An Understanding of the Operational Dynamics of the Secondary School Mathematics Practicing Teacher: A Perspective from the Cooperating Teacher

Rohan Cobourne, Corey Williamson*, Keri-Ann Bethune
Mathematics Department, Shortwood Teachers’ College, Kingston, Jamaica
*Corresponding author: corey_willmsn@yahoo.com

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Abstract This study was designed to understand the cultural operations associated with the existing practicum exercise required for the mathematics practicing teachers as part of the fulfilment of the Bachelor of Education Programme in Jamaica. The study used a phenomenology design to explore the operational issues of the mathematics practicing teacher from the perspectives of the cooperative teacher. The participants selected for this study were 12 cooperating mathematics teachers from six high schools across the corporate area of Jamaica. The data were collected through face-to-face interviews with the cooperating teachers at convenient times throughout the school days during the period of September to December 2019. The findings revealed that the cooperating teachers are of the view that practicing teachers lack enthusiasm about the teaching profession. It is the view of the cooperating teachers that while the practicing teachers generally use a wide variety of teaching strategies in their lesson delivery, their mathematics content knowledge is often weak. The findings of the study have implications for the training of mathematics teachers in Jamaica and by extension the teaching and learning of mathematics at the secondary level of the school system.

Keywords: practicing teacher, cooperating teacher, practicum


1. Introduction

One of the goals of teacher training institutions is to ensure that the teachers are most highly trained and are prepared for the classroom. In the 21st century classroom mathematics teachers who are entering the profession must be equipped with the skills needed to effectively handle the wide variety of challenges. A number of early researchers have rightly suggested that in order to ensure the highest quality learning outcome of the practicing teaching, it is important that a positive relationship be maintained between the practicing and the cooperating teacher [1,2,3,4]. More recent studies have shown that cooperating teachers often has a strong influence on the practicing teachers [5] and the way in which they “come to know and participate in the profession” [6].

Due to the high influence the cooperating teacher has in determining the learning outcome of the practicing teacher, it is important to examine the dynamic issues with the practicing teacher from the perspective of the cooperating teacher. There is ample documentations in the literature on the relationship between the practicing and the cooperating teacher [7,8]. The purpose of this paper was to examine some of the prevailing cultural issues associated with the existing teaching practicum exercise for teachers in training from the perspectives of the cooperating teacher.

The cooperating teachers are seen as an important extension of the teacher education programme [6]. The perceptions of the cooperating teachers about the operation of the practicing teachers are relevant to the development and further improvement of teacher education. The cooperating teachers are often seen as role models who can influence the practicing teacher [5]; therefore it is important to understand their perspectives and beliefs about the operation of the practicing teacher.

1.1. The Purpose of the Study

The purpose of this study was to gain an understanding of the prevailing cultural and operational issues associated with the secondary school mathematics practicing teachers and the teaching practicum exercise as it exists. The study sought to gain this understanding mainly from the perspective of the cooperating teacher.

1.2. The Research Questions

The study was guided by the following questions:
1. How do cooperating mathematics secondary school teachers perceive the operations of the mathematics practicing teachers?
2. Are there significant operational differences between the cooperating and the practicing mathematics teacher?

2. The Literature Review

In the Jamaican context, the teaching practice exercise has always been an important part of the teacher training programme. Researchers are of the view that the practice teaching experiences are usually accepted as the most influential components of a teacher education programme, and have the power to shape trainee teachers’ development [9,10]. The importance of the practice teaching experience has been well documented in the literature and in many countries it has been identified as a critical component of teacher training programmes. Several studies have explored the experiences of the practicing teacher [8,11-17,33] as they interact with their cooperating teachers.

Mentorship is one of the important roles of the cooperating teacher during the teaching practice exercise [18,19,20]. Reference [21] made the point that practicing teachers often seek emotional support and assistance from the cooperating teachers. The way in which the cooperating teacher dialogues with the practicing teacher is of great importance. Other researchers such as [6] further expounded that cooperating teachers serve several important roles in the practicing teachers’ experiences. Some of these roles include providing feedback on their teaching experiences, and assisting in their professional development.

