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Adaptability and problem solving as survival skills: How did student teachers learn to survive?

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Abstract

This study investigates student teachers' adaptability and problem-solving abilities during their practice teaching in a school-university partnership. The study explores how student teachers tried to adapt to the new school environments and how they overcame the obstacles they encountered. This study applied a mixed-methods design. In the quantitative part, 50 student teachers participated, and four student teachers volunteered for interviews. The results showed that student teachers used their adaptability and problem-solving skills to win stressful situations, including difficulties in teaching and learning and communication with school teachers. In addition to that, student teachers also increased their self-confidence and learned to build professional identity.

Keywords: Adaptability, problem-solving, school-university partnership, initial teacher education

1. Introduction

The changing nature of teachers' work has been seen in global education in recent years. Teachers are increasingly seen as responsible individuals for teaching and learning in classrooms and broader school activities, including participation in knowledge-creating communities and solving problems. There are many demands for teachers to build their resilience to cope with the changing society of the knowledge age. Teacher participation in social activities and collaboration within their communities and other organisations is also encouraged as teachers hold significant responsibility for shaping the country's future.

According to Wagner (2008), students of the 21st Century need seven survival skills, including (i) critical thinking and problem-solving; (ii) collaboration and leadership; (iii) agility and adaptability; (iv) initiative and entrepreneurialism; (v) effective oral and written communication; (vi) accessing and analysing information; and (vii) curiosity and imagination. To train students to have these seven survival skills, it is also essential that teachers possess

these skills to teach students and optimise their learning. Therefore, teacher training institutions need to develop these skills in pre-service teachers during their training. In this study, the two survival skills called 'adaptability' and 'problem-solving' skills were highlighted as essential skills when pre-service teachers adapted to their new environments and solved the problems they faced, especially during their practice teaching.

2. Theoretical consideration

2.1. School-university partnership and initial teacher education

According to the teacher-related policy of the European Union, teacher education is seen as a continuum of three components: (i) initial teacher education, (ii) continuous professional development and (iii) induction (Council of the European Union, 2009). According to this, teacher education cannot be seen separately because the three components/areas are interconnected and embedded. School-university partnership can be seen in all of these three Teacher Education continuums. Moreover, schools and educational departments collaborate in these three areas to promote teacher learning and professional development (Baumfield & Butterworth, 2007).

A partnership between schools and universities has emerged as a significant interest worldwide to enhance initial teacher education quality (Tsui et al., 2009). In the late 20th Century, the call for school-university partnership in initial teacher education became the primary factor in reforming the education system. In the past, the initial teacher training tended to focus more on the university-led training, where the prospective teachers learned the theory of education and how-to-teach knowledge. Because of the criticism of teacher education during the 1990s and less emphasis on school-based training, educational experts reflect on universities' teacher training. Many people started believing that schools should also be involved in the training of future teachers with the acknowledgement that practical training is different from theory-based training.

With the evolvement of work-integrated or school-based learning, universities started fostering collaborations with schools within their teacher training programs. Following this, the research on school-university collaboration for initial teacher training came alive, and the work of the expert researchers proved the advantages and significant benefits of partnerships between universities and schools for student-teacher training. Scholars like Zeichner (2010) discussed the gap between the campus and school-based teacher education and the communities where the schools and universities communicate for the initial teacher training in the United States.

> *Underlying innovative programs based on collaborative resonance is the assumption that conjoined efforts to prepare new teachers create learning opportunities that are both different from and richer than the opportunities either the school or the university can provide alone* (Cochran-Smith, 1991, p. 109).

Many scholars, including Cochran-Smith, declared that the preparation of student teachers is much more effective when there is a collaboration between universities and schools throughout the training processes. Cochran-Smith (1991) mentioned three collaboration-encouragement approaches for inventing student teaching. These three approaches favour the balance between university-based and school-based training approaches. All of her three approaches showed that the qualities of student teachers would be improved more if the schools and the teacher training universities collaborated in the teaching of prospective teachers.

According to the literature, there is a general agreement that the education of prospective teachers is more enhanced when there is a triadic partnership supported by a cohesive

school/tertiary network (Smedley, 2001). In the context of this study, school-university partnership plays a significant role in providing opportunities for student teachers to discover their adaptability and problem-solving skills when they face challenging situations during their two weeks practice teaching experiences. In other words, school-university partnerships can be a learning space for student teachers to practice their teaching, improve learning, and discover hidden skills.

