The Development of Student Teachers’ Beliefs
Through Their Initial Teacher Training

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Abstract
Student teachers entered their initial teacher education with their own preconceptions of teaching and learning based on their past experiences. These preconceptions were further developed during their course of study in the initial teacher education. The present study explored two groups of student teachers’ development of beliefs in learners, teachers’ roles, teaching strategies, classroom management and subject matter knowledge. It was found that subject matter knowledge had significant impact on student teachers’ belief development.

Introduction
Research on teachers’ beliefs has grown substantially in the past two decades and constitutes an area of inquiry in exploring teaching and learning in the classrooms (e.g. Brookhart and Freeman’s 1992; Calderhead, 1996; Kagan, 1994; Pajares, 1992; Shavelson & Stern, 1981). The significance of the research on teachers’ beliefs contributes to the research areas of teachers’ development, teacher education, curriculum implementation, and educational effectiveness, etc. In fact, how teachers make sense of their work, their working environment, their professional knowledge and skills, their teaching strategies, their children being taught etc. have an influential impact on the teachers’ corresponding behaviors in teaching and learning. On the other hand, the messages of the environmental setting provide feedback to the teacher results in either reinforcing or challenging the teacher’s previous judgments on the matter.

Virtually the teachers’ beliefs have vital impacts on their work as well as their professional development, it is therefore of interest to know how teachers develop their beliefs while they are going through initial teacher education course. Studies on student teachers’ initial teacher education have shown that student teachers entered their programs with own perceptions on teaching and learning and these preconceptions could be further developed under special conditions of challenges in the teacher education programs (e.g. Bennett & Spalding 1991; Brownlee, Dart, Boulton-lewis, & McCrindle, 1998; Evans, 1995; Hughes, 1994; Nettle, 1998; Shuell, 1992; Sturtevant, 1995; Tillema, 1998; Wilcox, Schram, Lappan, & Lanier, 1991;Wubbels, 1992;). However, studies on the longitudinal development of student
teachers’ beliefs were rare in this area. Furthermore, student teachers enter their teacher education programs with different levels of subject matter knowledge. Will the difference in entry levels of student teachers’ subject matter knowledge influence student teachers’ belief development during their teacher training? This study therefore aims to describe and analyze the development of the beliefs of two groups of student teachers attending the two different programs, the Post-graduate Diploma in Education Program and the Teachers’ Certificate program. In particular, the study aims to answer the following research questions:

1. What are the characteristics of the student teachers’ beliefs during their different stages of study in their teacher education programs?
2. How do the levels of subject matter knowledge of the student teachers relate to their development of beliefs?
3. What are the factors affecting the development of student teachers’ beliefs?

The Teacher Training Programs in Hong Kong

In Hong Kong, there are two systems of teacher training for teachers in primary and secondary schools. The first system of teacher training are provided by the Faculty of Education of the universities, namely the Postgraduate Diploma in Education (PGDE) which admits graduates with their major subjects relevant to the subject disciplines of the secondary school curriculum in Hong Kong. Teachers graduated from the PGDE will be expected to teach senior class levels in a secondary school, with a Graduate Master / Mistress’ rank and respective salary pay scale.

Another system of teacher training, namely the Teacher’s Certificate (CE), is provided by the Institute of Education.. There are two main types of Teacher’s Certificate by length of the study, i.e. the two years full-time and the three years full-time. The two years’ CE program admits student teachers at their completion of Secondary seven or above while the three years’ program admits students at Secondary five or above. Furthermore, the CE programs are divided into divisions, the “primary” and “secondary”, through which student teachers are trained according to the curriculum and contexts of the divisions they are going to teach. For the Secondary division, student teachers are trained in two streams, according to the medium of language instruction, i.e. Chinese and English. For the primary division, only Chinese Language is adopted. The student teachers graduated from the Institute will teach in either primary or secondary schools with a Certificate master / mistress’ rank and respective pay scale. Certificate master / mistress are normally expected to teach classes from Secondary one to three, i.e. junior secondary levels.

