

Immigrant Teachers' Experiences Teaching Science in Secondary
Schools in Auckland, New Zealand.

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MEd

2021

School of Education

A dissertation submitted to Auckland University of Technology in partial fulfilment of the
requirements for the degree of Master of Education.

ABSTRACT

The study focused on the science learning area of the New Zealand Curriculum (NZC) and how overseas-trained teachers, who were recent immigrants to New Zealand, adapted to teaching science in the Auckland classroom. It would help to gain a better understanding of the transitional experiences of these teachers. The research was a qualitative study based on phenomenology. A series of semi-structured and open-ended interviews were conducted with two Auckland-based high school science teachers who were recent immigrants to New Zealand. The data from the interviews was analysed and presented using an interpretivist approach.

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ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed:

(Sujatha Mahalingam)

ACKNOWLEDGEMENTS

To Jyoti Jhagroo, my supervisor, for her guidance and support throughout the whole dissertation process.

My husband and children, who believed in me and motivated me till the end of the process.

The two teachers who took the time to grant me the interviews and without whom this dissertation would not have been possible.

All the lecturers throughout my Master of Education journey who have in one way or another, contributed to building my knowledge in order to complete this dissertation: Lyn Lewis, Neil Boland, Ruth Boyask, Leon Benade.

Carrie Swanson whose mentorship during the Summer Internship has guided me through this dissertation.

Ethics approval for this study was awarded by Auckland University of Technology Ethics Committee. Ethics Application Number: 20/336. Date of Approval: 23 October 2020.

CHAPTER 1: INTRODUCTION

New Zealand has often looked for overseas-trained teachers to fill the teacher shortage within the country. According to Education Review Office (2020) the shortage was caused by a rise in demand for teachers in schools and the lack of local teachers to fill that demand. In 2018, it was estimated by the New Zealand Ministry of Education that 850 more teachers were needed in 2019 to meet this demand due to an increase in student numbers in schools. This has been reiterated by the Ministry of Education's (2016) working group report which stated that there were not enough new teachers to meet the demand in sciences, mathematics and technology. The recruitment agency, Education Personnel, was also quoted in the same report that increasing the recruitment of overseas-trained teachers may provide a short-term solution to meet the demand (Ministry of Education, 2016). It is also crucial to mention at this point that New Zealand had preferred to source for overseas-trained teachers from countries such as the United Kingdom, Ireland, Canada, South Africa, Australia and Fiji. This was due to the similarities in the teaching qualifications of these countries to New Zealand and the ease of "the acquisition and acclimatisation process" (Education Review Office, 2020, p. 2).

However, the current COVID-19 pandemic had made the New Zealand government close its borders to all non-residents and non-citizens on 19 March 2020 (New Zealand Herald). The borders are unlikely to re-open anytime soon and only citizens, residents and a small number of limited exemptions are still allowed to enter the country (Unite Against COVID-19, 2020) and this current situation has rendered it impossible to allow new immigrant teachers to enter in 2020. However, the situation may change in 2021.

Since there already are a substantial number of overseas-trained teachers teaching in New Zealand, the study focused on the transitional experiences of a small group of these immigrant teachers who are already teaching science in high schools in Auckland. This inquiry will attempt to explore how these overseas-trained teachers, who were experienced science teachers in their countries of origin, adapted to science teaching in the New Zealand environment. The focus of the study will be on the science learning area of the New Zealand Curriculum (NZC) and how these new immigrant teachers managed to overcome the transition of teaching science in their own countries, to teaching science in Auckland, New Zealand. The purpose of this investigation is to gain greater conception of how immigrant teachers adapt to teaching science in New Zealand. The sharing of the experiences of these teachers will assist other immigrant teachers to contemplate their own teaching practices within the New Zealand context.

The overarching question for this study is: How do new immigrant teachers transition from teaching science in their home countries, to teaching science in the New Zealand classroom? The sub-questions were as follows:

- How does the science learning area in the NZC compare to the science curriculum of their home country?
- What are some of the teaching and learning experiences of recent immigrant teachers from a range of countries, in their science classrooms in Auckland?
- What are some of the challenges that recent immigrant teachers face regarding teaching and learning practices?
- How have these immigrant teachers adapted to their new role as science teachers in New Zealand?

According to Cohen, Manion and Morrison (2018), some research projects are triggered by the personal experiences of the researcher or a particular subject that interests them. For this study, this is relevant for me as the researcher, as I am intrigued to discover the differences that may exist in science teaching here in New Zealand in contrast to that in Singapore, where I have all my teaching experience from. I had a vested interest in learning more about the experiences of other overseas-trained teachers who have adapted to teaching science in Auckland, as I have been a science teacher in Singapore for many years and am exploring the possibility of starting my teaching career here in New Zealand.

