



PRE-SERVICE SCIENCE TEACHERS IN INTERNATIONAL TEACHING PRACTICUM: REFLECTION OF THE EXPERIENCE

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ABSTRACT

International Teaching Practicum (ITP) is a platform that provides experiences and opportunities for pre-service teachers to grow both personally and professionally in the teaching profession. This study reported the outcomes of an eighth-week ITP Program in Brunei and Indonesian's schools for Malaysian undergraduate secondary pre-service teachers in four aspects; namely: (1) teaching strategy in science education; (2) communication skills and confidence in teaching science; (3) perspective in science education and culture; and (4) interpersonal skills in teaching science. All of the pre-service teachers shared their experiences in their weekly reflective journals and the data from the structured interviews during ITP. The findings indicated that the pre-service teachers were more creative and innovative in applying various approaches in teaching science as they must improvise the learning resources to suit the teaching context. The pre-service teachers were found to be more confident, and they experienced substantial development in their communication skills. Their views on education and culture of science also have shifted, and these attributes also have enhanced their interpersonal skills that provide opportunities for more networking and linkages with the host schools. The implication of these findings is believed to link to their belief in enhancing their professional experiences that contribute to the science teaching profession.

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INTRODUCTION

Some educational institutions across the world are now initiating and supporting the International Teaching Practicum (ITP) to prepare their pre-service teachers (PSTs) to teach for diverse conditions. Also, some schools all over the worlds have adopted borderless education where the classrooms are increasingly multicultural and diverse by having a range of effects on te-

aching and learning. These borderless classroom structures have further encouraged the PSTs to think beyond their self-interests towards more important ethical and educational questions which are relate to the acquiring skills for preparation in the teaching profession (Parr et al., 2017).

The teaching practicum is a crucial phase for the PSTs where they get chances to apply and practice all the theories, techniques and pedagogies that they have learned in their teacher education programs in the real school environment (Barton et al., 2015; Kabilan et al., 2017a). It is

also one of the requirements for the completion of the bachelor's degree majoring in education. In most cases, the PSTs undertake their teaching practicum in their local settings, which is basically in their home country. In a study by Yunus et al. (2010), they have listed the importance of teaching practicum and the challenges that the PSTs faced in the local setting; however, the experience can be less challenging. Thus, the PSTs are looking for more alternatives to make their practical experiences more meaningful and comforting in some ways. Therefore, some PSTs are more interested in joining the networking and collaborations with institutions in other countries even though using their own pocket money as these will also benefit their future career as teachers.

In Malaysia, to become teachers, the PSTs not only have to achieve higher pointers in their CGPA; but also must have distinctive and outstanding resume compared to others as the teaching profession is now an open market. Most of them also have to wait for a long queue for the interview and posting. This is why having experience in the international practicum will definitely put them on the top of the list to be shortlisted in the interview; hence getting the job. A similar study also reports that international placement will enhance pre-service teachers' employability (Hay et al., 2018).

ITP aims to provide a platform and opportunities for the PSTs to experience learning and engage in teaching in international educational settings and schools. According to Urban & Palmer (2014), encouraging a meaningful engagement of international students with the university community, integrating intercultural perspectives into classrooms, and encouraging domestic students to work in multicultural groups and teams could enhance the student experience in teaching and learning. The drive for globalization is also very crucial so that PSTs are better prepared as teachers to face the challenges of the 21st century (Dantas, 2017; Larsen, 2016; Kabilan, 2013; Kabilan et al., 2017b).

Kabilan (2013) reported that the six pre-service TESOL teachers who did their ITP in the Maldives found out that the benefits to pre-service teachers' professional development include confidence in speaking and communicating, confidence in teaching, development of interpersonal skills and new world views of education and culture. Besides, the study found that the PSTs had learned to adjust the new working cultures and conditions. Similar results found in Kabilan et al. (2017a) when two TESOL PSTs did their ITP in Bangladesh for two months. The PSTs were more

confident with their teaching skills. They also developed a new perspective on education and culture, as well as improved their interpersonal skills. Kabilan (2017a) also concluded that ITP allows PSTs to experience deeper and more meaningful teaching practices. In another study, Ateskan (2016) in his collective case study of cohorts of 251 students over eight years of study by using the reflective journal, found that the PSTs had similar outcomes with Kabilan (2013).