Actually, the student teachers attending the PGDE and CE programs differ in quite a number of ways. First, they differ in their academic qualifications, academic
attainments and mastery of subject matter knowledge. The PGDE student teachers enter their teacher education program with a relevant degree of the required subject matter in teaching. In this way, they have established a good foundation in their own subject matter knowledge and therefore are more confident. On the other hand, the CE student teachers enter their teacher education program with a secondary five or secondary seven level, their subject matter knowledge is less academically developed since student teachers normally enter the CE program reluctantly after they are rejected by the universities in Hong Kong. Second, the PGDE student teachers enter the teacher education program with a need to become professionals in their prospective future career which they have pre-determined, therefore they have taken an active role in deciding their professional training as well as their own career. On the other hand, the CE student teachers normally enter the program reluctantly without the readiness to become a teacher. The decisions they made for receiving professional training in teacher education simply because they have no other better choices in higher education in Hong Kong. Therefore they take a more passive role in choosing the professional training program as well as their determinations of own career. As a result, the PGDE student teachers normally have better self-concepts than that of the CE students in respect of academic attainments and qualifications, mastery of subject matter knowledge and career choices. The system of teacher training in Hong Kong is shown as in the following diagram:

Diagram 1: The System of Teacher Training in Hong Kong

Graduate

Master/mistress

One-year full-time PGDE in Teacher Education

Certificate

Master/mistress

Three-year full-time in University degree course

Two-year full-time CE Teacher Education

Three-year full-time CE Teacher Education

Secondary Seven graduates

Secondary Five graduates
Methodology

Ten student teachers from the one-year full-time PDGE (Secondary) Course and ten student teachers from the two-year full-time Certificate Course (Secondary) were selected based on their willingness to participate in the study. Except one of the CE students dropped out in the middle of the term because of her pursuit for university education in the overseas, there were nineteen student teachers participating in the study. In addition, it was encouraged that fresh graduates with no prior teaching experiences to join the project and to ensure that their elective subjects covered a wide range of academic subjects even though it was by no means, a representative sample. The present study was a natural exploration of the development of student teachers’ beliefs during their respective teacher training. Three semi-structured interviews were carried out during the developmental stages of the students’ teacher education, i.e. the beginning of the term, before the teaching practice and after the teaching practice. The typical interview lasted for one hour and the data were transcribed.

Findings

The development of the student teachers’ beliefs related closely with their teaching practice as found in the literature that student teachers’ beliefs changed as a result of induced challenges, of which teaching practice was considered as an important challenge. However, the dimensions of belief development of the PGDE and CE students were found different as in the following aspects.

The learner

All the student teachers believed in the learner’s effort rather the in born intelligence in contributing to the learners’ success. This conception was rather stable during their course of study. The student teachers further asserted that the learners did not put adequate effort because of various environmental factors.

*I don’t think they (brilliant students) are more intelligent than others. They just put into more effort in their work, not really because of their inborn intelligence.* (CE student/2\textsuperscript{nd} Int/1999)

The environmental factors affecting the learners’ successes or failures that the student teachers asserted included the learner’s family background, peer’s influence and the social norms. The student teachers thought that if the learner had put more effort in their learning, they would succeed as a result.

*I once had 2 or 3 students always slept in class. When I tried to approach them, they just said “Sir, please leave me alone”. …… I thought there were two possible reasons for these students’ behaviours: 1. His cumulated learning deficits kept him from new learning; 2. There might be some hidden problems, such as family problems. I don’t know.*

(PGDE student/3\textsuperscript{rd} Int/1999)
Some student teachers thought that the under-achievers had lost interest in learning due to the learners’ learning deficits. The more the learning deficits, the less was the learners’ motivation. Usually classroom problems arose when the learners lost their interest due to their learning deficits. This view only emerged after the student teachers’ teaching practice.