There is no doubt that the role of the cooperating teacher is important to the experience of the practicing teacher. It is accepted also that the relationship between the cooperating and the practicing teacher is critical to the development of the practicing teacher and this relationship can be a positive or a negative one. The survival and success of the practicing teacher can depend on this relationship. When one considers the importance of the cooperating teacher’s influence on the success of the Teacher training programme, it becomes even more important to examine the operation of the cooperating teacher from the perspective of the cooperating teacher. Reference [16] is concerned that the voice of the cooperating teacher is largely missing from the literature.

The cooperating teacher can be considered to be very close to the experiences of the practicing teacher, and much can be learnt from a study that explores the operations of the practicing teacher from the perspectives of the cooperating teacher. Reference [22] made the point that since the “most legitimate knowers” (p. 209), are considered to be the cooperating teachers, who participate in the experiences of the practicing teacher, it is rather critical that the cooperating teachers be given the opportunity to share their perspectives on important aspect of practice teaching.

2.1. The Theoretical Framework

While a number of behavioral theories have been examined, the theoretical framework of this study was built upon the theory of planned behavior. The theory of planned behavior is one of the most widely cited and applied behavioral theories. The planned behavior theory is one of a closely inter-related group of theories that adopt a cognitive approach to explaining behavior which centres on individuals’ attitudes and beliefs [23]. This theory evolved from the theory of reasoned action [24], which posited intention to act as the best predictor of behavior. Intention is itself an outcome of the combination of attitudes towards behavior.

The theory of planned behavior is quite suitable for predicting behavior and has been particularly widely used in relation to health [25,26]. Evidence have suggested that the theory of planned behavior can predict 20-30% of the variance in behavior brought about through intentions, and a greater proportion of intention. Strong correlations are reported between behavior and both attitudes towards the behavior and perceived behavioral control components of the theory. The theory of planned behavior is not considered useful or effective in relation to planning and designing the type of intervention that will result in behavior change [26,27,28].

3. Methodology

It is the view of some researchers that more detailed studies should be carried out on the different perspectives on how the cooperating teacher operates [29]. In this study, the methodology is centered around the collection and analysis of qualitative data from the perspectives of the cooperating teacher.

3.1. The Design

This study used a phenomenology design to explore the operational issues of the practicing teacher from the perspectives of the cooperating teacher. In this study, the phenomenological approach of interviews was used to collect data from the cooperative teachers’ regarding their perceptions. The phenomenology has long been used to assist researchers in understanding complex issues that may not be immediately understood from a surface response. Part of the rational for employing the phenomenology method is the idea that a phenomenological study permits the researcher to focus on the phenomena of individuals’ experiences in life and to prompt individuals to recognize, describe and explain experiences and interpret the meaning of experiences [30,31].

3.2. The Participants

The participants selected for this study were 12 cooperating mathematics teachers from six high schools from corporate Jamaica. These schools were conveniently selected during the practicum exercise required for practicing teachers as part of their training programme. Secondary school mathematics practicing teachers are normally required to carry out their practicum exercise at a secondary level school. As part of supervising and assessing the teacher, visits have to be made to the schools at which they are placed. It was during this exercise that the participating schools were conveniently selected.
Nine of the 12 teachers were female and three were males. A purposive sampling method was used to select the participants from which the data were collected. This sampling of the participants was done on the basis that these cooperative teachers are experienced in working with practicing teachers from teacher training colleges from in the corporate areas of Jamaica. Part of the criteria used in the selection process of the 12 teachers required them to hold at least a first degree in mathematics education. They were also required to have at least five years of teaching experience and have taught across various grade levels at a secondary level school in Jamaica. They were also required to have the experience of supervising at least five mathematics practicing teachers during their years of teaching. All the participants met the required criteria.

3.3. Data Collection and Analysis

Having selected the participants, the data collection process was carried out through face-to-face interviews with the cooperating teachers. The teachers were interviewed at convenient times throughout the school days over several weeks during the school term, September to December 2019. The length of the interviews varied from 15 to 40 minutes. Each participant was asked the same questions during the interviews and their responses were recorded in writing. The participants were asked 13 questions, eight of which were open-ended, and were focused on the cooperating teachers’ perspectives on the operation of the practicing mathematics teachers. In addition, the other five questions were demographic questions.

In analyzing the data, an inductive approach was used to examine and review the transcripts generated during the interview sessions. This inductive approach ascertained themes and patterns that has emerged from the data. These themes were further analyzed in light of the research purpose and questions.