Furthermore, some studies also suggested that the opportunity to participate in the ITP could enhance more profound understandings of other cultures and traditions (Kabilan et al., 2017b; Kissock & Richardson, 2010), develop intercultural competence (Tambyah, 2019) and culturally responsive teaching practices (Kabilan, 2013). Also, this kind of international experience must be supported by the academic program that includes opportunities for students to participate in intercultural competence and diversity-related issues, as well as to reflect on attitudes and expectations dealing with these issues (Gilliland, 2015; Major & Santoro, 2016). Furthermore, Allen & Wright (2014) have described the significant research on the practicum of student teachers, examined its purpose and duration, and analyzed the tasks assigned that are useful for information to those who want to experience the ITP. According to Anderson & Stillman (2013), hardly any studies have focused on what and how student teachers learn during the practicum, especially when doing the practicum abroad.

Also, not many works of literature report on the experiences of pre-service science teachers' experiences in comparison to TESL or TESOL for the English language. While most PSTs typically include at least one diverse learners or multicultural education course and require field experiences, the reflection and discussion regarding pre-service teachers' cultural awareness and enhancement of their cultural competence tend to take place in an isolated course or depend on the placement of their field experiences. As schools become increasingly culturally and linguistically diverse, there is a need to develop the skills and understandings to work across cultures, a capacity called interculturality among teachers (Smolcic & Katunich, 2017).

In this study, ITP is a collaboration program among three universities; one in Malaysia, one in Brunei Darussalam and one in Indonesia. This study reports the experiences that the PSTs had developed in the practicum framework, specifically in science education as described in their reflective journals. The study used the reflective

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journals of the PSTs as the primary means of recording their various experiences in the school setting and describing the challenges they faced in their training as future teachers in teaching science. The data from the interviews were also added to support the data from the reflective journals.

The objectives of this study were to study the outcomes of ITP on PSTs after they had adapted in multicultural context in the field of science education through their reflective journals and interviews in these four aspects: (1) teaching strategy in science education; (2) communication skills and confidence in teaching science; (3) perspective in science education and culture; and (4) interpersonal skills in teaching science.

METHODS

This research had employed a qualitative research design among 13 PSTs (majoring in Science Education) in investigating their learning and facilitation during the process of ITP. According to Creswell (2012), using a qualitative research approach intends to understand and interpret social interactions among sample; therefore, a small number of respondents are selected to fulfill a given quota.

The teaching practicum was conducted at both the local and international levels. Participation in the program was voluntary. Before this program, the PSTs had conducted their teaching practicum at the local secondary schools in Malaysia for one month. During the practicum, the PSTs were assigned to a mentor teacher who guided, advised, and facilitated their teaching. The mentor teachers also supervised and monitored their lessons for at least two times in the allocated time given. Besides the mentor teachers, the lecturers from the host university also observed their teaching and required to grade the PSTs teaching practices.

Moreover, the PSTs needed to prepare the weekly reflective journals to report on the activities that were conducted each week, including the school activities. Kabilan (2013) identified that critical reflections in the practicum, such as analyzing, reconsidering, and questioning challenges in a real classroom setting, are essential components of the teachers' learning and professional development. As mentioned by Childs (2011), teachers learn best when they are pushed to articulate and reflect on their practices. The written reflection is believed to enable the PSTs to gain perspectives on their teaching that directly led to adaptations and improvement in their work (Çimer et al., 2013; Dymont & O'Connell, 2011).

Table 1 shows the distribution of the 13 PSTs into different locations of ITP which in

collaboration with a local university in Malaysia. The selection was made based on merit that they have achieved the prerequisite CGPA of at least 3.0 at the time of the ITP project.

Table 1. Distribution of Pre-Service Teachers

ITP Location	Number of Pre-service teachers	Students' Gender
Indonesia (Area 1)	5 students	4 female students. 1 male student
Indonesia (Area 2)	4 students	3 female students, 1 male student
Brunei	4 students	4 female students
Total		13 students

According to Creswell (2012), the type of data collected for qualitative research are words, images, or objects from open-ended responses, participant observations, field notes, and reflections. Table 2 shows the coding for each of the students. For identification and data analysis in this study, coding for each of the participants was conducted, as shown in Table 2.