Having been a teacher in Singapore with several years of experience in the teaching of subjects such as science, biology and English, I have worked mainly with teenage students in secondary schools. After moving to Auckland, I had the opportunity to do some relief teaching work here in a few primary schools in West Auckland. It was then that I began to reflect more about my own experiences and beliefs associated to my teaching and learning practices. Considering that my personal teaching experiences back in Singapore was quite different from what I encountered in Auckland, I came to the realisation that my future teaching practice in New Zealand will definitely be influenced by my past experiences. According to Rallis (2018), the beginning stage of a conceptual framework begins with the researcher and is greatly determined by the researcher's own knowledge, experiences and interests that are related to the topic. Hence, my experiences as an overseas-trained teacher in New Zealand will help to contribute some understanding to this study.

This realisation evoked in me the need to discover how new immigrant teachers in Auckland, New Zealand, get settled into their teaching careers here. The underlying

assumption in this was that the teaching experiences of these immigrant teachers in their own countries would have been different to their experience in New Zealand. Furthermore, these new immigrants will go through the added challenges of acculturation while they try to adapt to living in a new country. A new immigrant teacher will encounter a transitional phase while trying to adapt to teaching in a completely new environment. Depending on their own backgrounds, most new immigrant teachers would endeavour to integrate into their new school community (Berry, 1997). In this study, I am intent on finding out how the immigrant teachers' own experiences of teaching in their own countries would impact their acquisition of the teaching and learning processes that are expected in their Auckland science classrooms. In addition to this, I am keen to learn more about how the overseas-trained teachers have adapted to teaching the science area in the NZC, as well as how the NZC is comparable to the their home countries' science curriculum. The findings in this study will shed more light through the valuable insights obtained from the immigrant teachers' own perspectives and this will help the schools that have employed immigrant teachers to modify their teacher induction programmes for new teachers to better suit the unique needs of these teachers.

The three reasons to conduct research described by Mutch (2005) are exploratory, descriptive and explanatory. This study idea will be mostly descriptive and explanatory. According to Mutch (2005), a descriptive research will describe a phenomenon in detail and an explanatory research will further explain through a context or cause and effect. The purpose of this inquiry will be to find out more details to further describe the phenomenon which is the transitional experiences of the overseas-trained science teachers as they pursue their teaching careers in New Zealand. Moreover, it will provide more clarification on the contextual factors that affect how well immigrant teachers manage the differences in the expectations of the science area of the NZC compared the science curriculum in their own countries. There will also be a better understanding of the challenges that these teachers face regarding teaching and learning practices.

The terms "overseas-trained teacher" and "immigrant teacher" are used interchangeably to refer to participants that were born outside of New Zealand, completed their teacher training outside New Zealand, are migrants to New Zealand and are currently teaching in high schools here in Auckland. These teachers will have to be registered with the Education Council New Zealand and their overseas teacher qualifications will have to be assessed by the New Zealand Qualifications Authority.

CHAPTER 2: LITERATURE REVIEW

When investigating on the available literature on research done on immigrant teachers, a number of themes surfaced. For the purposes of this literature review, I have selected the following themes: professional development and mentoring, teacher education / re-education programs, immigrant teachers' perceptions, and teaching experiences.

2.1: Professional Development and Mentoring

The importance of a structured mentoring system and professional development of immigrant teachers cannot be stressed enough, as proven by studies done in Canada and Australia (Oloo, 2012; Peeler & Jane, 2005). Some have even focused on career pathways for a particular group of immigrant teachers (Okamura & Miller, 2010).

Oloo (2012) stated that there was a demand to conduct studies on the experiences of immigrant teachers and to understand their careers better. The study was done in Saskatchewan, Canada, where Oloo (2012) posited that the experiences of immigrant teachers in the schools in Saskatchewan do not get enough attention. He proceeded to quote Elbaz-Luwisch (2004), who, in their study, had made the observation that the suggestion of immigrant teachers is not as common as one would expect as it "tends to go against the grain" (Oloo, 2012, p. 220). Elbaz-Luwisch (2004) asserted that teachers would be expected to be the "representatives of the culture" (Oloo, 2012, p. 220) and are tasked with the authority to pass on knowledge to the next generation. Thus, this would not be the type of duty entrusted to immigrants who are new to a culture. This explains why there is a shortage of studies done on immigrant teachers, especially studies aiming to give a first-person view (Oloo, 2012) on the careers of immigrant teachers' in the new country.

The aim of this study was to unravel and gain a deeper understanding of the immigrant teachers' reality of teaching in a situation that is dissimilar to the place that they themselves were educated in, such as Saskatchewan, Canada (Oloo, 2012). The qualitative study done by Oloo (2012) was carried out through narrative enquiry to determine more information about the experiences of the immigrant teachers. The open-ended questions allowed the participants to share their experiences and perceptions of teaching in Saskatchewan. By adopting Denzin's (2001) interpretive interactionism framework, Oloo (2012) was able to express and bring forth the emotions and voices of the immigrant teachers in his study. This study was a small-scale one, involving only two participants. However, the findings may have a larger impact as public policy makers would be able to come up with more suitable initiatives for overseas-educated

immigrants (Oloo, 2012), and in turn, assist these immigrants in their teaching careers in Canada.