In an effort to ensure validity in the study and build trustworthiness and credibility, the study first carried out an interview process of 12 cooperating teachers, asking all teachers the same interview questions. Additionally, the study employed the process of member checking. In this validation process, the results of the study were returned to some participants to check for the accuracy and resonance with their experiences [32].

4. The Findings

The findings of the study are discussed under two main themes. These are Expectations and Teacher Preparedness; and Comparison of Expectations and Experiences. These themes are directly related to the research questions that the study sought answers for. These two themes were derived at based on the responses from the participants in the interview exercises. The theme of teacher expectations and preparedness speaks to the cooperating teachers’ expectations of the practicing teachers and their perceptions of the practicing teachers’ level of preparedness for the mathematics classroom. The theme of comparing expectations and experiences sought to gain an understanding of the cooperating teachers’ expectations for themselves and their own experiences as against those they hold for the practicing teachers.

4.1. Theme 1: Expectations and Teacher Preparedness

The theme of Expectations and Teacher Preparedness speaks to the cooperating teachers’ expectations of the practicing teachers. This theme also focuses on the cooperating teachers’ perceptions or views about how prepared the practicing teachers are for the mathematics classroom. Under this theme, the cooperating teachers’ views on the practicing teachers’ preparedness for the teaching and learning of mathematics cover areas that range from the practicing teacher actually being prepared to teach a lesson to being ready professionally psychologically.

One of the questions that was posed to the cooperating teachers during the interview process relates to their expectations of the practicing teachers and whether these expectations are being met. An analysis of the responses to questions revealed very interesting information from the perspectives of the cooperating teachers. As to the cooperating teachers’ expectations of the practicing teachers, the common responses among the cooperating teachers were that the practicing teachers are expected to be prepared for class in terms of having their lesson plans; to be able to cover parts of the curriculum assigned to them and use a variety of teaching strategies in their lesson delivery. Reference could be made to Table 1 which shows the major themes and the interview questions relating to these themes. Table 1 also shows the most common responses to the questions from the cooperating teachers.

Another important question relating to the theme of Expectations and Teacher Preparedness was whether the cooperating teachers’ expectations of the practicing teachers were being met. As shown in Table 1, the cooperating teachers are generally of the view that practicing teachers always use a variety of teaching strategies in the teaching of mathematics. It is the view of the cooperating teachers, however, that practicing teachers tend to have weak mathematics content knowledge, and they generally fail to complete the teaching of topics assigned to them. This concern from the cooperating teachers came out of a culture embedded in the Jamaican school systems where students are frequently tested, and topics are needed to be completed for these tests. It is important to note also that it is the common view of the cooperating teachers that practicing teachers are not enthused about the teaching of the subject, and they pay very little or no attention to school co-curricular activities.

In relation to their expectations and their views about the preparedness of the practicing teachers, the cooperating teachers also provided a perspective on the preparedness of the practicing teachers based on their overall college training. Table 1 also shows the most common responses from the cooperating teachers to the questions relating to how well the cooperating teachers think the colleges are doing in the training of teachers. It is the view of the cooperating teachers that practicing teachers continue to have very weak mathematics content knowledge. It is their view that the practicing teachers see the profession only as an escape route from poverty or a starting point to another profession.
It is noted that there were some overlapping responses to the different questions relating to the theme discussed in this section. The overall analysis of the questions and their common responses shown in Table 1, the cooperating teachers are generally of the views that the practicing teachers do not meet many of their expectations and are not well prepared for the mathematics classroom and as teachers in general.

### 4.2. Theme 2: Comparison of Expectations and Experiences

Under the theme of Comparing the Expectations and Experiences between the cooperating and the practicing teacher, questions relating to the cooperating teachers’ expectations for themselves as well as their experiences as practicing teachers were asked during the interview process. The cooperating teachers were asked to compare their expectations and experiences with the practicing teachers of today. The general responses from the cooperating teachers indicated that there is no considerable difference between the expectations they have for themselves and those they have for the practicing teachers of today.

The cooperating teachers also provided their perspectives on their experiences as a practicing teacher compared to those of the practicing teachers of today. One common view among the cooperating teachers is that the experiences they had as practicing teachers were quite similar to those of the practicing teachers specifically as it relates to the actual teaching and learning processes. They however expressed some differences in other areas. The cooperating teachers gave the perspective that the practicing teachers seem to be less professional today in their approach to the teaching profession and social interactions. A number of the cooperating teacher expressed the idea that they entered the teaching profession not only to have a career but because they had a liking for teaching children. They believe that the practicing teachers are less enthusiastic about the teaching of mathematics and seem to have no liking for teaching.