2.2. The importance of problem solving and adaptability in initial teacher education

As mentioned above in the introduction section of this article, to train students for the challenges of the 21st Century, teachers also need to learn specific skills and abilities to teach those students. Among these essential skills of the 21st Century, problem-solving skills and adaptability play a significant role in surviving challenging situations and an unpredictable future as a teacher in this knowledge age.

As teachers have significant responsibilities for developing these skills in students, they are also expected to develop these skills during the initial training period to become qualified teachers (Kinay & Bagceci, 2016). One of the situations where the student teachers can develop these skills, namely adaptability and problem-solving abilities, is to experience practice teaching where they encounter real classroom situations and challenges in communication with school teachers and students. Kinay & Bagceci (2016) mentioned that as a 21st Century teacher, problem-solving skills are essential as it helps individuals to reflect on their environment while handling the problems. Furthermore, by providing training in problem-solving activities, individuals can discover their hidden talents by using their knowledge and thoughts. Therefore, the authors noted that problem-solving creates opportunities to discover hidden talents (Kinay & Bagceci, 2016). In addition, Heppner & Baker (1997) observed that individuals need specific competencies to solve problems and difficult situations. These competencies include (i) the ability to cope with both problem-oriented and emotion-oriented situations, (ii) identifying problems and thinking alternatives about them, (iii) cognitive process, and (iv) self-confidence in problem-solving (Heppner & Baker, 1997). By experiencing these difficult situations and trying to solve them, student teachers can also develop these four competencies to improve their teaching and learning. Moreover, research findings have shown a positive correlation between student teachers' problem-solving abilities and self-efficacy beliefs. The authors concluded that student teachers with high problem-solving skills could provide more student engagement and use different classroom management strategies and instructional strategies to optimise students' learning (Cansoy & Turkoglu, 2017).

Another area that pre-service teachers encounter during their training period is adapting to a new environment and culture. As student teachers do their practice teaching in real classrooms as their first experiences, the school environment and school culture are new environments and challenging situations for them. According to Varah et al. (1986), this situation was described as a 'sink or swim' situation for student teachers as they have to struggle to adapt to the new conditions; otherwise, they will not be able to survive. One of the common issues student teachers face while adjusting to the new environments is constructing a professional identity. According to Korthagen (2004), during this identity construction period, student teachers examine and reflect on their professional beliefs and goals with the actual situations. The gap between reality and pre-assumed professional life or expectation occurred as student teachers struggled to cope and adapt to the situations (Flores, 2004). By balancing these reality and

expectation experiences, student teachers gradually grow their new professional beliefs and confidence as qualified and experienced teachers.

Besides growing self-efficacy through adaptation to the school culture and environment, they can also influence student teachers' learning and professional development. For example, school environments with encouraging, informative and supportive leadership led to positive experiences for student teachers at school (Flores, 2004). Therefore, in parallel with adaptation to the new situations, student teachers are also learning for their professional development. This study showed that the school culture and environment impact student teachers' learning and professional development.

3. Methodology

3.1. Research design

A mixed-methods design is applied in this study as the aim is to overcome the limitations of using a single approach. A convergent parallel mixed methods approach draws on quantitative data via survey questionnaires and qualitative data via interviews.

3.2. Participants

Fifty student teachers from the University of Education who had two weeks of practice teaching experiences participated in the quantitative data collection stage. The total response rate was 100 per cent. From the initial fifty student teachers, four were interviewed for the qualitative part of the study. Four student teachers volunteered to participate in the interview. All four student teachers did their practical teaching in different schools where the university allocated them. They all did their practice teaching in different urban schools in the same region; specifically, their respective teaching subjects at schools are English, Chemistry, Mathematics, and Physics.

3.3. Instruments

The questionnaire was developed to examine student teachers' learning, and it mainly focused on their learning within the context of school-university partnerships. As this study focuses on student teachers' problem solving and adaptability during practice teaching, only one question, which included nine items, was applied in this quantitative part. The question asked the student teachers' opinions about obstacles or challenges which impede their learning and collaboration with schools. Nine items included in the question asked student teachers' perceptions of areas that blocked student teachers' learning and collaboration, explicitly outlining areas from lack of resources to different opinions, beliefs, and attitudes. A five-point Likert scale was used, ranging from 1='do not have a major impact' to 5='have a major impact'. When developing a questionnaire, think-aloud procedures and expert review were applied for clarity and comprehension. An interview protocol was also produced for the interview process. The questionnaire and interview questions were developed based on literature reading, discussion, and collaboration with experts through participating in the EDiTE SUP project (Barath et al., 2020).

