicum, thus experiencing contextual coherence within their education.

Our findings indicated that 'Opportunity to use Theory and Learn about Research' had the lowest rating compared to the other dimensions. Research helps to develop new approaches and understanding that uses deep theoretical knowledge and understanding of teaching and learning. The experiences can also reinforce conceptual understanding that is integrated and coherent (Linn et al., 2015). For preservice teachers to perceive that they had insufficient opportunity to use theory and learn to conduct research regarding issues related to teaching practice does not bode well as it may retard their views of development, especially vis-a-vis student learning. Therefore, program coordinators might want to take heed that preservice teachers perceived to have insufficient opportunities to use theory and to learn about research. Research provides a way for teachers to explore issues of interest or concern in their classes and to integrate the results in future lessons. Teachers' involvement in research is a way to empower teachers in their decision making roles in schools (Coate et al., 2003). We often tell our preservice teachers to apply theory and use "research-based strategies" and yet such strategies may be presented to them in a rather static manner which creates disinterest among them. We, as teacher educators, need to provide the necessary resources for preservice teachers to experiment with research and create an awareness about the significance of doing research. Higher education students who are actively involved in research are more likely to have deep approaches to learning and possess greater depth of understanding in their learning benefit (Linn et al., 2015). Opportunities could be arranged through workshops outside of class time and to create awareness programs about research and its outcomes. The importance of exploring and testing new theories and strategies through research cannot be overstated.

We observed significant associations between preservice teachers' perceptions of program coherence and their teaching efficacy. Overall, the data from the study suggests that the preservice teachers possess the needed levels of confidence to carry out the duties of teaching and learning if they perceive that the various courses within their teacher education program coherently connect. This connection should exist between their theoretical studies and their practical experiences and this connection should help preservice teachers with issues relating to how they engage students in learning, planning lessons, using appropriate teaching strategies, and classroom management.

The positive efficacy scores of the preservice teachers could also have come from their beliefs that their preparation to be teachers helped towards connecting

their theoretical studies to their professional experience (Smith, et al., 2013). We believe that it was likely that the preservice teachers had greater confidence and competency in their roles as teachers when they perceived that their preparation program showed alignment and coherence. The positive teaching efficacy outcome is positive indeed as those preservice teachers who were more assured of themselves as teachers, i.e. experiencing more teaching efficacy, may also develop higher degrees of self-confidence when confronted with the realities of their profession in the future (Hoy & Spero, 2005). Additionally, they will have a positive impact on their students' achievements (Caprara et al., 2006; Geoghegan, et al., 2004). Those preservice teachers with positive teaching efficacy tend to perceive that there are no students who are deemed too difficult to teach. Previous research suggests that the effectiveness of teaching and adaptive problem-solving behaviours of teachers come from a strong teaching efficacy (e.g. Wolters & Daugherty, 2007; Durgunoglu & Hughes, 2010). These preservice teachers feel confident to engage their students in the learning process to increase their students' attention and focus. Importantly, research also confirms that teaching efficacy affects the ability of teachers to achieve the desired results in the classroom, including classroom management capabilities (Poulou, 2007).

The significant relationship between preservice teachers' perception of program coherence and their sense of teaching efficacy in classroom management is also a finding to highlight. Goh and Matthews (2011) reported that "classroom control is a common issue for new teachers […]" and that "classes that are not managed well will generally lead to student discipline problems and this can inhibit effective instructional approaches from occurring". The coherence between the preservice teachers' practicum and courses may have contributed to these preservice teachers' feelings of being able to manage the overall classroom environment (e.g., attending to disruptive student behaviours, noisy students, students who do not follow rules and procedures in the classroom). Therefore, it might be prudent, for the university where this study was carried out, to continue to focus on efforts to connect various parts of the educational program. As classrooms in Malaysia are now more contextually and culturally diverse (Goh & Wong, 2014), it may be equally important to consider what further support is needed from teacher education programs to maximize the likelihood that classroom management practices will be given priority. We can conclude that the teacher education program under study does offer a teacher preparation program that is perceived as coherent. Preservice teachers' perceptions of this coherence is also strongly related to their feelings of being adequately prepared for and feeling confident in engaging students in the classroom, using instructional strategies and in managing the classroom.

CONCLUDING REMARK

The present study suggests that the current

restructured teacher education program is on the right path towards preparing these preservice teachers fully for the daily realities of the classroom. Although we conclude that preservice teachers' feelings of readiness for their experiences in the classroom is related to experiencing a coherent teacher education program, we need to also acknowledge that there are some limitations attached to the findings of this study. Both the program coherence questionnaire and the sense of teaching efficacy questionnaire are self-reported measures. Therefore, there may be some response consistency effects that may have biased the relationships. However, students are generally perceived as reliable sources of information (Maulana et al., 2015) and that self-reported data are accurate when individuals understand the questions and when there is a sense of anonymity (Brener et al., 2003), as is the case in this study. The data collection was confined to one program, therefore any generalizability of the findings to other teacher preparation programs will need to be made with some caution. Nevertheless, both instruments have been used in a variety of contexts (Hammerness & Klette, 2015; Tschannen-Moran & Hoy, 2007). Finally, while the present study examined the relationships between two important constructs, program coherence and teaching efficacy, there are certain variables such as gender, age, and specialization of the preservice teachers that might also influence the relationships. Despite these limitations but with a reminder for the need to be cautious, the current findings have added to the understanding of preservice teachers' teaching efficacy in relation to their teacher preparation programs. The significant relationship with coherence indicates that the program coherence studied here, as perceived by the preservice teachers, may have contributed to these teachers' feelings of efficacy and thus contributed to a positive stance towards their own functioning as teachers. Nevertheless, preservice teachers will face challenges, beyond their expressed confidence, their knowledge of content, or their mastery of instructional strategies when they become part of the teaching profession (Geoghegan, et al., 2004).

The aspect of how the perception of program coherence can influence teacher efficacy is relatively new in the field of education. More research regarding the perception of program coherence and teacher efficacy would be beneficial to establish a more generalizable relationship between these two constructs. Additionally, although the questionnaire on program coherence has been used in a variety of programs (Hammerness & Klette, 2015), follow-up research is necessary to further investigate it's reliability and validity and it's potential to be used for a wider group of preservice teachers. The questionnaire offers, for example an opportunity to evaluate innovations in other teacher education programs in Malaysia. The present study is based on quantitative data. This offers us numerous opportunities, yet we do believe that further research should also include a more qualitative component.

Building on our presented findings, further research might ask preservice teachers about their different interpretations of what is theoretical and what is practical in their teacher education programs. Such a study could help uncover how preservice teachers relate their campus experiences to the different contexts, settings, and processes that comprise teaching. It would also be an opportunity to gain a better understanding of which aspects of the dimensions in the perception of program coherence, preservice teachers themselves may feel are influential to their teaching efficacy.

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