*I guess they (the underachivers) were far behind the standard required. They could not catch up with the lessons……It’s really difficult to maintain the discipline of the class and to deliver the lessons.* (CE student/3rd Int/1999)

In view of the learning deficits, some of the PGDE student teachers considered the mastery of basic foundation knowledge of the learners was important for keeping the learners in track of their learning. The basic foundation knowledge of the learners meant the three core subjects: Chinese, English and Mathematics, according to the student teachers.

The student teachers’ beliefs in the learners is summarized as in table 1.

<table>
<thead>
<tr>
<th>Factors affecting the learners’ learning</th>
<th>Beliefs in the learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE students</td>
<td>PGDE students</td>
</tr>
<tr>
<td>Effort &amp; intelligence</td>
<td>Effort plays an important role in the learners’ success /failure whereas intelligence was comparatively less influential.</td>
</tr>
<tr>
<td>Environmental factors</td>
<td>Family background, peers and social norms were influential.</td>
</tr>
<tr>
<td>Learning deficits</td>
<td>This view emerged after the teaching practice that the learners’ learning deficits was influential in his/her learning and in turn affected the classroom discipline.</td>
</tr>
</tbody>
</table>

**The role of a teacher**

The student teachers opined that the teacher was an important figure in helping the learners to learn in various aspects including the knowledge as well as the learner’s personal growth.

There were three kinds of roles of the teacher according to the student teachers. First, the teacher should be an expertise in providing the knowledge to the learners. Therefore the teacher should possess a wide range of knowledge in addition to his / her in-depth subject matter knowledge to be provided for the student. The CE student teachers emphasized more on the all round knowledge of the teacher while the PGDE student teachers stressed on the subject matter knowledge.

*Teacher resembles a multi-purpose toolbox, he or she knows whatever topic*
areas for communications with the students. Apart from an academic expertise, he or she should have a good mastery in students’ psychology as well. (CE student/1st Int/1998)

Second, the student teachers thought that the teacher should be the role model of his /her students in and out of the classrooms. Therefore the teacher should be aware of his / her own behaviours to make sure that they would set as good models to their students. The opinions of the student teachers varied on the kind of behaviours relevant for a teacher. However, they all believed that the teacher should be abide by the shoulds or should nots that he / she had told the students.

Pupils follow the ways that the teachers do. That’s why I don’t like some teachers demonstrating inappropriate behaviors in front of their pupils……. I think teacher himself / herself as a role model is more important than merely preaching the pupils don’t do that and that. (PGDE student/1st Int/1998)

In view of the learners’ personal growth, some of the student teachers believed that the teacher should provide pastoral care or guidance to his / her students.

I don’t like scolding the students as other teachers do. Instead I’d invite the disruptive student to come to talk to me, let him know what I felt and asked him to give me his opinions on this matter. I’d show him what I expected of him and made sure he got my message. (PGDE student/ 3rd Int/1999)

The teacher’s role as a knowledge expertise and as a role model were emphasized by the student teachers before the teaching practice while the view of a guidance role played by the teacher was more substantially described after the teaching practice. It might due to the fact that the student teachers entered their teacher training programs with their own personal experiences, their perceptions of the teacher’s role were much related to their views based on their past experiences on teaching and learning. After the teaching practice, they had found their ways to act relevant to their students’ needs and therefore believed that the guidance role could contribute to students’ personal growth as well as in helping them to solve discipline problems. The beliefs of the student teachers in the role of a teacher is summarized in table 2.

**The teaching strategies**

Before the teaching practice, the student teachers emphasized the functions of activity approach and student-centered teaching strategies in the classroom teaching. According to the student teachers’ past experiences, the most boring thing was teachers’ traditional lectures. In the student teachers’ views, the classroom activities and student-centered teaching strategies were relevant to the learners’ experiences and needs. During the teaching practice, most of the student teachers inclined to adopt the
<table>
<thead>
<tr>
<th>The role of a teacher</th>
<th>Beliefs held before teaching practice</th>
<th>Beliefs held after teaching practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CE students</td>
<td>PGDE students</td>
</tr>
<tr>
<td>As a knowledge provider</td>
<td>Emphasized more on all round knowledge</td>
<td>Emphasized on subject matter knowledge</td>
</tr>
<tr>
<td>As a role model</td>
<td>Teacher should be aware of own behaviours although there were different interpretations on the appropriate behaviours of a teacher</td>
<td>Same as CE student teachers</td>
</tr>
<tr>
<td>As a pastor</td>
<td>Mentioned as an ideal</td>
<td>Same as CE student teachers</td>
</tr>
</tbody>
</table>

