

Out-of-Field Teachers: Issues and Strategies for Teaching Students with Visual Impairment

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Abstract

An “out-of-field teacher” is defined as a teacher who is assigned to teach a subject that she has inadequate training or education in. This study explores the issues, challenges and strategies faced by “out-of-field teachers” in teaching students with visual impairment. Qualitative data were collected through semi-structured interviews with ten respondents who were out-of-field teachers working in special education schools in Sabah. Their feedbacks were transcribed and analyzed using descriptive narrative. The findings indicate that these teachers faced various issues, including limited knowledge, skills, readiness, and teaching experiences on the subject that they were assigned to teach. They also reported challenges in the form of students with diverse categories and level of abilities, their lack of commitment and practice. Among the strategies that these teachers applied were getting assistance from other teachers or students who are more knowledgeable, self -training, attending courses and getting additional references materials through books and the internet. This study highlighted the issues of out-of-field teachers in Malaysian special education which must be solved by the Ministry of Education urgently. Several suggestions were put forward, including ensuring only well-trained teachers assigned to teach students with visual impairment and providing in-service training to these out-of-field teachers.

Keywords: Out-of-Field Teachers, Special Education, Disabilities, Visual Impairment, Braille

Introduction

Equitable quality education enables students with disabilities to access economic empowerment to ensure their livelihood. The role of teachers is not only providing knowledge but also ensuring that the content of the knowledge is delivered accurately and clearly. As the implementers of the education system, they are responsible for ensuring that the standard of education is maintained. Keiler (2018), explains that teachers should build up a professional identity to support their career path to be effective teachers who have a positive view towards their contribution of producing human capital in the 21st century. This coincides with the fourth principle of the Malaysian Education Development Plan (PPPM) 2013 to 2025 which emphasizes on the transformation of teaching as a profession of choice, where only the best candidates are selected to become teachers.

The quality and qualifications of teachers are interrelated. Qualified teachers are teachers with quality who have expertise in a subject. In the teaching profession, there are two categories of teachers based on professional qualifications. Professional qualification refers to the expertise and competencies of teachers in the assigned subject. Teachers who obtained professional training in a subject and are assigned to teach the subject according to their professional qualifications are known as 'in-field teachers'. On the other hand, teachers who are assigned to teach the subjects that are different from their professional qualifications are known as 'out-of-field teachers' (Porsch & Whannell, 2019; Kenny, Hobbs & Whannell, 2020).

Out-of-field teaching take place when teachers are assigned to teach the subjects that do not fit in accordance to their formal qualifications or they do not have an adequate training in (Du Plessis, Carroll & Gillies, 2017). Out-of-field teachers teaching in classes which are not accordance to their specializations have not had the opportunity to study the subjects during their training in teaching institutions. They are usually assigned the tasks based on the factors of inadequate numbers of teachers available to teach these subjects. Out-of-field teaching take place globally and has influenced the quality of educational development of a nation (Hobbs & Porsch, 2021). The study of Van Overschelde and Piatt (2020), explained that there is an increase in the rate of out of field teaching, hence this situation has negative impacts on students' academic achievement. This problem has posed a challenge to out-of-field teachers because the main goal of a teacher in delivering the instructions is to provide meaningful learning to students.

Teachers should have adequate preparation before delivering education of any knowledge or skill. Luft et al (2020), explained the challenges of teachers in teaching the subjects outside the field is the lack of content knowledge. Out-of-field teachers need to understand the structure of a lesson first, especially the contents that is not mastered in a subject. When the teacher's knowledge is limited and teaching quality is at a poor level, there is a high possibility that the learning objectives will not being achieved and leaves a negative impact on students' learning (Kvande et al. 2019). Support and cooperation of colleagues who have knowledges and skills on the content of the subject, would greatly help out-of-field teachers in delivering their lesson (Stoke, Suh & Curby, 2020).

Most of out-of-field teachers face difficulties in teaching their assigned subjects which they have not been mastered at the beginning of their service in school. They find it difficult to build new knowledge and practices with the professional approach taught in teaching institutions. In addition, there are also issues related to the welfare, provision of facilities and school administrative supports for these out-of-field teachers (Magdaraog & Benavides, 2020). Nixon et al (2017), found that out-of-field teachers are not able to show good competencies in teaching the subjects that they have not mastered because they need to understand the contents before teaching the students. Therefore, this situation effects their teaching performance which diminish their motivation to teach.