Table 2. Coding for Participants

No.	Student	Coding for Reflective Journal	Coding for Interview
1.	Preservice student 1	RJ1/I/PST1	IV1/I/PST1
2.	Preservice student 2	RJ2/I/PST2	IV2/I/PST2
3.	Preservice student 3	RJ3/I/PST3	IV3/I/PST3
4.	Preservice student 4	RJ4/I/PST4	IV4/I/PST4
5.	Preservice student 5	RJ5/I/PST5	IV5/I/PST5
6.	Preservice student 6	RJ6/I/PST6	IV6/I/PST6
7.	Preservice student 7	RJ7/I/PST7	IV7/I/PST7
8.	Preservice student 8	RJ8/I/ST8	IV8/I/ST8
9.	Preservice student 9	RJ9/I/PST9	IV9/I/PST9
10.	Preservice student 10	RJ10/B/PST1	I V 1 0 / B / PST1
11.	Preservice student 11	RJ11/B/PST2	I V 1 2 / B / PST2
12.	Preservice student 12	RJ12/B/PST3	I V 1 3 / B / PST3
13.	Preservice student 13	RJ13/B/PST4	I V 1 4 / B / PST4

[RJ= Reflective Journals; IV- Interview; I= Indonesia; B= Brunei; PST= Preservice Teacher]

The secondary data were collected through a structured interview session with the participants that focused on the same aspects as the reflective journals during their ITP. The structured interview based on the content in the pre-service teachers' reflective journals was conducted to triangulate the data from the findings. As this study is purely qualitative with some other limitations, only these two methods were utilized.

The data from both sources were analyzed using "Interpretative Phenomenological Analysis" (IPA) that includes the processes of multiple reading, making notes, transferring the notes into themes, determining the relationship and clustering the themes (Alase, 2017). The IPA procedures ensured the accuracy, reliability, and trustworthiness of the information obtained from the reflective journals and interviews. These were attained as a result of multiple reading of the data and the process of comparing the data from all 13 PSTs in search of similarities (using both the reflective journals and interviews). Notes were made based on the readings, whereby the recurring ideas found during the process were sorted into several significant themes according to their conceptual similarities.

Four major themes emerged from the analysis process, and these themes were identified as the pre-service teachers' experiences of professional development as a result of the ITP in Brunei and Indonesia. The interpretation from the reflective journals and interviews were analyzed based on the methodology discussed above.

RESULTS AND DISCUSSION

The document analysis from the pre-service teachers' reflective journals and the data from the structured interviews were analyzed in the four aspects: (1) teaching strategies in science education; (2) communication skills and confidence in teaching science; (3) perspective in science education and culture; and (4) interpersonal skills in teaching science. Below are the results from the analysis of the reflective journals and interviews.

Teaching Strategy in Science Education

The Malaysian students were trained to adopt 21st-century teaching and learning skills and are expected to apply their knowledge and skills during the teaching practicum. In general, the PSTs found that the students enjoyed their methods in teaching. The data were also supported by the interviews that the ethnic and cultural diversity in the host school had made the teaching conducted appreciated by the students.

The school students were intrigued and looked forward to the next class. The PSTs also found that the mutual inter-culture that had been developed between them and the students had provided comfort for them to teach science in a different language.

It is reported from the PSTs' reflective journals that in Indonesia, the teaching and learning are using "chalk and talk," and this is considered as an effective in teaching and learning. Also, most of the references in Indonesia are based on the textbook as a source of knowledge. The data from the interview sessions with nine PSTs who did their ITP in two districts of Indonesia found that in term of teaching strategy, they were more likely to use a traditional method with little ICT-based learning in the class. This was due to the facilities in the school did not support the usage of ICT, in which also similar to the Malaysian schools.

The English language was then used as a mean of communication to get the ideas crossed. Most of the PSTs felt that they should have implemented the 21st-century learning skills when given the chances. Thus, the PSTs had improvised their science teaching method according to the respective host country. Furthermore, the students in Indonesia enjoyed outdoor learning more than in the classroom. Thus, the context of outdoor science class was created where the PSTs had improvised the materials obtained from nature such as plants and bricks. The activities not only had motivated students but also had resulted in stronger student-teacher relationships.

Unlike in Brunei, the PSTs found that 21st Century Learning Skills are more highlighted and emphasized due to the support in technology and facilities.