traditional teacher-centered approach, especially the PGDE student teachers. The CE student teachers inclined to adopt more activities and teaching aids in their classes. The differences of the student teachers in the inclination of the adoption of teacher-centered strategies might due to the fact that the PGDE student teachers were assigned higher levels of classes and CE student teachers were assigned lower secondary school classes. The higher the class levels, the more teaching content to be covered, resulting in the inclination of traditional teacher-centered strategies. The PGDE and CE student teachers also differed in their focus of classroom teaching, where the PDGE student teachers were more aware of their delivery of the major concepts of the teaching contents of the lessons while the CE student teachers were more aware of their accomplishment of the teaching plans and the teaching schedule.

*I felt activity approach is too popular and too flooded nowadays. I personally prefer the traditional approach because activity approach cannot do much with the foundation knowledge, like language learning, or numbers, these got the basics.* (PGDE student/3rd Int/1999)

*I know my students feel boring when having traditional lessons. That’s why I let them hear some pieces of music because music will induce their feelings. And then I ask them to draw……*(CE student/3rd Int/1999)

The development of student teachers’ beliefs in teaching strategies was summarized in table 3.


Table 3: **Student teachers’ beliefs in teaching strategies**

<table>
<thead>
<tr>
<th>Preferences of teaching strategies</th>
<th>Before teaching practice</th>
<th>After teaching practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CE students</td>
<td>PGDE students</td>
</tr>
<tr>
<td>Student-centered, activity oriented</td>
<td>Emphasized the relevancy of this approach in motivating the learners and achieving the effectiveness of classroom teaching</td>
<td>Same as CE students</td>
</tr>
<tr>
<td>Teacher-centered, traditional approach</td>
<td>Was viewed as boring and irrelevant according to own experiences as well as learners’ needs</td>
<td>Not favor for this approach</td>
</tr>
</tbody>
</table>

**The classroom management**

The student teachers expressed their worries about the classroom management when they would have their teaching practice, especially the disciplines of the under-achievers in the classrooms. Although the student teachers worried about their classroom management problems, they did not have any concrete ideas of how to solve the discipline problems of the low-achievers before the teaching practice. The PGDE student teachers especially expressed their concerns about the types of schools they would be allocated. They would be upset if they were allocated to Band four or five schools where the students were under-achievers with serious classroom discipline problems.

*I haven’t thought of teaching in a Band five school (school with under achievers). I can’t teach in Band five schools.* (PGDE student/1st Int/1998)

In contrast, the CE student teachers did not feel as upset as the PGDE student teachers even if they were allocated to the Band four / five schools for teaching practice. The reason for that might be the CE student teachers had their three-day attachment in the schools where they would have their teaching practice. During the attachment period, the CE student teachers observed and gained some information about their classes resulting in reducing their worries. Furthermore, the major concern of the CE student teachers was the adequacy of their subject matter knowledge in carrying out their classroom teaching rather than the classroom discipline problems.

*If I can choose, I’ll rather choose to teach in Band five schools because I can get more satisfaction from them than Band one schools..... Besides, I feel more comfortable in preparing the teaching material, that’s OK for them (Band five students). But I feel pressure in teaching Band one schools although I haven’t taught before.* (CE student/2nd Int/1999)
During the teaching practice, some of the student teachers had developed good teacher-student relationship in their classroom teaching. These student teachers gradually generated empathetic understanding of the low-achievers and learned to played the role as a pastor during the teaching practice. For these student teachers, they gained much satisfaction from their teaching and became more committed in their future teaching career.