Out-of-field teachers also face challenges in delivering a meaningful teaching and learning session to their students because they find it difficult to employ appropriate teaching strategies. Teachers are not only required to master the knowledge of the topic and have an

adequate overview of their subjects, but also need to understand the implementation of teaching methods that facilitate the enhancement of student learning (Koehler, 2019). These teachers feel less confident when imparting the knowledges and skills to students because not fully mastered the content of the subjects. They are also worried about unable to fulfil the students' needs. Therefore, a teacher needs to be highly skilled and understand the students' needs in the specific subject he or she teaches so that teaching and learning can be delivered in more meaningfully manner (Rosenblum, Cheng & Beal, 2018).

Not only that, out of field teachers also facing challenges in time management between teaching duties and side works in schools to build an adequate teaching competence. Pre - service programs and ongoing professional development courses can be

designed to support the teachers by considering funding needs and relevant work allocation to ensure the teachers' quality competencies are achieved (Kenny, Hobbs & Whannell, 2020). Out of field teachers should be given an opportunity to explore more learning outside the field by developing more teaching delivery efficiency, expanding teaching experiences and increasing motivation. The programs must be able to configure a professional teacher identity and producing more positive impact on student learning (Lünne, Schnell & Biehler, 2021).

In lieu with the growing awareness of the importance of education for children with disabilities, the quality of teaching in the field of special education is getting more attention than before. Teachers in the special education should command the right skills or abilities because the success of teaching is the result from the competency of teachers in performing their tasks specifically in special education for the visually impaired (McLinden et al., 2017).

Teachers assigned to teach in special education should be specially trained to teach children who require specific educational needs such as those with visual impairment. According to Fernandes, Jardim and Lopes (2021), the qualifications of the special education teachers should be more proficient in psychology, teaching methods, assessment methods and inclusion strategies that produce an effective action towards improving the achievement of the students with disabilities. Therefore, teachers in the special education section should have expertise in planning lessons, mastering the subjects taught, imparting knowledge, implementing skills and applying meaningful values to these students. Based on these facts, it would become an issue when the teachers assigned to serve in the special education programs hold less or non-professional qualifications particularly in the special education aspect. The professional qualification plays an important role to produce an effective implementation of teaching and facilitation process.

Mastering the Braille coding skills is a main requirement when educating and guiding students with visual impairment. Their teachers should be able to read and write using Braille coding as Braille code is the medium of reading and writing for these students (Jarjoura, 2014). Furthermore, the level of Braille coding skills among these students will be negatively affected when teachers are not well prepared and unable to implement the appropriate teaching methods for them.

Additionally, Carpenter (2020), state that understanding the world of Braille is an essential as medium of reading and writing for the individuals with visual impairment.

Therefore, without a doubt, out-of-field teachers would find it a challenge to teach students with visual impairment when they are not well trained in Braille coding skills. Apart from having less or no knowledge and experience on special education, they might also have no opportunity to learn the Braille coding skills while undergoing teaching training at teacher training colleges or universities.

The commitment of the out-of-field teachers assigned to teach students with visually impaired to the importance of mastering the Braille coding skills is very important. When teaching students with visually impairment, applying the correct Braille coding skills with a proper teaching approaches will increase the students' understanding in their learning (Papastergiou & Pappas, 2019). Moreover, the role of teacher in the context of the special education is not limited in just imparting knowledge to the student, but also to help the students acquire additional skills that can be applied in their real lives (Silman, Yaratan & Karanfiller, 2017).

Literature Review

Kosyigit and Artar (2015), found that teachers face difficulties shaping the learning experience of students with visual impairment because it requires various materials and techniques. Besides that, usually teachers rely heavily on the use of visual material in teaching to ensure that students are fully involved in the process of learning. Furthermore, if teachers feel anxious due to lack of preparation or being unprepared, it will affect the implementation of teaching and learning. These challenges are faced by out-of-field teachers of students with visual impairment because they may not be equipped with in-depth knowledge and experiences with regards to special education for these students.

The teachers who are assigned to teach these students should equipped with the knowledge of Braille coding skills. The reason is that the students with visual impairment require high levels of support from qualified and certified teachers who are proficient in teaching Braille (Roe et al. 2014). The skill of Braille coding is a compulsory requirement for students with visual impairment to access education. The students should to be exposed the skills during their early stage of education so that they are able to read and write competently. Radojichikj (2015), stated that teachers play an important role in supporting the students when learning the Braille skill by providing training to their fine finger motor and continuous guidance so that the students acquire this important skill.

