Exploring Preservice Teachers' Perception on Rural Teaching and Education through the Mediation of Photovoice

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Abstract

Teacher preparation programs (TPPs) are expected to help preservice teachers (PSTs) to be aware of identify and revise their possibly biased perceptions on potential students and schools they may serve. Field experience, a requirement of every accredited TPP, has long been viewed to have an awareness-raising effect to reconstruct experiences into meaningful insights as well as to impact PSTs' perceptions. This study employs photovoice to explore five PSTs' perception on rural students and education during their 5-day field experiences from visiting five rural and ethnic minority schools in Yunnan, a southwest province of China. The findings from this study indicate that PSTs in the field far different from their personal education background shift their perspective concern from instruction to student, which could be the sign that PSTs improve their reflection to become more inclusive, student-centered other than ego-centric, teacher-centered. The study also found that photovoice mediates the participants to document and report their lived experience. It gives the opportunities to PSTs to ascribe meanings to the photos representing their knowledge and perspective of the phenomenon. Implication to TPPs is finally discussed.

Keywords

perception – preservice teacher – teacher preparation program – photovoice – rural education

1 Introduction

Providing high-quality teachers for public schools has always been and continues to be a great concern for teacher preparation programs (TPPs) (Khalid et al., 2017). The issue is more urgent for rural schools (Eckert, 2014), since rural teachers are generally prepared in city settings, and so they have been found to hold limited perspectives on rural students with different backgrounds from themselves (Schaffer et al., 2014; Wright et al., 2019).

Therefore, it is critical to design TPPs to help preservice teachers (PSTs)¹ to be aware of, identify and revise their possibly biased perceptions on potential students and schools they may serve (Naskula & Ravitch, 1998; Wright et al., 2019).

This study explores five PSTs' perceptions from their emergent understanding on rural teaching and students during their field experiences in five rural and ethnic minority schools in Yunnan, a southwest province of China. The research draws on evidence from reflective group discussion mediated by photos taken during the school visits. It shows how the engagement of PSTs in reflecting on their own learning experience within the discussion group mediated by the photovoice influences their perspectives on teaching and education in the context where they are unfamiliar with.

2 Literature Review

2.1 *PSTs' Perception*

Perception is a progressing psychological concept which is pre-formed before PSTs enters preparation programs (Rushton, 2004), and is socially constructed with meaning created within their social context (Erlandson, 2014; Lortie, 1975; Merleau-Ponty, 2002). This implies that perception is no easy task for TPPs (Caprano et al., 2010; Schaffer et al., 2014). TPPs needs to provide PSTs various

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¹ In this article, PSTs are referred to those who are keen to become teachers in basic or higher education.

pedagogical approaches and educational experiences that are powerful to change their stereotypical perspectives on teaching profession (Wright et al., 2019), since their perceptions have valuable and lasting impact not only on themselves, but also on students that they are prepared to service (Khalid et al., 2017).

There are several education experiences, such as micro-teaching, field experience, and authentic teaching experiences. Among them, field experience is a "variety of early and ongoing field-based opportunities in which PSTs may observe, assist, tutor, instruct, and/or conduct research" (National Council for Accreditation of Teacher Education (NCATE), 2007, p. 54). It has long been viewed to have awareness-raising effect to reconstruct experiences into meaningful insights (Haberman & Post, 1992; Olmedo, 1997; Posner & Vivian, 2010; Thompson, 2015) as well as to impact the PSTs' perceptions on teaching and expand their understanding of teaching contents (Fields et al., 2017). However, positing PSTs in the field is not necessary for them to "interrogate their existing beliefs and reframe their perspectives" (Wright et al., 2019, p. 306). Studies on PSTs' field experience indicated that the amount of time spent in the field may not be the most important factor to alter their perceptions on teaching (Burant & Kirby, 2002), but rather whether the time is spent on inquiry and reflection (Ward & McCotter, 2004).