3.4. Procedures

After expert reviews and think-aloud procedures for validity, the survey questionnaire link was sent out via messenger using Qualtrics Online Survey. Qualtrics survey was left open for a week to give participants enough time to answer the questions. After a week, the survey was closed. Interviews were carried out through messenger video calls. Interview questions were sent out

to participants one week before the interviews started. Each interview took 30-60 minutes. The researcher took notes while interviewing, and all were transcribed.

3.5. Data analysis

The quantitative study was statistically analysed using SPSS software, whereas the qualitative interviews were manually analysed from the transcriptions of the interviews. All transcripts were member-checked through discussion with participants. Themes were developed, and the codebook was created and left open for adding if related codes emerged.

4. Findings

4.1. Quantitative findings

The quantitative part answered the question of 'what are the areas or factors that impede student teachers' learning during practice teaching period in schools'. **Figure 1** illustrates student teachers' perceptions of nine items that impede their learning and collaboration with schools. The quantitative part examined the obstacles and challenges of student teachers during their practicum, while the qualitative part explained how the student teachers handled these obstacles.

FIGURE 1: STUDENT TEACHERS' PERCEPTION OF FACTORS THAT IMPEDE THEIR LEARNING AND COLLABORATION WITH SCHOOLS
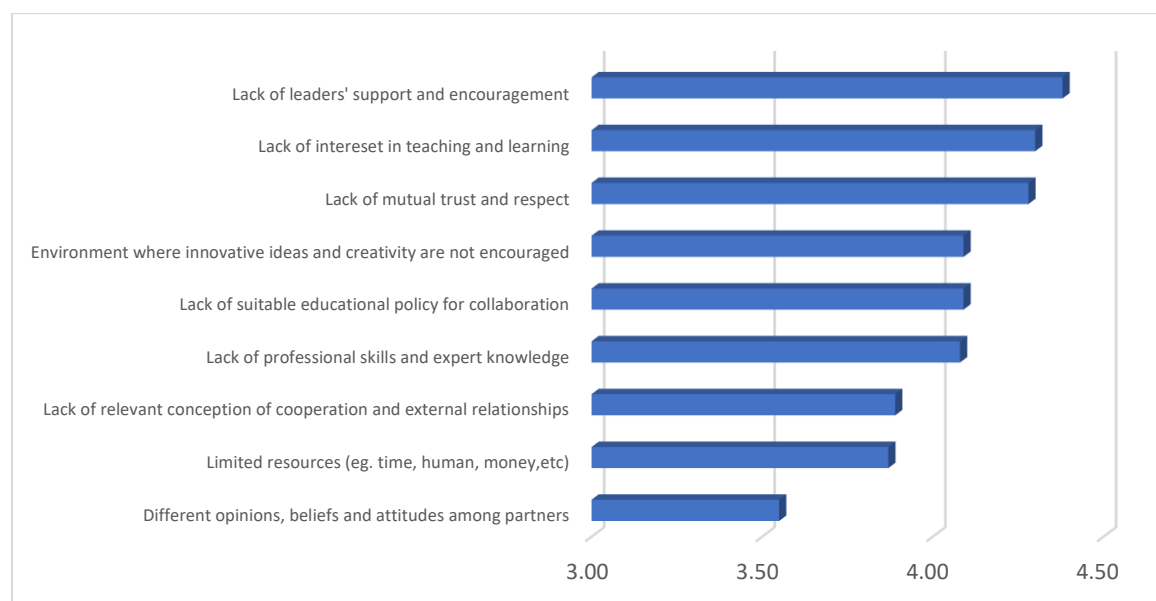
Note: 1='do not have a major impact' to 5='have a major impact'

According to **Figure 1**, student teachers mentioned that the lack of leaders' support and encouragement was the most challenging factor for their learning and collaboration with schools. Therefore, for this item of the original questionnaire, leaders were outlined and explained by giving examples such as school principals and head of the subject/subject dean, etc., to provide a clear understanding of the context. Other factors considered difficulties for learning are lack of mutual trust and respect and lack of interest in teaching and learning of school teachers. The figure showed that these three factors were the barriers to student teachers' learning during their period of practice teaching at schools. However, different opinions, beliefs

and attitudes among student teachers and school staff did not assume an intense obstacle to their learning.