Likewise, in an inclusive environment that emphasizes the practice of collaboration among educators is pertinent to deliver an effective teaching for all students (Leko et al., 2015). This condition includes the arrangement of co-teaching among teachers in special education and mainstream. A key requirement of an inclusive environment is designing a specific education program for the student achievement and peer involvement in the classroom activities. The goals will not be achieved if the teachers do not hold a specific knowledge and skills related to special education (Byrd & Alexander, 2020). In his study, Sikanku (2018), explained that among the issues faced when implementing special education programs for students with visually impairment is due to less pedagogical training for these students given to teachers especially in mastering the Braille code skills.

The study conducted by Habulezi (2016), aims to review the effectiveness of strategies undertaken by schools in Botswana to fulfil the needs of the students with visual impairments in their teaching and learning program. Among the strategies identified was the collaboration between the Special Education Division and the teachers. The division organized workshops for teachers who teach the students with visual impairment. Through this strategy, teachers were able to share their teaching experiences and therefore improved their knowledge related to the teaching and learning of these students. The findings of the study reveal that the strategy employed was found to be effective.

Hence, the finding suggested that teachers are capable of developing their knowledge cooperatively. In the context of this study, the knowledge and skills of out-of-field teachers of student with visual impairment require continuous training in mastering the Braille coding skills in order to improve their knowledge, strengthen their skills and ultimately be able to help their students achieving optimal learning.

Therefore, this study set forth to investigate the experience of out-of-field teachers of students with visual impairment in mastering Braille coding skills in order to teach their students. There are three main research objectives in this study;

- 1) To explore the issues faced by out-of-field teachers of students with visual impairment in mastering Braille coding skills.
- 2) To explore the strategies employed by these teachers in mastering Braille coding skills.
- 3) To explore the challenges faced by these teachers using Braille coding skills during lessons.

Methodology

This qualitative study based on a case study design was employed to gain an in depth understanding of a phenomenon and identify specific themes and patterns within it (Merriam & Grenier, 2019). The case study design enabled the researchers to explore various aspects of the teachers' experience of these out-of-field teachers who are assigned to teach in special education schools for students with visual impairment.

A total of ten out-of-field teachers of students with visual impairment were selected through purposive sampling for this study. The selection of the purposive sampling technique is based on the researcher's consideration on the type or nature of the sample set which is pre-determined to enable the data collection to achieve the purpose of this study (Moser & Korstjens, 2018). Thus, the recruited participants were out-of-field teachers who were assigned to teach in primary special education schools in Sabah, Malaysia. All of them were teaching the students with visual impairment during the data collection period.

Data collection was carried out through semi-structured interviews following a pre-set interview protocol which was constructed with questions put together to probe the research questions of this study. The questions constructed are related to the focus of the study including the issues and strategies undertaken by the participants to become proficient in Braille coding skills. Besides that, the questions also focused on the challenges they faced as they learn the Braille coding skills while teaching in the classroom at the same time. An audio recorder was used to record the data during the interviewing session.

The validity and reliability of the data collected in this study were evaluated through the feedbacks furnished by a panel of out-of-field teachers who were highly experienced in the field of special education for visual impairment. Beside the peer review techniques and audit trails, the validation of content and reviews of interview protocol were achieved by consulting the experts in the field of visual impairment consisting of experienced academicians and qualified special education teachers in the field of special education for students with visual impairment who have working experience of more than twenty years. The results of the interview transcripts are re-read, and appropriate themes were identified. The themes with the similar meaning were categorized into specific categories to draw conclusions resulting in the findings of this study.

Respondents

The respondents in this study comprised of out-of-field teachers with a degree in Education from various subject specialization and without any background on special education for students with visual impairment. Nine of them have professional qualifications to teach general education primary school while one respondent, namely T9 has a professional qualification in special education but to teach students with learning disabilities. Their background indicated that they do not have the required skills to teach students with visual impairment nor have they learnt Braille coding skills before their assignment to these special education schools. Table 1 below shows the demographic profiles of the respondents.

Table 1
Demographic Profiles of Respondents

Respondents	Gender	Level of Education	Major	Teaching Experience (years)
T1	Male	Bachelor of Education	Music for Primary School Education	5
T2	Male	Bachelor of Education	Mathematics for Primary School Education	4
T3	Female	Post-graduate diploma	TESL	10
T4	Female	Bachelor of Education	Islamic Education	7
T5	Female	Bachelor of Education	Information technology	23
T6	Female	Post-graduate diploma	TESL	7
T7	Female	Bachelor of Education	TESL	3
T8	Female	MA in Education	Science for Primary School Education	4
T9	Male	MA in Education	Special Education: Learning Disabilities	12
T10	Female	MA in Education	Mathematics for Primary School Education	7

Findings

Issues Faced by Out-of-Field Teachers in Mastering the Braille Coding Skills

The results of the interview transcripts analysis of all respondents regarding the issues faced by the out-of-field teachers of students with visual impairment exhibits that the main theme related to knowledge, skills, readiness and teaching experiences of these teachers. One of the main findings of this study is that the respondents reported that they lack knowledge and skills related to Braille coding skills. Most of them had no exposure to special education for students with visual impairment and Braille coding skills before being assigned to teach in a special education school for students with visual impairment. According to T2, T7 and T8, they underwent the training at the teacher training college specializing on general education and were never exposed to the field of special education for students for visual impairment.