Reflection is likely to occur when one articulates his/her hands-on experiences and insights, and negotiates a shared understanding in the schooling-related fieldwork (Posner & Vivian, 2010; Ulusoy, 2016) within discussion group as the professional learning community (Capraro et al., 2010; Darling-Hammond, 2005; Parker et al., 2012). Such negotiation is suggested to be the process to transform one's biased perceptions (Naskkula & Ravitch, 1998).

Erlanndson (2014) argues that reflection and perception are different dimensions when practitioners of teachers are to be competent and skillful in their professional practice. But he doesn't provide clear definition to these two terms. Heinamaa et al., (2007) agree with the distinction between reflection and perception, although they both are mental orientation towards oneself. They further clarify that reflection is cognitive activity "which intends or objectifies other mental states...from a critical distance...mediated by conceptualizations and representations" (p. 20), while perception is "complicated and subtle relations to the object" (p. 21) in terms of mental states. Simply interpreted in this study, PSTs cognitively process their mental perception on teaching and education mediated by representation of photo images, later discussed as photovoice in this paper. The cognitive reflection is believed to be at different levels with different qualities, which will be introduced in form of analytical framework in the section of methodology.

Examining PSTs' perceptions helps to identify their thoughts, perspectives and attitudes and may become a necessity in the context of concerning for improving the quality and relevance of TPP (Peculea, 2017). However, the challenge for TPPs is HOW to support PSTs to reframe their awareness on the enterprise and complexity of education, especially the parts different from their prior experience. Previous research examining PSTs' perceptions provide potential solutions to this issue.

2.2 *Methods to Explore PSTs' Perception*

Previously quantitative questionnaire or qualitative written journals are general ways to explore PSTs' perceptions. Khalid, Dukmak and Fzwzi-Fayez (2017)'s study uses a 6-domain questionnaire to examine the PSTs' perceptions of their educational preparation. Ozdağ (2018) uses case study to identify PSTs' perceptions of teaching. Peculea (2017) also uses qualitative research method. The research through metaphor analysis pointed that the most powerful instruments are to clearly identify PSTs' perceptions on abstract concepts. The findings of Peculea's study revealed that the metaphors developed by preservice teachers reflect their perceptions, expectations and current psychological states. Ulusoy's (2016) study uses written reflection journals to examine PSTs' perceptions during and after the field experience attached to a TPP, finding that different themes are concerned including teachers' self and students' individual difference, their theoretical knowledge, as well as the connection and gap between theory and practice. Ulusoy further suggested that TPPs should explicitly train teachers how to write reflective journals to PSTs.

However, using Likert scale survey to capture PSTs' perceptions is criticized to be less reliable because of the subjects' "simple judgement or decision task" to the extreme statements, and they were given no opportunities to explain their agreement or disagreement with these decisions (Fang, 1996, p. 56). Self-reported data in forms of reflective journals or interview is argued to be inherently faulty (Beatty, 2004; Caprano et al., 2010) in that there is a looking-good expectation from participants to academic figures.

Previously, examining PSTs' field-related perception takes the way of survey or self-report. Either reflection or perception is a process of cognitive inquiry. It may need critical ways to externalize such a psychological processing progress.

2.3 *An Additional Mediation Tool to Examine PST's Perception: Photovoice*

Calderhead and Robson (1991) proposes that we all hold images of our conceptions on teaching and learning, which can be elicited through the use of metaphor. If it is the case that PSTs reflect through images, then a method,

such as photovoice (Wang & Burris, 1997) may help to provide insight into PST's perceptions within the scope of teacher research (Graziano, 2011; Graziano & Litton, 2007).

Photovoice is suggested to examine PSTs' dispositions' system in that it is taken as the medium for response (Calderhead & Robson, 1991; Tannehill & MacPhail, 2012) as well as a visual discussion point (Liebenberg, 2009). According to Liebenberg (2009), "Experiences and meanings become tangible through visual representation and may be understood in ways that other conventional forms of communication may not necessarily allow" (p. 445).