Since the PGDE student teachers had two teaching practices in their length of study, they felt more concerned and worried at their first teaching practice. After that, they felt more comfortable in dealing with the second teaching practice although they still worried about the discipline problems of the low-achievers.

Although the CE student teachers had only one teaching practice, they had an attachment of the schools they would be in the teaching practice and therefore reducing their worries at certain extent. However, during the teaching practice, the CE student teachers met challenging questions from their students. They attributed the aforesaid embarrassing situations to their lack of in-depth subject matter knowledge.

*Sometimes it happened when my students asked me questions that I didn’t know. At first I felt embarrassed. But then I’d tell them (the students) I had no ideas of the questions and promised to follow up the matter.*  (CE student/3rd Int/1999)

In comparison, the CE student teachers would prefer to handle the discipline problems in the Band four / five schools than the challenging questions put forward by the Band one school students.

On the contrary, the PGDE student teachers preferred Band one schools rather than Band four / five schools. The two contrasting views on the preferences of the types of schools indicates that the confidence, or lack of confidence of the student teachers in either areas of the subject matter knowledge and the discipline problems. The development of student teachers’ beliefs on classroom management is summarized as in table 4.

**Subject matter knowledge and teaching**

At the entrance of the teacher training programs, the PGDE and the CE student teachers believed their subject matter teaching played important roles in the secondary school curriculum, such as the Chinese major student teacher emphasized the functions of language in communications; the Economic major student teacher stressed the practical use and logical thinking induced in the subject teaching; the Physical Education major believed that physical lessons would enhance the balance of children’s growth, etc.

In comparison, the PGDE student teachers could cite an ample of facts and examples in elaborating the significance of their subject matter in the school
<table>
<thead>
<tr>
<th>Classroom management</th>
<th>CE students</th>
<th>PGDE students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ways to handle real classroom discipline problems</td>
<td>No concrete ideas before teaching practice. Nor did they have any solutions to solve the problems after teaching practice.</td>
<td>Same as CE students</td>
</tr>
<tr>
<td>To teach the underachievers</td>
<td>Acceptable with some worries</td>
<td>Much worried about the classroom management posed by the inattentive underachievers, especially before teaching practice</td>
</tr>
</tbody>
</table>
| Classroom disciplines initiated by questions posed by students that could not be answered by the teacher | - Much worried about the questions posed by questions that could not be answered.  
- Preferred to teach in schools where the majority of students were underachievers whose academic performances are lower | - Academic challenges from the students would not be problems to them  
- Preferred to teach in schools where students’ academic performances are higher. |
| Development of pastoral skills in handling discipline problems | During the teaching practice, few of them developed pastoral skills by active listening and communicating to the disruptive students, and then providing further guidance in order to enhance personal growth of the students. | Same as CE students |

Furthermore, the student teachers’ perceptions varied according to their own subjects, e.g. the Geography major felt geography was not an important subject in school because it was an elective; the Chinese Language major felt Chinese was important in school because language was a fundamental base for all subject learning. Actually, the student teachers believed that the three core subjects, i.e. Chinese, English and Mathematics were the most important subjects in students’ learning. This view was held by the student teachers consistently before and after the student teachers’ teaching practice.

*I think it is fundamental to help them (the pupils) to acquire the skills to be independent, or the practical life skills. These skills facilitate them to work or communicate with others.....The examples of the skills include the language learning and the mastery of numbers, i.e. English, Chinese and mathematics. The mastery of these skills helps them to communicate either in writing or in verbal expressions.*

*(PGDE student/1st Int/98)*

In the aspect of the confidence in teaching own subject matter, most of the CE student teachers felt inadequate of their subject matter preparation before the teaching practice. They expected more subject matter knowledge gained from
their academic subject modules but they felt they could not gain much. In return, they learned the subject matter pedagogy that they found did not match their urgent needs in preparing for the teaching practice. That was the main reason why they had become anxious before the teaching practice. After the teaching practice, they expressed their needs in the remedy of their subject matter knowledge since they had come across challenging questions in the classrooms which they could not answer during their teaching practice.