"Before being sent to this school, my teaching experience was more towards the typical students..." - T2

"I teach English subject according to my specialization. It does not affect much. I just need to be proficient with the Braille code skills in English because I was never taught about the English Braille code while at the (teacher training) college." - T7

"Before I was assigned to this school, I had no basic skill in Braille and also no pedagogical skill for special needs students. The approaches that I learned at the (teacher training) college are more towards mainstream students." - T8

Majority of the respondents shared that they did not expect to be assigned to a special education school because of their professional qualifications prepared them to teach in general education. The unexpected placement caught them unprepared creating a feeling of less confident in carrying out the duty as a teacher for the students with visual impairments. The evidence to support this notion can be found through the responses of T3 and T5.

"I am worried and afraid of not being able to fulfil my responsibilities as a teacher in a special education school for students with visual impairments as I am not trained in this field." - T3

"Initially I felt less confident because I had no experience nor the knowledge to teach using the Braille code." - T5

The results of the interview indicated that all the participants in this study had no experience in teaching students with visual impairments and had never learnt Braille coding skills. They gained experiences and exposures only after they started teaching in the special education schools. T6 and T10 explained the situation as follows;

"..... I had no knowledge and training about the Braille code before entering the special education school for students with visual impairment." - T6

"I got the exposure only when I was assigned to this special education school. Before that, I have never had any knowledge or exposure regarding special education for students

with visual impairment. Also, I have never faced any situation that gave me a chance (to interact) with these students closely.” - T10

Therefore, it was not surprising when the respondents shared that they faced difficulties in teaching their students with visual impairments and learning Braille coding skills. They had to struggle to improve their knowledge on special education for students with visual impairment and learn Braille coding skills before teaching in the classroom. Below are some of their statements regarding this struggle.

“Yes. It was difficult during the initial stage of teaching the student who are totally blind because I had no exposure on these students while studying at the (teacher training) college. I also only started learning the Braille code at this school.” - T6

"Actually, I still have not mastered teaching the grade 2 Braille code. It's a bit difficult for me, because I have to check the students' spelling and the correct application of punctuation in the students' English exercises." - T7

Strategies Employed by Out-of-Field Teachers in Mastering Braille Coding Skills

An analysis of the interviews on the strategies used by the teachers to master Braille coding skills revealed that there are two categories: (1) human resources, and (2) non-human resources. Human resources include expert and experienced teachers, skilled students, attending courses and workshops. While non-human resources entail using reference books, preparing notebooks, surfing the internet and practicing using the Braille machines. All these various strategies prove that the respondents put in their best effort to master Braille coding skills in order to educate their students with visual impairment effectively.

Results from the data analysis also found that all respondents stated that the assistance provided by experts and experienced teachers is an effective strategy to master Braille coding skills. In special education schools for students with visual impairment, there is a Braille Code Teacher who is appointed as a source of reference to help teachers who are less skilled with Braille code skills. This was explained by T2 and T9.

"I practice reading and writing a lot in Braille and often ask the more experienced teachers" - T2

"I do drills on writing short stories using Braille. After the drills, I would get help from a senior teacher to check my work" - T9

There are also some respondents who strived to learn Braille code skills with the help of their own students with visual impairment who are skilled in Braille coding skills. T2 and T10 shared this experience:

"..... if it's Grade 2 (Braille code), I would write a lot and ask questions to (other) teachers and also more skilled students" - T2

"..... sometimes I ask students to re-read what they have written in Braille, while I cross check with the answers in regular written form. Through this strategy, it is easier for me to quickly remember Grade 2 (Braille) symbols" - T10

Independent practice is another effective strategy used by the respondents to learn Braille coding skills. All of them practiced using the Braille machine so that they could remember and apply Braille coding skills in the long run.