Since photography is meaningless by themselves, participants need to ascribe meanings which will reveal their personal knowledge, perspectives and contextual information (Harper, 2002) in the visual mode (Hamilton, 2016). Therefore, photography becomes a medium for participants to access to their perception (Lune & Berg, 2017; Wiklkin & Liamputtong, 2010) and to engage in critical reflection (Lune & Berg, 2017; Wang & Burris, 1997). Compared to the interview, the photovoice seems like not simply an interview process that elicits more information, but rather one that evokes a different kind of information (Harper, 2002). Photovoice achieves authenticity and credibility because the methodology relies on the participation of the target population (e.g. preservice teachers) whose photographs represent their lived experiences, and consistency is achieved by following a stable protocol (Langdon, Walker, Colquitt & Pritchard, 2014).

Photovoice methodology is flexible and has been used in various areas, followed its original use in health science (Wang & Burris, 1997). Since its merit is to engage participants with their own voices (instead of the researchers' voices) to represent the knowledge and perspectives, photovoice has been increasingly applied in teacher education program, specifically with preservice teachers. For example, Bailey and Van Harken (2014) investigated PSTs' research course evaluation through a photovoice assignment, finding that the participants get clear understanding of the research process, and represent their ideas in more meaningful ways through this multimodal means.

However, relatively few studies have examined PSTs' perceptions on teaching and learning during field experience through photovoice, a gap this study aims to fill. Using photovoice within this study provides an additional means with which to learn about the perspectives and understandings the PSTs captured, identified, and described in visual and verbal formats. Photovoice is used here to externalize five PSTs' perceptions on rural teaching and education during and after visiting five schools, in response to two research questions:

- (1) What are the PSTs' perspective concerning?
- (2) How does the fieldwork and photovoice elicit and externalize PSTs' perceptions and reflections?

3 Methodology

3.1 Settings and Participants

The five schools are located in Tengchong county, Yunnan province. The schools are scattered in different districts of the county, where the commercial crops are banana and Oolong tea. The population of ethnic minority students in each school is over 50%, XDWX being even 93%, according to student demographic introduced at each schools.

Five participants at the institute of teacher education with diverse background were involved in this research. JW² is a doctoral student in teacher education and his research interest is pedagogy of teacher education. YX and CC are three-year academic-oriented master students. ZF and XH are both two-year practice-oriented master students, who will be English teachers after graduation. More detailed information is shown in Table 1.

TABLE 1 Detailed information of five PSTs in this study

	Name	Identity	Academic/Personal interests, working experience	Job orientation
1	JW	Doctoral student in his third year	Pedagogy of teacher education, English teachers at secondary education for 8 years, Keen on helping PSTs with their professional development	A college teacher to service PSTs
2	YX	Three-year academic-oriented master student in her second year	Mathematics pedagogical content knowledge	Math teacher at primary or secondary school
3	CC	Three-year academic-oriented master student in her first year	Minority education, Calligraphy	A college teacher after getting doctoral education
4	ZF	Two-year practice-oriented master student in her first year	Student-centered classroom management, 2 year working experience at kindergarten	English teacher at secondary school
5	XH	Two-year practice-oriented master student in her first year	Cultural responsive pedagogy at multicultural settings, Playing violin, Little teaching experience	English teacher at secondary school

2 Pseudonyms are used to the people and schools involved in the study.

3.2 Data Collection

The 4-day-5-school field experience and the occurrence of the photovoice activities are shown in Table 2.

Three photovoice discussions were initiated over and after the field experiences. The first discussion was held after their visit of two schools. They exchanged what they had observed in the schools and compared differences between their observations. Then, they visited another three schools and had the second discussion in which they talked about their understanding of photos they had taken in those schools. After coming back from the field, one of the participants realized that there emerged different ideas in understanding the photos. Therefore, the group did another photovoice discussion using the same sets of photos. The discussions were audiotaped.