4.2.   Qualitative findings

This section will discuss how the student teachers tried to adapt to the new school environments and culture and their encountered obstacles. In addition, student teachers' problem-solving strategies while adapting to new situations will be discussed.

4.2.1.   Obstacles: new culture and new environment

According to one student teacher, the group of student teachers had difficulties communicating with school teachers. As the university assigned them to schools for two weeks of practicum, they had no idea or information about the school before starting their practice teaching. They have never been to this school and never met the teachers before. Therefore, the school environment and culture were new for them. They did not understand the school culture, and they had some difficulties adapting to the environment and communicating with school teachers.

> *The school is in the city centre, and it is a kind of elite school. The teachers were not that friendly and did not really welcome us. They minded their own business and did not communicate with us. They gave us a private room for us (we are 14 student teachers), and we felt kind of lonely and isolated. We did not have a chance to chat with them or discuss with them* (Student-teacher 1).

One of the student teachers mentioned his tension with school teachers. As the school teachers did not have a good relationship or communication, it was difficult for him to collaborate with all of them. He had an emotional burden in trying to communicate with all teachers smoothly as the teachers did not have a good relationship with each other. Communication conflicts among teachers made student teachers have learning and teaching problems.

> *I taught one subject and this subject has three or four responsible teachers. So I had to communicate and negotiate with all teachers, which is difficult for me because they have no good communication. And the different teachers gave me different advice and I did not know which instruction I should follow. I did not want to hurt the teachers if I followed one specific piece of advice. When I communicated and discussed with one teacher, the other teacher did not like it. I was really stressed* (Student-teacher 2).

In parallel to adapting to new situations in schools, one of the obstacles student teachers encountered was real classroom experiences as a teacher. Communication with school children also impacted student teachers' teaching and learning. Once a student-teacher did her practice teaching in a school, she faced some tricky situations in understanding the children from that urban school. As most of the school children in that school have learnt lessons from their private tutoring, all her teachings were not attractive enough for them. As a result, they have memorised all the classes and ignored her teaching.

> *I was teaching Grade 11 students. At that time, children showed no respect to me. Some stubborn kids made me disappointed on the first day of teaching. They have private tutoring, so they don't care what school teachers are teaching at schools. They have learnt all the lessons in their private tutoring classes and showed no interest in my teaching. And I asked this situation to school teachers, they all replied that "yes, these*

students are like that. We also have to handle a lot of difficulties". I felt very disappointed that I even want to stop teaching (Student-teacher 3).

Another student teacher had some expectations before her practice teaching. She expected that she would be able to teach very smoothly and effectively as she prepared pretty well. And she intended to implement interactive classrooms using different teaching methods and teaching aids, etc. However, the reality shocked her, and she had to struggle in this situation.

I expected a lot like 'I won't have any difficulties and will teach very smoothly. But in reality, the age gap was not so much between the students and me, and I could not handle teaching and learning effectively. And I expected that all students would get everything I taught them. But in real classroom situations, some students didn't get as much as I gave. I was sad. And it was challenging to implement student-centred lessons that I had prepared before this practicum, as the class size was a lot bigger than I expected (Student-teacher 4).

4.2.2. Adaptability and problem solving: How did they learn to survive?

One of the solutions that Student-teacher 1 applied was adapting to the school culture and communicating with peers. Although he felt isolated from school teachers as they were not welcome and friendly with them, he tried two ways to adapt to the situations and solve the obstacles. First, he tried to communicate with the school teacher as far as he could whenever he needed help. Moreover, he collaborated with his peers during these two weeks of practice teaching.

As teachers were so aloof and separated from us, we tried to survive alone. But they said that we can come to their place and ask them whenever we have questions. Sometimes, we went to them and asked some questions when we needed help. We discussed with my peers and prepared lessons together most of the time. It was okay as we have each other, and we helped one another (Student-teacher 1).

For student-teacher 2, he tried to escape from this situation by modifying all the teachers' advice and adapting to his own teaching methods. In addition to that, he approached the most experienced teacher in school while struggling to be neutral among the teachers.