#### 4.3. Further Discussion and Implications of the Findings

This study was focused on exploring cooperating mathematics teachers’ perceptions on the operation of the practicing teachers. In this study a number of important themes had emerged that helped to provide a better understanding of the mathematics practicing teacher from the cooperating teachers’ perspectives. The analysis of the emerging themes in this study suggests a need for a continuous and closer monitoring of the practicing teachers from both the college supervisors and the cooperating teachers. There is also the need for a more comprehensive understanding of the relationship between the cooperating and the practicing teacher. There are a number of important issues that emerged from this study that worth further discussions.

It was noted from the findings of the study that the cooperating teachers have similar expectations for the practicing mathematics as those they have for themselves. This result is similar to that of [2] whose study found matched expectations between the student teacher and the cooperating teacher. These expectations the practicing teacher being actually prepared to deliver the lesson as well as their professional preparedness. There could be even further concerns with this issue. While it is important to hold high expectations for the practicing teacher, cooperating teachers and supervisors must be cognisant of the fact that the practicing teachers are still in training and are still learning about the teaching profession. Too high of an expectation for a practicing teacher could place the teacher under severe and unnecessary pressure that could result in frustrations and poor performance.

Another important point that came from the perspectives of the cooperating teachers concerning the practicing teachers was that practicing teachers tend not to be able to complete the teaching of topics assigned to them. This was a common concern of the cooperating teachers who thought that this has been a weakness on the part of the practicing teacher.

This issue can be examined by first analysing the difference between the cooperating and the practicing
The practicing teacher is most times working towards receiving a grade in order to complete a study programme. One of the common points made by the cooperating teachers was that the practicing teachers often used a variety of teaching strategies during their practice. This is also related to the point made earlier about the practicing teachers working towards receiving a grade. The cooperating teacher, on the other hand, are more motivated by their successes and the avoidance of the consequences of not completing a given number of topics within a given period of time. In Jamaica, the education system at its various levels has become exam-oriented. In the school system, teachers’ competencies are often judged based on their success in students passes in both internal and external exams. These differences are often responsible for possible conflict between the cooperating and the practicing teacher.

The themes analysed in this study suggest that the lessons learnt from the teaching practice exercise are important to the teaching and learning of mathematics in the future. The analysis also suggest that the nature of the relationship between the cooperating and the practicing teachers is important to the development of the teacher training programme. However, there may be a need for greater attention to be given to a more structured way of the practicing teacher benefiting more from the expertise of the cooperating teacher.

The study sighted important concerns about the secondary school mathematics practicing teachers from the perspectives of the cooperating teachers. The views of the cooperating teachers can be further examined in the context of making improvement to the training of mathematics teachers and more specifically in the teaching and learning of mathematics at the secondary level. Having a formal look into the general perception of the cooperating teacher towards the practicing teacher can significantly help to inform our teaching practice performance standards to see to what extent it reflects current trends and demands of the teaching and learning environment.

### 4.4. Conclusions of the Study

The following conclusions were made from the findings of the study:

1. Cooperating teachers are of the view that practicing teachers lack enthusiasm about the teaching profession.
2. It is the view of the cooperating teachers that practicing teachers generally use a wide variety of teaching strategies in their lesson delivery. Their mathematics content knowledge, however, is often weak.
3. There is a concerning view of cooperating teachers’ report of practicing teachers’ inability to complete the teaching of mathematics topics assigned to them during their practice.
4. Cooperating teachers are of the views that the practicing teachers today seem to be less professional in their approach to the teaching profession and social interactions with other.

### 4.5. Recommendations

The following recommendations were made from the study:

1. Impact the necessary changes in the teacher training programme that seek to improve the level of professionalism and enthusiasm of the trainee mathematics teachers.
2. There should be a more deliberate effort to encourage the inclusion of the cooperating teacher in the mentoring, monitoring and assessment of the practicing teacher during the teaching practice exercise.
3. Include as part of the assessment process, the participation of the practicing teacher in at least one co-curricular activity in the school they are placed for their practicum.

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### References