"In order to improve myself, I read a lot of materials related to visual impairment and continuously practice reading and typing Braille " - T4

"..... for me, I always practice Braille, so it won't be easy (for me) to forget Braille coding skills" - T5

There were also several respondents who attended courses and workshops organized by the schools and the Special Education Division under the Malaysian Ministry of Education (MOE). They also attended courses and workshops on Braille coding skills, which were offered at the beginning of their service. However, not all out-of-field have the opportunity to attend these courses and they were not comprehensive courses.

"Colleagues who are highly skilled helped me a lot to learn Braille coding skills. Apart from that, the Special Education Division under the MOE also provides short courses for teachers who do not have a background in special education, especially Braille coding skills" - T1

On top of this, respondents also used reference books as one of the strategies to learn Braille coding skills. For example, the Braille coding skills handbook and the Visual Impairment Individual Basic Skills Textbook (VIIBST), which is a textbook based on the Primary School Standard Curriculum used by students with visual impairment. It teaches skills needed by students with visual impairment such as orientation and mobility, Braille code skills and use of special equipment as well as basic information and communication technology (ICT) skills.

"Hmm, if it's Grade 2 (Braille coding skills), I would refer to many experienced teachers and the (VIIBST) textbooks." - T4

"A lot of drills on Braille and reading Braille books. Actually, I'm still not proficient in Grade 2 Braille code. I use the reference books when I teach in class. I have also sought help from senior teachers who are proficient in English Braille codes" - T7

There were also respondents who compiled notes on Braille coding skills based on their internet searches and use it as a guide when teaching and reviewing students' work.

"I have been teaching for ten years, [and] the Braille code notes I compiled into a book is always with me, especially the notes on Grade 2 Braille code" - T3

"I have my own Braille code notes for reference. I also search on the internet" - T8

Challenges faced by out-of-field teachers in practicing Braille coding skills during lessons

The challenges face by these teachers can be categorized into two factors: the student and the teacher factors. The student factor refers to the students with visual impairment who has varies in their level of ability. While the teacher factor consists of their own commitment to practice.

Students with visual impairment can be divided into two categories, namely those who are totally blind and those with low vision. There were participants in this study teaching students with low vision category in their classroom who did not need to use the Braille coding skills during the lessons. Therefore, this situation created a challenge to the respondents as teachers who are participants in this study when practicing the Braille coding skills in their lesson.

"Yes, there are also the students with visual impairment in each class that varies in term of levels and categories. There are classes that have no totally blind students. There are also classes with totally blind students. It just so happens that, this year all the students in my class are students with low vision who use conventional writing. None of them use Braille. So, my command of the Braille coding is getting weaker." - T7

"There are classes for low vision students only. My Braille coding skills is not improving because I only provide the student training materials in large print." - T10

The students with visual impairment not only have various levels of vision but also vary in terms of their abilities in mastering the Braille coding skills. There are students who require more time and intensive teaching to learn the Braille coding skills.

"There are students who have not yet mastered the Braille coding skills. (For) some reasons, they were not given an early exposure to Braille writing. So, teachers also need more time to assist these students to recognize the Braille alphabets before they learn more advanced Braille coding." - T5

Respondents T5 and T9 shared that teaching students who need a long time to master the Braille alphabets somehow negatively impact their mastery of the Braille coding skills. As they only needed to teach the Braille alphabets and Level 1 Braille codes, the situation did not push them to study Level 2 Braille codes.

Undoubtedly, when acquiring a new skill, a person should practice consistently in order to master it. Like wise to our respondents who need to acquire Braille coding skills to be able to teach effectively. However, some participants in this study concur that lack of training due to the factors of limited time and laziness caused them to be unable to focus in mastering the Braille code.

"Laziness, quick to give up, quick to forget are among the main factors contributing towards my lack of command in the Braille coding skills." - T1

"Emm, diligence, I need to be diligent to learn the Braille. I can easily forget the Braille code if I don't practice regularly." - T8

Discussion

Lack of knowledge and skills related to the field of special education for students with visual impairment were the major issues faced by the out-of-field teachers of students with visual impairment interviewed in this study. It was found that they have no exposure about the Braille coding skills before reporting for duty to teach students with visual impairment. In addition, the respondents had little or no background in terms of working experiences related to these students. In this situation, they should have been given a comprehensive and in-depth training on knowledges and skills related to Braille coding skills so that they can teach these children effectively. Mezyed and Inshirah (2016), and Pilewskie (2017), stated that a teacher need to receive necessary training to master the knowledge and skills needed to teach students with visual impairment effectively.