"My view of teaching in Brunei with the emphasis on 21st-century learning is good and impressed because they can implement 21st-century learning here." (RJ11/IB/PST2)

From the interviews' findings, most of the PSTs in Brunei mentioned that they did not face many problems in teaching as the schools have an excellent facility such as fast Wi-Fi, having projectors in the laboratory for presentation and each student is supplied with an iPad to support the ICT based learning. PST10 revealed:

"In my opinions, the source that can be used for teaching Science in Brunei is like the school wifi. Teachers can use the wifi to get connected to software like Kahoot, Flickers, and random name picker in the class-

room. Besides that, the experiment materials in the lab are also adequate which make the practical class run smoothly..." (IV10/B/PST1)

As for teaching technique, the PSTs in Brunei preferred to use the problem-solving technique in teaching science to the students. Following the problem-solving process, the students were asked to present their works to enhance the confidence and communication skills among them and to get feedback from other groups. This is mentioned by PST2:

"I prefer to use the problem-solving technique in the classroom. The students are required to do reasoning of the process that involves when young papaya can help to soften the meat before being cook..." (IV11/B/PST2)

Other teaching techniques that the students had applied were related the science teaching concept with the environment. The PSTs also encouraged the students to use the 'PowerPoint', adapted parking lot, gallery walk, 1 stay 3 strays, research, crossword puzzle, word search, concept map, adapted traffic light, worksheet, Padlet, cognitive tools, and reward chart.

Communications Skills and Confidence in Teaching Science

One of the most significant challenges in overseas placement was language (Pawar, 2017). The medium of communication in Brunei is English while in Indonesia is Bahasa Indonesia. It is found that the PSTs felt it was challenging to use the Indonesian language at the beginning of the teaching practicum due to different term in science. The PSTs also concerned about the synonym of the language as they were worried that it provided the different or offensive meaning of word choice. Some of the examples are shown below:

"In fact, the use of the language that leads to the same word but different meaning, I am concerned about the words that might be offensive" (RJ5/I/PST5)

"I feel so scared because I am fragile in Bahasa Indonesia some more the place I stay is far away from my other friends. Another news is more frightening which I will be going to the school that differs from my friends, alone in the school is not the problem for me, but the problem is that I cannot survive alone with the new culture and language here." (RJ9/I/PST9)

Furthermore, in Indonesia, the term in Bahasa Indonesia is different from Malay. For

instance, 'Sains' (Science) in Bahasa is known as 'Ilmu Pengetahuan Alam' (Environmental Knowledge). Thus, the PSTs had difficulties to use the term. As a result, the class teacher was available during their practicum teaching and served as their translators. However, the PSTs did not seem to have difficulties teaching in Brunei due to similar language, and the medium used in teaching science is English.

From the interview data, in term of confidence level, the PSTs from both Brunei and Indonesia stated that through ITP, they developed their confidence in the process of teaching and learning. They mentioned that the confidence level developed since they were away from home, and they had to survive in their teaching practicum. However, the support and guidance from the mentor teachers as well as the supervisors helped them to overcome the problems that they faced during ITP. This was explained by PST2:

"As early as I expected, almost all teachers and staff helped me and my friends understand the process of administration and teaching and learning in pesantren. They are all delightful and accommodating especially in terms of the use of Indonesian language and the local community" (IV2/I/PST2)

Perspective in Science Education and Culture

The differences in science education and culture views can be categorized in some aspects such as time management, punctuality, dress codes, ways of eating, conversing through non-verbal expressions, demonstrating respect for others, and perceptions of attitudes towards others during teaching or rapport (Pawar, 2017). Thus, understanding such differences has significant implications for learning. It was found that there was not much different in the views of science education in Brunei and Indonesia in comparison to Malaysia. The students are still passive learners and depend on the teachers for science knowledge as teaching and learning are still centered on the teachers. Similar to Malaysia, the students in both Brunei and Indonesia are more obedient to the teachers (RJ13/B/PST4).

The science teaching and learning culture could also be viewed from two perspectives; academics and religious perspectives. In Indonesia, there is a balance in religious activity and academics tasks. According to the PSTs in Indonesia, the students were gathered and conducted the prayers together at allocated times because the prayer time is during the school hours; whereas in Brunei, the school finishes earlier and the school time does not overlap during the prayer times. At

the times of prayers at the Indonesian schools, the values are instilled in students and are considered a critical element in education besides academics. The values related to academics are instilled at this time as well.