There was one experienced teacher in school. She is the oldest and most experienced. And she is very knowledgeable in her subject field. So, I used her advice in my teaching. It was more comfortable for me as she is the oldest and most experienced teacher in school. I tried to solve this tension by approaching her as my mentor. And another way I handled the situation was that I took all advice from all teachers, but I modified my teaching styles and implemented my new teaching strategies combining all of these suggestions (Student-teacher 2).

For student-teacher 3, the solution she found to solve the issue was inventing different teaching strategies that the school children had not learnt in their private tutoring. She tried to use different teaching methods to attract children's attention and created more interactive classrooms.

I have to rethink this issue, like "how I can arrange the lessons to attract their attention?". I did two weeks of training. First week was not okay. But in the second week, I used different teaching aids and checked the students' situation. I tried to have interactive classrooms and communicate with them. It really worked. From then on, I

am okay and my enjoyment in teaching came back. My confidence level has also increased (Student-teacher 3).

Student-teacher 4 also solved her situations. Her way of solving the issue was similar to student-teacher 3. She tried to use different teaching methods to ensure that all students were involved in the lessons and got the knowledge that she taught. In addition, she discussed with school teachers and got suggestions from them.

> *I asked some suggestions from school teachers to get all students involved and got what I wanted to give them. The teachers told me to study teaching methods, so I tried to figure out new teaching strategies and methods. After two weeks, I think I am satisfied with what I have tried* (Student-teacher 4).

According to all interviews, student teachers learned different techniques to overcome their challenging situations by adapting the conditions, reflecting, and using problem-solving skills.

5. Discussion

According to the interview results, there are two critical situations where student teachers had to adapt to the new situations during training periods. One of them is school culture and environment. Varah and colleagues (1986) mentioned the conditions of student teachers in adapting to new school culture and environment as 'sink or swim'. This quote is reflected in this study when student teachers faced stressful situations in communication with school teachers and tried to be flexible in an uncertain and unfriendly environment. They must solve this situation by collaborating or changing their styles to 'swim' or 'survive'. However, student teachers tried to survive these situations by creating strategies to adapt to the environment.

As Heppner and Baker (1997) discussed, we can develop four competencies through solving problems in difficult situations. In this study, student teachers did develop these four competencies through adapting and problem-solving practices. Two of the most prominent areas where student teachers showed significant improvement was identifying problems and thinking alternatives about them and self-confidence in handling tough situations. In all four cases of student teachers, they showed their reflecting abilities and coping abilities. Furthermore, they knew what made them disappointed or stressed. After realising and identifying the source of the problem, they tried to see from different perspectives and came up with solutions to overcome the obstacles. This situation showed that they had developed the identifying problems and thinking alternatives to the problem abilities. In addition, to self-confidence, all student teachers had increased their confidence after finding the solutions and gained satisfaction in their performance.

Another situation where student teachers adapted to and solved the issue is the teaching difficulties where there is much difference between expectation and reality. Student teachers were confident and prepared well before their practice teaching period. Despite that, they had unexpected obstacles and challenges related to their teaching and communication with children. According to Korthagen (2004), student teachers try to build their professional identity through examining and reflecting on their professional beliefs and goals in real situations. As one student-teacher mentioned '*in reality, what I prepared was not enough. I have to think about it and create new teaching strategies and methods*'; this reality and expectation gap encourages student teachers to develop new ideas to solve the issue and help them build their professional identity by reflecting on and examining their existing situations. Therefore, student teachers are

also building their identity as teachers through adapting to new environments and solving conflicts among them.

6.   Conclusion

When teachers play a significant role in promoting the country's education, it is also essential to encourage teachers' 21st Century skills. This study investigated future teachers' 21st Century survival skills to highlight the importance of cultivating and providing the necessary opportunities to gain these skills during training. Moreover, the results showed that student teachers learnt adaptability and problem-solving skills through practice teaching periods, and they also gained other competencies, including reflecting and identifying problems. Through practice teaching, they also improved their self-confidence and built their professional identity through these adaptability and problem-solving skills.

7.   Limitation

As this study only investigated limited numbers of student teachers within the context of school-university partnership, it might not be generalisable for the whole population of student teachers in the country. However, school-university partnership and student teachers' 21st Century skills are an unexplored area of research. Therefore, despite the limited number of participants, this study might help and be an initial catalyst for further investigation or studies to find out more about the obstacles student teachers face and their coping abilities during their practicum.

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