This study found that these out-of-field teachers reported a moderate level of command in Braille coding skills. This issue would have an impact in the implementation of teaching and learning as they also reported that they face challenges to teach their students as they themselves were struggling with Braille coding. These findings coincide with the study of Kosyigit and Artar (2015), that established that out-of-field teachers have difficulties in shaping the learning experience of their students as they struggle to prepare and teach lessons. The findings of Sikanku (2018), and Temesgen (2018), also revealed that the implementation of programs for the students with visual impairment could not be carried out efficiently, partly because of teachers who do not haave a good command of the pedagogical skills, especially in Braille coding skills.

Furthermore, this study also found that these teachers faced difficulties in mastering the Braille coding skills as they reported respondents in this study took almost a year to master the basic levels of Braille coding skills. As they need to master Braille coding skills to teach their students, they took the initiative to learn these skills on their own. This finding is similar with the findings of Lamichhane (2016), which found that the mainstream teachers faced challenges in teaching students with visual impairment in inclusive settings due to their lack of knowledge and skills on special education and Braille coding skills.

Realizing that students with visual impairments require more support from teachers who have a good command of Braille (Carpenter, 2020), the respondents of this study

reported that they apply several strategies to improve their command in Braille coding skills including self- training, attending courses, referring to text books, surfing the internet and producing their own notes. They also referred to and seek guidance from other more experienced teachers and students who had good Brailling skills.

The finding of Martiniello and Wittich (2018), describes the teaching of Braille based on technology could improve the motivation and learning outcomes of the students with visual impairment. The out-of-field teachers involved in this study reported that they did use the internet in their efforts to improve their Braille coding skills. With the rapid advancement of technology, using the internet to train these teachers may be one of the best strategies to be adopted by the Ministry as a comprehensive well-planned online training may achieve the objective of producing effective teachers in the most economic manner.

The experience gained during the teaching practical while studying in the teacher training college is an opportunity to explore effective teaching approaches. Those experiences gained should be more useful when assigned to teach the same field or subject while in school after graduation. Markelz, Riden and Scheeler (2017), explained that the implementation of teaching and learning activities would be more meaningful for the trainees if they hold the teaching experiences, exposures and guidance. One of the results of this study established that these out-of-field teachers never had any exposure to special education in general and for students with visual impairment, in specific. The Ministry of Education Malaysia should take steps to ensure that all teacher trainees should at least have a basic knowledge and experience with students with disabilities. This exposure will be beneficial since the ministry is trying to increase the number of children with disabilities in inclusive classrooms. In this case, should the phenomenon of assigning out-of-field teachers continue, these teachers would not be totally at loss in their special education classrooms.

With the findings discussed above, this study puts forward several sound recommendations for the reference of stakeholders of this field in formulating an effective solution to the issues arising from assigning out-of-field teachers to teach students with visual impairment. The strongest recommendation to address the issues discussed in this study is for the Ministry of Education to produce a solution to supply only well-trained special education teachers who are proficient in Braille coding skills to teach students with visual impairments in schools. This may be a feat that is difficult for the ministry to achieve for various reasons which calls for a separate study.

As the study found that it is very clear that these teachers desperately need training, the next recommendation is for the ministry to provide in-service training for them focusing on special education and Braille coding skills. This in-service training can be provided online, either synchronous or asynchronous, which could overcome the issues of cost and time constraint.

Training alone might not be effective to increase these teachers' effectiveness as it might not be able to provide the hands-on skills needed. Therefore, the next recommendation is to set up an organized mentoring system for them by involving trained and experienced teachers at the schools where they work as mentors. These mentors too will be given training and materials on how to provide guidance to the out-of-field teachers.

The final recommendation is to carry out future research on this phenomenon. A research with a bigger sample of out-of-field teachers from all over the country should be carried out to gain a better understanding of the issues they face. A research on how these teachers impact the academic achievement of students with visual impairment is also needed. Another needed research is one on the construction of a training module for these teachers.

The phenomenon of assigning out-of-field teachers to teach in students with disabilities has never been studied even though this phenomenon has been going on for decades. This study is the first in focusing on the issues of out-of-field teachers in special education in general and in visual disabilities education in specific. As such, it is exploratory in nature. However, this study has managed to direct the focus on this unfortunate practice in Malaysian special

education and it is hoped that future research on this phenomenon will follow and awareness of this issue will increase so that stakeholders will on finding solutions to these issues.