3.3 Data Analysis

The three photovoice-driven discussion audios were transcribed and then read by the participants to make sure that their perceptual understandings are well presented within the transcription. The authors, Jin and Pei had an open coding separately to identify themes and patterns from the raw data. After that, they had a discussion around the codes and themes to guarantee the consistencies through triangulation. Based on these procedures, they finally determined the themes and issues (Patton, 2002). Table 3 illustrates the sample theme identified from the raw transcription.

In analyzing the data, this study used Ward and McCotter's (2004) rubric in which characteristics of four levels of reflection can be elicited. This framework is particularly selected in that, it classified 4-level reflection qualities; on the other hand, stipulation of each level can be regarded as the representation of the perception. As discussed previously, reflection is objectifying other

TABLE 2 The arrangement of school visits and photovoice activities

Dates	School visiting	Photovoice discussions at night
November 19, 2018	ZZ	First time
November 20, 2018	CJZ	
November 21, 2018 In the morning	SCWX	
In the afternoon	SHB	Second time
November 22, 2018	XDWX	
December 17, 2018		

TABLE 3 Themes identified from the transcript data

Original Data	Concern points	Theme identified
<i>The English teacher may not find the word card she presented on the black-board were printed in the textbook. The word card presented by the English teacher are all in textbooks, why did she make efforts to show them with the card? (XH-PV1, 2018-11-21)</i>	Instruction	Technical reflection
<i>She is a good example of national unity. On one hand, she understands and respect Han culture; on the other hand, she is proud of her own culture. It is observable that she is comfortable and confident with her own culture as she emotionally tells me about it. (CC-PV1, 2018-11-21)</i>	Student	dialogic reflection
<i>We can see different resources in the classroom. The teaching materials are accessible through the Internet, which connected rural children with outside world. Besides, the classroom is decorated with local resources. What's more, we observed the teaching principles brought in to the area by college academics. (JW-PV2, 2018-11-22)</i>	context	transformative reflection

mental states, such as perception, connecting the two concepts of this study. Ward and McCotter's (2004) framework tallies with this connection and is further exemplified by our data:

- Routine reflection: Focusing on self-centered concerns, analysis is limited to critique of others, analysis of practice without personal response.
- Technical reflection: focusing on specific situations with specific problems, lack of questioning, limited change.
- Dialogic reflection: Focusing on students, concerning the student learning and their problems, developing questions based on curiosity and concern,

developing new insights about teaching, students, as well as the strength and weakness of their personal teaching.

- Transformative reflection: Focusing on fundamental, ethnical and pedagogical concerns as well as the impact on students, long-term inquiry, examining perspectives and fundamental change of practice.

Based on Ward and McCotter's rubric on PSTs' reflection quality, following studies on PST's field experiences (Caprano et al., 2010, p. 146) and their perceptions (Sheridan, 2011) identify that PST are likely to develop "from earlier egocentric view of teaching toward a more integrated or inclusive perspective" if their reflection transit from routine to transformative level. PST concerning firstly more on the instruction from their future teacher's eyes may shift their perspective to students after they realize the close relationship between how they teach and how well the student learn.

Therefore, the analysis of data followed both the different levels of reflection as well as the nature of their perceptions, whether being more egocentric or more student-centered. Table 3 shows an exemplary operation of how individual concern points and relevant perceptive themes are identified from the original data. The factors that influence the individual perceptions are also identified in such a manner.

4 Findings

In this section, we first present individual perceptions of five PSTs mediated by photovoice on their field experience visiting five rural and ethnic schools, and then explore factors that influence their individual and collective perceptions through the data.

4.1 *PST's Individual Perception*

Five PSTs participated in this research and when they entered the schools, the settings far from their educational experiences. They felt different and surprised and voiced the feelings with the photos taken as well as their description to the images.

4.1.1 Individual Perception and Reflection

4.1.1.1 *XH: Technical Reflection on Instruction*

During the 1st photovoice, XH mentioned that she was impressed by the total physical response (TPR) activities used in the Chinese and English lessons. She also pointed out that the English teacher overlooked the resources on the textbooks.