*I feel my subject matter is inadequate... I felt the problems when I started my teaching practice.* (CE student/3rd Int /1999)

For the PGDE students, the confidence to carry out their subject matter teaching was rather stable. They did not feel inadequate in their subject matter knowledge and therefore did not express the need of subject matter training in their subject modules. The major concern of the PGDE students about the teaching practice was classroom management. The development of student teachers’ beliefs in subject matter knowledge is summarized as in table 5.

Table 5: Student teachers’ beliefs in subject matter knowledge

<table>
<thead>
<tr>
<th>Beliefs in own subject matter knowledge</th>
<th>CE students</th>
<th>PGDE students</th>
</tr>
</thead>
</table>
| Self-value of own subject matter in the secondary curriculum | -Each of them viewed his/her own subject was of value in the curriculum.  
- The majority did not elaborate in detail of how their own subject matter is of value. | -Each of them viewed his/her own subject matter was of value in the curriculum.  
- They elaborated in detail of how their subject matter is of value in the curriculum.  
- The Economics and Geography Majors felt their Major subjects were neglected by the schools. |
| Confidence in own subject matter | - Felt insufficient subject matter knowledge to carry the teaching, before and after teaching practice.  
- Expected their knowledge would be made up in the academic modules before teaching practice.  
- Need to remedy after teaching practice. | - Felt sufficient subject matter knowledge preparation.  
- Did not expect the teacher education to make up their subject matter knowledge before and after teaching practice.  
- Did not mention any remedy for subject matter knowledge |

In sum, the CE and PGDE student teachers entered their teacher education program with own developed beliefs in teaching and learning based on their past experiences. Their beliefs in teaching and learning were further developed during their studies in their teacher education program. Teaching practice was considered as an important element in the teacher education program for the student teachers to gain grounded
experiences. Here the teaching practice was also acted as an important stage to further develop student teachers’ own beliefs in teaching and learning. The development of the CE and PGDE student teachers in their first year of teacher education is summarized as in table 6.

Discussion

At the first stage of the development of the student teachers, i.e. at the entrance of the teacher education programs, the student teachers had their own thoughts about the learners, the teacher’s role, the teaching strategies, classroom management and subject matter knowledge. These thoughts were developed before they entered the programs as a result of their own past experiences. At this stage, the CE and the PGDE student teachers did not differ significantly except in their subject matter areas. The differences in the confidence of the two groups of student teachers generated different views on teaching and learning in their subsequent development stages. The PDGE student teachers’ competence in own subject matters led to their academic oriented approaches in viewing learners’ learning, teachers’ roles, teaching strategies and preferences of students in terms of academic performances and disciplinary problems. Similarly, the CE student teachers’ thoughts on own subject matter had their impacts on their further development in different aspects of teaching and learning in a less academic approach.

Further on the studies of the teacher education programs, the student teachers received their lectures and reflected some theoretical ideals on teaching and learning before their teaching practice. Here in this stage the development of the student teachers were rather stable, especially the views on the learners, teachers’ roles as well as teaching strategies. However, the student teachers became tense as the teaching practice was drawing near. The two groups of student teachers differed in their worries about teaching practice. The CE student teachers felt unprepared in their subject matter knowledge and therefore worried about their subject matter teaching while the PGDE student teachers worried about the disciplinary problems initiated by disruptive students. The PGDE student teachers’ focus on academic approach on teaching and learning required classes of good discipline to which the major concepts could be systematically presented without severe interruptions. Therefore the PGDE students’ major concerns were the classroom management problems which could be found easily in classes of underachievers who were characterized in disruptive behaviours. The CE students’ worries were much related to their subject matter knowledge readiness. Therefore the CE students had to prepare the lessons very well or they would lose confidence in the class presentation. The excessive preparation of lessons might exert additional pressure on the CE student teachers.