Conclusion

Out-of-field teachers of students with visual impairments were the focus of this study. They reported that they lack the knowledge and skills to teach their students as they were not trained in neither special education nor Braille coding skills. They came from various educational background and did not receive any training on education for students with visual impairment either at the preservice or at the inservice level. Being assigned to a school for these students caused them to feel a lack of confidence to teach. They employed various strategies to master the Braille coding skills including self-practice and consulting their colleagues and students. However teaching students with diverse levels of Braille coding skills and cognitive abilities presented extra challenges to them. Issues and challenges they faced in mastering the Braille coding skills were discussed. Strategies they applied to achieve Braille coding skills were also examined. However, with all these challenges they persevered and keep on working to improve admitted that their Braille coding skills. still need to be improved.

Assigning teachers who are not trained in Braille coding skills to teach students with visual impairment is problematic. The Malaysian Ministry of Education needs to take actions to ensure that teachers assigned to teach students with visual impairments are well trained and the out-of-field teachers receive a comprehensive in-service training to improve their skills. Since this is an initial exploratory investigation into this phenomenon, further studies are needed to understand the it's impact. Suggestions for future studies include a study on a bigger sample of these teachers, their impact on students' academic achievement, and a training module for these teachers.

However, since these out-of-field teachers are already assigned to teach the students with visual impairment, support need to be provided to them so that they can become more effective teachers. Inservice training on Braille coding skills and pedagogy for students with visual impairment should be developed and provided to them. Providing this training online may be the most economic and accessible solution. Setting up a structured mentoring system utilising more experienced colleagues with technical support from the state education department may also offer a good solution.

Hardly any attention has been directed on this issue of out-of-field teachers assigned to teach the students with visual impairment in Malaysia. This study is preliminary in nature, it is hoped that other research on this issue willll follow as students with disabilities have the right to equitable education as their peers.

References

- Byrd, D. R., & Alexander, M. (2020). Investigating special education teachers' knowledge and skills: Preparing general teacher preparation for professional development. *Journal of Pedagogical Research*. 4(2); 72-82.
- Carpenter, J. (2020). EFL Education for the Visually Impaired in Japan: Data from Five Interviews. *Latin American Journal of Content & Language Integrated Learning*. 13 (1): 57-78.
- Du Plessis, A. E., Carroll, A. & Gillies, R. M. (2017). The meaning of out-of-field teaching for educational leadership. *International Journal of Leadership in Education*. 20(1): 87-112.
- Fernandes, P. R., Jardim, J. & Lopes, M. C. (2021). The soft skills of special education teachers: Evidence from the literature. *Education Sciences*. 11(125): 1-13.
- Habulezi, J. (2016). Teaching and Learning Strategies Adopted to Support Students Who are Blind in Botswana. *International Journal of Learning, Teaching & Educational Research*. 15(10): 92- 103.
- Hobbs, L. & Porsch, R. (2021). Teaching out-of-field: Challenges for teacher education. *European Journal of Teacher Education*. 44(5): 601-610.
- Jarjoura, W., & Karni, A. (2014). Braille Reading In Blind and Sighted Individuals: Educational Considerations and Experimental Evidence. *Literacy Studies*, 395-408.
- Kenny, J., Hobbs, L. & Whannell, R. (2020). Designing professional development for teachers teaching out-of-field. *Professional Development in Education*. 46(3): 500-515.
- Keiler, L. S. 2018. Teachers' roles and identities in student-centered classroom. *International Journal of STEM Education*. 5(34): 1-20.
- Kocyigit, N. & Artar, P. S. (2015). A Challenge: Teaching English to Visually-Impaired Learners. *Procedia-Social and Behavioral Sciences*. 199(2015): 689-694.
- Koehler, K. E. (2019). Students with Visual Impairments' Access and Participation in the Science Curriculum: Views of Teachers of Students with Visual Impairment. *Journal of Science Education for Students with Disabilities*. 22(1): 1-16.
- Kvande, M. N., Bjørklund, O., Lydersen, S., Belsky, J. & Wichstrøm, L. (2019). Effects of special education on academic achievement and task motivation: a propensity-score and fixed-effects approach. *European Journal of Special Needs Education*. 34:4: 409-423.
- Lamichhane, K. (2016). Teaching Students Visual Impairments In An Inclusive Educational Setting: A Case From Nepal. *International Journal of Inclusive Education*. 21(1): 1-13.
- Leko, M. M., Brownell, M. T., Sindelar, P. T., & Kiely, M. T. (2015). Envisioning The Future of Special Education Personnel Preparation in A Standards-Based Era. *Exceptional Children*. 82(1): 25-43.
- Luft, J. A., Hanuscin, D., Hobbs, L. & Törner, G. (2020). Out-of-Field Teaching in Science: An Overlooked Problem. *Journal of Science Teacher Education*. 31(7): 719-724.
- Lünne, S., Schnell, S. & Biehler, R. (2021). Motivation of out-of-field teachers for participating in professional development courses in mathematics. *European Journal of Teacher Education*. 44(5): 688-705.
- Magdaraog, R. S. G. & Benavides, N. G. (2020). Profile, Challenges and Coping Mechanisms of Out-of-Field Teachers in the Second Congressional District of Sorsogon. *International Journal of Science and Research*. 9(6):
- Markelz, A., Riden, B. & Scheeler, M. C. (2017). Generalization training in special education teacher preparation: Does it exist? *Teacher Education and Special Education*. 40(2): 1-15.