The English teacher may not find the word cards she presented on the blackboard were printed in the textbook. The word cards presented by the English teacher are all in textbooks, why did she make efforts to show them with the card? (XH-PV1, 2018-11-21)

During the 2nd photovoice, she noticed one boy she was sitting beside over a math lesson was better organized with his learning material than his peers and herself. Further, XH shared her out-of-expectation of the close connect between the remote students with the outside through internet.

I was shocked. In my thought, the students in such rural areas could not be so closely linked with the Internet. They know very well with the recent and popular online game and songs! (XH-PV2, 2018-11-22)

XH paid attention to specific teaching situations. She noticed the students only due to their technical conditions beyond her expectation, but lacked insightful response to her future teaching.

4.1.1.2 ZF: *Technical Reflection with Shifting Perspective*

ZF mainly concentrated on the teaching process. In the first photovoice, she mentioned that a female math teacher had a long introduction for the course:

Her introduction was too long and boring. If she had introduced the lesson with a game, which was actually put at the end of the class, students would have been attracted at the very beginning. (ZF-PV1, 2018-11-21)

During the second photovoice, ZF was attracted by a small girl playing with sand on the village road. Not seeing such a pure girl for a long time, she said this picture brighten her from the heart. She felt surprised when the children drunk water from a big pot.

A crowd of children ran to the big water pot and they drank one by one with a big spoon. They shared the spoon and drank the cold water. I was surprised for two reasons. The first was that they had close relationships and the second was that they drank cold water, which was told to have been forbidden when I was a child. (ZF-PV1, 2018-11-21)

From the first episode, we can see ZF was beyond routine level to technical level of reflection, since she critically questioned the math teacher's way to introduce the lesson, further initiating an alternative approach to the problem. However, after being immersed in the field, she started to be attracted by the students. These two episodes indicated that the field experience seemed to facilitate ZF to shift from egocentric views on instruction to integrated perspective to start concerning the students, because later she behaved quite differently than before.

FIGURE 1 A crowd of students drinking cold water from a large pot

Note: We got the permission from the students and their guardians to publish the photos in this study.

4.1.1.3 *CC: Dialogic Reflection with Integrated Perspective on Ethnic Students*

During the 1st photovoice, CC paid her attention to the teacher's embodied strategy to motivate student participation.

It is impressive when the mid-aged male teacher tried his best to motivate his students to express the lyrics with their body. I wonder what I should do if I come across the similar situation. (CC-PV1, 2018-12-17)

During the second photovoice, CC shared a story of girl from Yi minority with a photo. She admired the girl with her clear and confident cultural awareness.

She is a good example of national unity. On one hand, she understands and respects Han culture; on the other hand, she is proud of her own culture. It is observable that she is comfortable and confident with her own culture as she affectionately tells me about it. (CC-PV1, 2018-11-21)

CC reflected dialogically with her focus on specific instruction, and naturally put her concern to the ethnic students with her own background of ethnic education.

FIGURE 2 A musical teacher is teaching with his body

4.1.1.4 *YX: Dialogic Reflection on Student as Well as on Teacher*

During the 1st photovoice, YX showed a photo of students who were enjoying their soup together without noticing her photo-taking. She was impressed by their close relationship. She also identified individual differences of the students from her observation:

This boy was very exuberant, and he posed differently when I took his photos. However, his desk-mate was quiet and concentrated himself on teacher's activity. (YX-PV1, 2018-11-21)

YX was worried about the teacher's ingrained bias on students when one math teacher commented on one student.

I was helping the boy with the math problem, which clearly was not easy for him. The math teacher came over and whispered that the boy was an under-achiever. However, when I interviewed the students, I found this boy could understand my questions and gave clearer answers than his peers. I could never understand why the teacher told me that. (YX-PV2, 2018-11-22)

YX figured out the individual difference, and she kept this in mind: everyone has the potential for her to instruct. She also believed in the "struggled students" labeled by the teacher, and found out ways to make them into a good student at least temporarily.