Furthermore, the increase in cultural knowledge also emerged as one of the primary outcomes of the placement for the pre-service teachers. This included advanced knowledge of cultural differences and cultural nuances that manifest in the students' behavior. Most PSTs also commented on the extent to which they learned culture influences and shaped learning, including cultural influences on general behaviors.

Moreover, for all the PSTs either in Brunei or Indonesia agreed that being able to teach in two different environments that use different approaches and ideology has helped in changing their perspective of science education. The PSTs claimed that the experiences have taught them to be "open-minded and "survive more" towards differences in terms of school climate, syllabus and content, as well as teaching pedagogy even though some of them thought that it was hard at the beginning of the practicum (one example below).

"Being a future teacher, I should be open-minded and easy to adapt to various situations. With this nature, I can adapt to different learning cultures. In addition, the curiosity of the new thing also makes it easier for me to accept different cultures when teaching in Indonesia." (IV2/I/PST2)

The PSTs also reported that their perspective of the culture also changed after the ITP. They claimed that the experience has helped in increasing their level of intercultural sensitivity.

Interpersonal Skills in Teaching Science

Most PSTs reported that their interpersonal skills in teaching science have improved during both at the local and ITP.

"Actually, the process of teaching and learning in Malaysia and Indonesia is not much different; the only difference is the use of language that is quite difficult at first because my friends and I are required to teach Biology in Indonesian. This is why we need to refer to our friends to help us to understand them. We also need to ask our fellow teachers to understand the terms we do not know about. Moreover, this increases our interpersonal skills." (IV3/I/PST3)

The PSTs were active in participating in discussions with the staffs, and their engagement

with other schools have increased their networking and linkages and using science as the main topic of discussions (Azizah, 2016). Furthermore, they stated that the teaching practicums had provided them with the setting and the opportunities to interact with people. Most of the content in the reflective journal of the PSTs showed that they were amazed on how their mentors had planned to invite them again to conduct community program focusing on science content. Also, the collaborations between the local universities had allowed them to research in the field of science education as well.

Furthermore, the aspect of mentoring in ITP had provided the PSTs with excellent interpersonal skills. For instance, in an interview, they explained that due to the nature of the practicums where daily interaction with the teachers is required as part of the mentoring purpose; such as discussing the different term and content in science; thus, they could interact people better now compared to before.

Teaching Strategy in Science Education

The findings of this aspect support previous research (Cinelli & Jones, 2017; Kabilan, 2013; Parr, 2012) that showed general positive outcomes of ITP experiences for PST participants. As reported in a study by Tambyah (2019), the reflective journals and reports indicated that international professional experience disrupts stereotypes and fosters global education and intercultural understanding. Based on the findings above, the PSTs in Indonesia indicated that their perception towards the most profoundly challenging skills in the teaching field that require urgent attention is selecting appropriate science teaching method. They have learned to improvise the media of teaching, and this had increased their confidence to be more creative and innovative, not just preparing the media of teaching but changing their teaching styles such as opting for the outdoor learning for teaching science. An interpretation of this finding may rely on the PSTs' confidence in the necessity to be well-knowledgeable teachers. They may find that selecting appropriate teaching methods requires practices.

In the case of Brunei, the PSTs found that it was more challenging to keep out with students who are exposed to lots of science learning resources. Thus, a different pattern of science teaching methods was utilized in both the host countries. Moreover, the data analysis revealed that the PSTs in Brunei made use of the ICT more than the PSTs in Indonesia when teaching science, as the facilities in Brunei support the

ICT-based teaching and learning. However, the PTs in Indonesia are more versatile in using the teaching strategy as they did not rely on access to the internet and tend to choose the different methods of teaching and learning science.

Communications Skills and Confidence in Teaching Science

In this aspect, the PSTs also reported growth in communication skills, particularly in their ability to adapt to a different language and culture; especially when teaching science. They have gained confidence and were more comfortable in the mid-stage of their stay at the host countries. The data analysis showed that PSTs in Indonesia faced more problem in communicating with the students and staff or teachers at the beginning of the program. This is because the language used in the districts involved in the ITP is *Bahasa Sunda* rather than *Bahasa Indonesia*. However, the problem was overcome again with the help of the staff and the teachers.

Different from the PSTs in Brunei, where there was not much language barrier as most of the teaching and learning session was conducted in English. In comparison to a study by Jin et al. (2019), the Australian students who did the ITP in China revealed challenges and tensions for them to adapt in Chinese educational systems because of their very different social and cultural contexts. Similar to a study by Sciaky (2015) even though in a different context, the one part that is also important is how the PSTs could digest and accept the different curriculum and conducted the ITP without giving the host school a bad attitude such as criticizing the content of the curriculum (similar in Black & Bernardes, 2014).