- Martiniello, N. & Wittich, W. (2018). The Perception and Use of Technology Within Braille Instruction: A Preliminary Study of Braille Teaching Professionals. *Journals of Visual Impairment*. 36(3): 195-206.
- McLinden, M., Ravenscroft, J., Douglas, G., Hewett, R. & Cobb, R. (2017). The Significance of Specialist Teachers of Learners with Visual Impairments as Agents of Change: Examining Personnel Preparation in the United Kingdom through a Bioecological Systems Theory. *Journal of Visual Impairment & Blindness*. 111(6): 569-584.
- Merriam, S. B., & Grenier, R. S. (2019). *Qualitative research in practice: Examples and analysis*. San Francisco: Jossey-Bass Publishers.
- Ministry of Education, Malaysian Education Development Plan (PPPM) 2013 to 2025, <https://www.moe.gov.my/en/dasarmenu/pelan-pembangunan-pendidikan-2013-2025>.
- Moser, A., & Korstjens, I. (2018). Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *European Journal of General Practice*. 24(1): 9-18.
- Nixon, R. S., Luft, J. A., & Ross, R. J. (2017). Prevalence and Predictors of Out-of-Field Teaching in the First Five Years. *Journal of Research in Science Teaching*. 54(9): 1197-1218.
- Papastergiou, A., & Pappas, V. (2019). A comparison of sighted and visually impaired children's text comprehension. *Research in Developmental Disabilities*. 85(6): 8-19.
- Pilewskie, A. (2017). A discussion about the evolving roles of teachers of students with visual impairments. *Journal of Visual Impairment & Blindness*. 111(3): 294-298.
- Porsch, R., Whannell, R. (2019). Out-of-Field Teaching Affecting Students and Learning: What Is Known and Unknown. In: Hobbs, L., Törner, G. (eds) *Examining the Phenomenon of "Teaching Out-of-field"*. Springer, Singapore. https://doi.org/10.1007/978-981-13-3366-8_7
- Radojichikj, D. D. (2015). Students With Visual Impairments: Braille Reading Rate. *International Journal of Cognitive Research in Science, Engineering and Education*. 3(1): 1-5.
- Silalahi, R. M. (2019). Understanding Vygotsky Zone of Proximal Development for Learning. *Tolyglot: Jurnal Ilmiah*. 15(2): 169-186.
- Roe, J., Rogers, S., Donaldson, M., Gordon, C., & Meager, N. (2014). Teaching Literacy Through Braille in Mainstream Settings Whilst Promoting Inclusion: Reflections on Our Practice. *International Journal of Disability, Development and Education*, 61(2), 165-177.
- Rosenblum, L. P., Cheng, L. & Beal, C. R. (2018). Teachers of Students with Visual Impairments Share Experiences and Advice for Supporting Students to Understanding Graphics. *Journal of Visual Impairment & Blindness*. 112(5): 475-487.
- Sikanku, S. T. (2018). Challenges in Teaching Pupils with Visual Impairment in Inclusive Classroom: The Experience of Ghanaian Teachers. *Research on humanities and Social Science*. 8(11): 43-48.
- Silman, F., Yaran, H. & Karanfiller, T. (2017). Use of Assistive Technology for Teaching-Learning and Administrative Processes for the Visually Impaired People. *EURASIA Journal of Mathematics, Science and Technology Education*. 13(8): 4805-4813.
- Stoke, L. R. E., Suh, J. M. & Curby, T. W. (2020). Examining the nature of teacher support during different iterations and modalities of lesson study implementation. *Professional Development in Education*. 46(1): 97-111.
- Temesgen, Z. (2018). School Challenges of Students with Visual Disabilities. *International Journal of Special Education*. 33(3): 510-523.

Overschelde, J. P. & Piatt, A. N. (2020). U. S. Every Student Succeeds Act: Negative Impacts on Teaching Out-of-Field. *Research in Educational Policy and Management*. 2(1): 1-22.