4.1.1.5 *JW: Transformative Reflection Concerning Students from Teacher Education Perspective*

During the 1st photovoice, JW shared a photo with one student pressed the wrong part of face when she did eye massage, a routine activity for primary school to maintain students' eyesight.

It may be accepted if the student just put his hands on the wrong place during eye massage activity. However, what would happen if he accepted the wrong knowledge during the math or other classes? Accuracy should come first and foremost. (JW-PV1, 2018-11-21)

During the 2nd photovoice, JW mentioned that not only should the local resources be paid attention to, but also suggested that the teachers in the rural areas should introduce and localize the external resource.

“We can see different resources in the classroom. Teaching materials are accessible through the Internet, which connects rural children with outside world. Besides, the classroom is decorated with local resources. What’s more, we observed the teaching principles brought in to the area by college academics.” (JW-PV2, 2018-11-22)

Both episodes demonstrated JW’s professional concern to the fundamental issues or specifically on rural education. He habitually observed and perceived phenomenon from the perspective of teacher education. After coming back from the field, he wrote an article on how to improve the awareness and capabilities for rural teachers to make use of local resources. The writing up and publishing the article represented that he transformed the on-the-spot observation to the argument and implications to the practice.

FIGURE 3 Various rural resources in the classroom

These five PSTs' reflection through photovoice demonstrated that they were at the different level of reflection according to Ward and McCotter's rubrics (2004) and their perceptions were stimulated to develop from instruction-concerned to student-concerned and student-learning-concerned, even to teacher education-concerned. The different natures of their perception were discussed during the photovoice activities.

4.1.2 The Influencing Factors for PSTs' Perception Concern

As aforementioned, five PSTs showed different concerns when they settled down in the rural field. During the photovoice they tried to interpret these differences, and identified two dimensions.

4.1.2.1 *The Experience Matters: What We Experience is What We Can See*

When these five PSTs reflected their perception of the rural schools through photos, they generally linked their reflection to their prior experiences. Here are few examples.

CC was an undergraduate student in a minority university and she observed many things concerning with the national unity.

When I was a college student, I didn't understand why there was an activity for students from different minorities dancing together. But when I saw various ethnic students and teachers dancing together today, I suddenly realized that this relaxing activity can help participants to form a national identity, helping students to have a sense of home, especially for those whose parents have migrated to the city to make a living for their family. (CC-PV1, 2018-11-22)

Driven by his keen curiosity of the concepts and theories of teacher education, JW, a prior English teacher, connected theories with his education practice. Taking the chance of discussing on a photo with the misconception delivered from a math teacher, he strongly stated:

I do suggest you should pay close attention to the English content knowledge. You should construct a solid and systematic knowledge through analyzing the series package of textbooks before you graduate from TPP. Then when you enter the school to become a teacher, you will have more time to think and understand about the student and their learning, without worrying about the subject knowledge. When I worked in New Oriental³ 4 years ago, our teachers were required to take TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System) annually only to maintain our English knowledge. (JW-PV1, 2018-11-21)

3 A large and well-known educational group in China. The main business covers educational training, basic education, online education, preschool education, and overseas schooling consultation.

The examples from CC and JW explained that prior experiences were brought to the field experience “help reconstruction the individual experiences into meaningful insights into the teaching profession” (Thompson, 2015, p. 24).

4.1.2.2 *The Theory Matters: What We Read is What We Can Connect With*
PSTs were theorized at university through courses or readings. As they entered the field, the concepts they came across could help them to be sensitive to and making meaning for certain phenomenon. Taking JW as an example, who had been working on pedagogy of teacher education, culturally responsive pedagogy stands out when he was walking through the 5 schools. He is sensitive to cultural issues in the field process.

As I have been keen on culturally responsive pedagogy, I identified two categories of cultures appearing in the classrooms and schools based on what I had observed: internal culture like decoration materials from local community, and external culture (JW-PV2, 2018-11-22)

Another example was CC, who once read *Rural China*, a book by a Chinese sociologist, Fei Xiaotong, who had conducted research on rural society. Therefore, when she discussed the photos, she referred to what she had learned from the book. She tried her best to lend her theoretical lens to the rural culture she experienced.