Perspective in Science Education and Culture

It is agreed by most of the PSTs that the experience has taught them that culture can be influential in education, particularly in the natural setting of the classroom. In this view, the PSTs were positive and found the experience in ITP had changed their attitude towards science education. This is because ITP represents a borderless, limitless education. Education is also cut across different contexts such as language and cultures; thus, the PSTs experienced to tolerate different views in education. For instance, in Indonesia, the gathering of students during prayers intends to instill values among students and relate to academic matters. Also, the celebrations in Indonesia during their stay also given them new insight and perspective; such as Indonesia's "Kartini Day" each year and this celebration is

very significant in Indonesian culture. The PSTs in Indonesia had the chance to observe and celebrate this event as well. Kartini Day is a day commemorated to coincide with the birthday of National Independence Hero Raden Ayu Kartini (RA Kartini) on 21 April every year since 1964 by all Indonesian provinces. This event also has changed their perspective in a way that gender is also perceived to be significant in education. In the case of Brunei, the culture is not much different than Malaysian. Thus, the students felt more at home and did not feel much different.

Also, the PSTs found that ITP experiences have increased their awareness of intercultural sensitivity. For instance, the ITP that was conducted in the Southeast Asian countries has a similar impact on those who did in the western country, such as in the United States of America. It is reported that the Korean students who did ITP in the United States had encountered difficulties in speaking a foreign language and adjusting to a different culture; however, they also gained confidence and self-efficacy by exchanging ideas and actively participating in the teaching and learning process (Kim & Choi, 2019). This showed that if adequate support is given, the PSTs could promote their own understanding of multiculturalism and their different perspectives such as their roles in the classrooms, teaching pedagogies, and host countries education systems.

Interpersonal Skills in Teaching Science

The PSTs not only improved their interpersonal skills with the students when teaching science but also with their mentor teachers when discussing their practices. Some of them thought that mastering the local language is very crucial to attract students' participation in teaching and learning; hence, draw students to learn science. In a study by Kim & hoi (2019), the PS Korean teachers found difficulties to interact with the local students and teachers as they had to adapt in the English-speaking environment in the US schools. However, they found local interactions during casual and personal encounters with positive attitudes helped them to overcome the problem. Thus, having a close relationship with the locals and blend in the environment will make the PSTs feel more at home than feeling just as 'tourists.'

Furthermore, as the PSTs were far away from home for at least one or two months, their interpersonal relationship with the mentorS from their university is very crucial during the social visit. This is very essential in order to provide emotional support during the ITP. In the study by Gilliland (2015) where the American students

did the ITP in Thailand, the mentors must find ways to assist the PSTs to overcome the language issues, culture, and expectations from the host schools. Also, as mentioned by Major & Santoro (2016), they stated that the genuine partnership with shared responsibility of practicum supervision in any developing country is steps to build a good relationship for peace and harmony as knowledge is shared and valued, and this promotes others to accept and respect the differences of the local contexts in teaching.

CONCLUSION

This study has provided some perspectives and insights about the ITP as supporting others in advocating for cross-cultural professional practicum experiences when teaching science. The students were exposed to the level of learning about the culture, planning, teaching for diversity, and the fostering of teacher identity on the international platform. Moreover, the experience that they gained is meaningful, which is hoped to transcend pre-service teachers' science teaching skills once they become professional science teachers. It is recommended that there is a transparent, structured process that enables PSTs to develop reflective skills concerning the international experience. It was in the post-experience interviews that many of the participants were able to think deeply and critically about their experiences, and thus gain more significant benefits from them. Only then it is likely that international teaching program in developing countries will maximize their potential to contribute to prepare teachers who are reflexive, inter-culturally competent, responsive to, and respectful of difference and diversity.

The findings have also shown that the PSTs were able to adapt to the multicultural environment because of the support that they received from their host mentors. They learned the different techniques and approaches, and these have enhanced their skills in teaching science. Finally, the ITP is hoped to be able to maximize the pre-service teachers' potential to contribute to the preparation of science teachers who are reflexive, inter-culturally competent, open-minded, resourceful and collaborative for the benefit of their professional development.

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