After the teaching practice, the student teachers’ thoughts on teaching and
**Table 6: The development of the CE and PGDE student teachers in their first year of teacher education**

<table>
<thead>
<tr>
<th>Student teachers’ beliefs</th>
<th>Entry characteristics</th>
<th>Before teaching practice</th>
<th>After teaching practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CE</td>
<td>PGDE</td>
<td>CE</td>
</tr>
<tr>
<td><strong>Learners</strong></td>
<td>Effort more important than intelligence, environmental factors are influential</td>
<td>Effort more important than intelligence, environmental factors are influential</td>
<td>Effort more important than intelligence, environmental factors are influential</td>
</tr>
<tr>
<td><strong>Teachers’ role</strong></td>
<td>Knowledge provider (emphasized on all round knowledge), a role model, a pastor (as an ideal)</td>
<td>Knowledge provider (emphasized on subject matter), a role model, a pastor (as an ideal)</td>
<td>Emphasized the role in helping students’ learning, the other roles same as before</td>
</tr>
<tr>
<td><strong>Teaching strategies</strong></td>
<td>Favored student – centered &amp; activity approach</td>
<td>Should be relevant to students’ needs, practical, real life experienced</td>
<td>Favored student – centered &amp; activity approach</td>
</tr>
<tr>
<td><strong>Classroom management</strong></td>
<td>No ideas of handling disruptive students</td>
<td>No ideas of handling disruptive students</td>
<td>Accept to teach schools of under-achievers with disruptive behaviours</td>
</tr>
<tr>
<td><strong>Subject matter knowledge and teaching</strong></td>
<td>Felt the importance of own subject matter in secondary school curriculum, not confident in own subject matter knowledge</td>
<td>Own subject matter was of value in the curriculum, confident in own subject matter knowledge, Economics, Science and Geography majors viewed their own subject matters were lower in status than the Chinese, English and Maths in schools</td>
<td>Expected the teacher education program could help to strengthen own subject matter knowledge, worried about own inadequacies in subject matter teaching</td>
</tr>
</tbody>
</table>
learning experienced some changes after they gained real classroom experiences. The beliefs on learners were relatively stable except that the learning deficits of the underachievers which was considered as a hindrance of learning were emphasized. To the PGDE student teachers, these learning deficits might due to the weaknesses in the three academic subjects and therefore the mastery of the three subjects was stressed. This view was congruent with the PGDE student teachers’ academic oriented approach at their entrance of the teacher education program as well as their further development in the program. Another significant change was the teaching strategies adopted by the student teachers. The PGDE student teachers inclined to adopt traditional approach in their classes while the CE student teachers inclined to adopt more activities. Although the PGDE student teachers’ teaching strategies seemed to have changed from before the teaching practice from student-oriented to teacher-oriented, their choices of actions in the teaching practice did explain the congruence of this group of student teachers’ academic emphasis on subject matter. The last area was classroom management where the opinions of the student teachers of the two programs diversified in their preferences of academic able students or underachievers. Again the preferences of the two groups of student teachers did congruent with their original beliefs where the PGDE student teachers would choose academic able students to match their academic oriented teaching and learning approach while the CE student would prefer underachievers in avoiding academic challenges which in turn congruent with their lack of confidence in subject matter knowledge.

Finally, although the student teachers developed their beliefs systematically through their initial year of professional training, the process was not a smooth one during which the teaching practice was considered as an important input in further developing student teachers’ beliefs.

Conclusion
The student teachers entered their initial teacher training programs with a variety of backgrounds. One of the distinctive differences was the depth of subject matter knowledge which affected student teachers’ different concerns in teaching and learning. Further development of the student teachers’ beliefs was found closely related to the original beliefs held. The implications of this study therefore in two dimensions. First, there was always a negligence of the initial teacher training programs of the entry beliefs and expectations of the student teachers regarding their subject matter knowledge. Further developments of the student teachers were also neglected during their course of study. Necessary actions of teacher education programs will be needed to provide flexible measures to accommodate student teachers’ entry characteristics as well as their professional development, especially the
teaching practice. Second, the government policies on teacher education had to be reviewed with clear educational goals and objectives for teacher training so that better quality of teacher education will be enhanced.

References