The activity combined field experience with on-site photovoice discussion allowed PSTs to connect theories to classroom practices (Coffey, 2010; Morton & Bennett, 2010; Schaffer et al., 2014). PSTs gained confidence from the authentic learning opportunities, which may lead them to act on what they sensed and realized during the field experience. This study also included collective argument and discussion on educational issues elicited by the photovoice activities.

4.1.3 *Collective Reflection and Discussion Triggered by the Photovoice*
In addition to the participants' experience and the theories, the collective reflection and discussion also play an important role in shaping the individual perceptions of rural teaching and education. The following interaction between JW and PM can well illustrate such a point of view.

JW shared a photo to explain he found that a few students sang quite well in a music lesson. He further stated that the teacher should be noticeable to the students' various talents and provide additional training and opportunities for them to develop. However, XH argued differently with her own experience in playing the violin starting from her childhood. She believed that it was no good narrowing student development with certain talents when they were still in primary school. She insisted that students in rural area might make far more

efforts and invest huge amount of money beyond the range of their families to become competitive in the art circles. What's more, it would be difficult to find satisfying jobs unless he/she was the top players, since he/she must take all the time to practice while sparing little time to prepare to be normal social being with enough general knowledge and skills. XH was confident at this point because her adolescent peers who took music as career were currently in such embarrassing situations.

The topic on the exploitation and employment of local resources was another repeatedly discussed issue. Five PSTs reached the common understanding through reflecting on the photos that it is both significant to student learning and the development of local rural teachers' identity. They drew on culturally responsive pedagogy to make sense of the bridge of the resources to local students when they tried to master the unfamiliar subject concepts, as well as to local teachers when they tried to deliver the subjects based on the knowledge and appreciation of the local cultures (Gay, 2000, 2001; Ladson-Billings, 1995, 2000).

However, they did not cognize too extremely in such avocations on local resources to become constrained or nationally estranged. As JW warned:

Truly, the local resources are very important, but if we only pay attention to the local, the students may be constrained to a local domain. (JW-PV2, 2018-11-22)

CC also conveyed her concern:

If we attach too much importance to minority culture, from which the minority student may build up their confidence. But this may arouse estrangement among different ethnics. (CC-PV2, 2018-11-22)

At this point, PM, the college teacher educator who took charge of the field-work, added:

The reason why we put emphasis on local resources is that we have neglected the local cultures for quite a long time. We need to bring them back for the sake of both the student and the teachers, and we certainly need to keep in mind the moderate balance simultaneously. (PM-PV2, 2018-11-22)

As illustrated, different members have different perspectives to see the world. Therefore, everybody's statement can reshape each other's perspective and therefore change each other perception.

5 Discussion

Field experiences are generally suggested to last longer period and in intensive form, although there are still some studies concerning PSTs' restructure of perspectives and development of sense of cultural relativism from 2-to-5-day field experience (e.g. Ukpokoudu, 2004; Willard-Hold & Bottermley, 2000; Wolffe, 1996). The findings of this study add evidence to this minority investigation.

Furthermore, findings from this study suggested that TPPs need to prepare PSTs to experience in the field "far different from the one they experienced in their own personal" K-12 educational journey (del Prado et al., 2012; Schaffer et al., 2014, p. 5). PSTs are likely to build awareness of their highly biased or inappropriate perspectives on teaching and learning due to this distant difference. As a future teacher, they shift their perspective concern from instruction to student, the focus TTP has always emphasized, even to fundamental pedagogical issues, such as the learning resources and diverse student populations. The shift could also be the sign of the fact that PSTs improve the reflection quality to become more inclusive, student-centered other than egocentric, teacher-centered (Caprano et al., 2010). On the other hand, the findings also indicate that the reflection on PSTs' personal-different field experience through photovoice within the discussion group is more likely to be dialogic and transformative in that it focus on student and their long-term learning and development (Ulusoy, 2016; Ward & McCotter, 2004). Beside the contributions to the field, photovoice also mediated the reflective process.

Photovoice functions as the mediated tool for PSTs to fulfill the activity of reflection (Vygotsky, 1978). It mediates the participants to document and report their lived experience, and use "the immediacy of the visual image to furnish evidence and to promote an effective, participatory means of sharing expertise and knowledge" (Wang & Burris, 1997, p. 369). It also gives the opportunities to the PSTs rather than researcher to ascribe meanings to the photos representing their knowledge and perspective of the phenomenon (Chio & Fandt, 2007; Wolfenden & Buckler, 2013).

Photovoice in this study not only mediates PSTs to review and adjust their prior perspectives, but also triggers the collective reflection on certain issues related to rural education. Talking through photos, teacher educators and PSTs negotiate their prior knowledge and dispositions "not only in the task of unveiling that reality, and thereby coming to know it critically, but in the task of re-creating that knowledge" (Freire, 2009, p. 69), such as the teachers' awareness and capabilities to employ the local resources. The dialogues between PSTs and college teacher educator and the guided reflection guarantee the

avoidance of the construction of “limited cognitive schema” (del Prado et al., 2012, p. 88; McIntyre et al., 1996) and the maintenance of neutral lens to observe the rural education issues.

6 Conclusion

This study illustrates that photovoice is useful to externalize PSTs’ field experience-related perceptions through their describing and discussing around the photos they took during the school visits. This trip provided PSTs with novice and varied experiences, allowing them to personally confront and interact with their prior experience, gaining authentic, hands-on experiences that promote individualized learning based on interest, knowledge, and previous experiences.

It is found that with multi-modal means of expression in terms of photovoice, PSTs together with teacher educators, deeply and meaningfully communicate their perspectives and understandings about rural teaching and education, which verifies the assumptions and findings of previous studies (e.g. Bailey & Van Harken, 2014; Hamilton, 2016).

Utilizing photovoice methodology, this study explores PSTs’ perception by observing the 5-day field experience through their perspectives. Photovoice is a powerful tool to elicit and externalize each PST’s lived experiences, which helps PSTs relieve their experiences and recall the sensory stimuli during their experiences. Through photovoice, the PSTs illustrate perceptions of the experiences that the teacher educator or they themselves might not realize. For these reasons, photovoice is meritorious to be used as a mediating tool for PSTs to participate in their professional learning.

Therefore, photovoice is suggested to be utilized at TPPs, such as the pedagogical method for class assignments (Manohar, et al., 2013), and for authentic learning (Messengale et al., 2016). Future studies are needed to explore the functions of photovoice into the preparation of PSTs. On the other hand, however, perception change of PSTs stimulated by photovoice may happen by chance; thus, follow-up studies are needed to follow up the sustainability of the changes.

Even though PSTs in this study had positive intentions in these rural and ethnic minority schools, their comments suggested that they had little long-term interest in working in such setting. Maybe because there are ample teaching vacancies at city and/or urban schools for them to choose. However, the findings from this study suggest that TPPs particularly targeting teachers to work in rural and/or ethnic minority areas should provide PSTs coursework on

student diversity and culturally responsive instruction, as well as intensive field experience to enact the program (Gay, 2000; Ladson-Billings, 1995, 2000; Morton & Bennett, 2010). Besides, for the TPPs in China, the results of this study may inform the redesign of its PSTs field experiences. Specifically, the day-to-day delivery model within specific partner schools along with the on-site supervision became priorities for field experience in urban settings. Further study is needed to examine the potential effectiveness to involve field experience distinct to personal education background, in terms of PSTs' perception, and the guidance of teacher educators.

This is a small-scale study and we make no claim to the generalization of the findings. However, this study also implies that more studies following the same trend are expected to explore further with different PST populations immersing in different rural areas within various TPPs.

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