On a related note, a study by Peeler and Jane (2005) in Australia, featured the significance of mentoring in immigrant teachers' professional development. According to Peeler and Jane (2005), just sharing knowledge would not be enough. The researchers maintained that this would not be reassuring for the immigrant teacher's self-perception of their professional life. The point that was highlighted in this study was that overseas-trained teachers are put at a disadvantage as they did not have the educational knowledge that is specific to the culture of the country. This would eventually affect their definition of self and their professional development. They also state that the teachers need to understand the social elements of teaching and learning in the local context and to learn to use them appropriately. As with Oloo's (2012) study, it was evident that the immigrant teachers would encounter cultural differences in pedagogy and their everyday lives that may impact their transition. This was cited as the main reason for the importance of good mentoring for immigrant teachers as this would help them to bridge the gap between their past experiences and current teaching practice. Hence, it would enable the teacher to work more productively in their new environment. Professional support "is positively correlated to immigrant teacher success and the possibility of cultural exchange" (Mulder, 2009, quoted by Oloo, 2012, p. 231).

For their research, Peeler and Jane (2005) conducted a case study with a small group of immigrant teachers, and provided neutral surroundings for the focus group meetings and oral narratives. It was obvious that the study was qualitative in nature and the goal was to investigate the immigrant teachers' experiences with the mentoring relationships that they had come across. The participants' oral narratives backed up Peeler and Jane's (2005) assumption of the importance of mentoring relationships. Along with benefits for the whole school community, personal benefits for the immigrant teacher were also the outcomes of this research.

On the other hand, a certain research by Okamura and Miller (2010) had a varied method as the aim was to study the lived experiences of a group of immigrant teachers from Japan in New Zealand, and to feature how the career paths of these teachers are influenced by their culture. The theories backing this research included career development theories, social cognitive learning theories and systems and constructivist theories. In contrast to the other two studies that worked with immigrants from various countries, this research concentrated on the career development strategies that one group of immigrant teachers adopted. Okamura and Miller (2010) explored the cultural issues and cultural influences that affected the careers of Japanese immigrant teachers

extensively. This enabled to enhance the understanding of this specific group of immigrant teachers.

Instead of interviews alone, Okamura and Miller (2010) had created a questionnaire that permitted them to gather more data on the socio-demographic attributes, and career experiences of these Japanese-speaking immigrant teachers in New Zealand. This study used a mixed-methods approach, which was not explicitly shown, by comprising both quantitative (questionnaire) and qualitative (interviews) methods of data collection. This study delved more in-depth into how immigrants might develop their career paths in a different cultural environment and adapt to work effectively in a new country. Readers who work with culturally diverse clients would be able to gain more information from the approaches adopted by the Japanese immigrant teachers to develop their teaching careers in New Zealand. Likewise, Oloo (2012), as well as Peeler and Jane (2005) have also called attention to the importance of allowing the immigrant teacher to adapt to the new culture by creating effective mentoring relationships.

2.2: Teacher Education / Re-education

In their quest to continue their profession in their new countries, many immigrant teachers have had to undergo teacher re-education programs (Marom, 2018) or have been required to improve their qualifications to gain accreditation to teach in the new country (Cruickshank, 2004).

The research by Cruickshank (2004) was positioned to point out the concerns that overseas-trained teachers faced in upgrading their qualifications to be accredited in Australia (Cruickshank, 2004) so that they would be allowed to teach in Australian schools. The other aim of the study was to assess how the teacher education programs respond to these concerns. Overseas-trained teachers who had to upgrade their overseas qualifications so as to be authorised to teach in Australia were the participants of this study. A qualitative methodology was adopted by Cruickshank (2004) in this study which shared some similarities to other studies that had been discussed prior.

The objective of this study was to carry out a qualitative program evaluation, through semi-structured interviews with the participants, which allowed them to give their views about the programs. The participants also took part in focus group discussions that enabled them to share and expand on their ideas. Furthermore, the participants did questionnaires, which permitted empirical data collection on this issue. Cruickshank's (2004) research tried to recreate studies done in Canada, the United Kingdom, the United States of America (USA) and Israel on teacher education programs for overseas-

trained teachers, to improve the pathways for immigrant teachers to continue in the profession in the country they had immigrated to. In this process, he highlighted an important point; that for the teacher education program to be successful for overseas-trained teachers, it has to be flexible in organization as these teachers are not a homogenous group.

In addition to bringing up an issue that has been mentioned in several studies on immigrant teachers, which is the fact that the ethnic diversity of the teaching population has not been consistent with that of the student population, Marom (2018) contended that the differences in the ideologies of the “good teacher” in terms of Western-Eastern conceptions could accompany and strengthen each other, especially in multicultural setting such as in British Columbia, Canada. This matter of teacher-education program evaluation for overseas-trained immigrant teachers was adopted differently from Cruickshank’s (2004) study which played a more evaluative role. Marom’s (2018) study highlighted the varied formulations of what a “good teacher” should be (both Western and Eastern). However, Marom (2018) also discussed that the Eastern conception of what a “good teacher” was supposed to be were not viewed as exemplary, and thus, the immigrant teachers did not get any chance to share their experiences or have a say in rebuilding their identities as teachers in Canada. According to Marom (2018), many Western countries that are trying successfully to diversify the teaching profession to keep abreast with the diversity of the student population, are concerned with the ability of internationally-trained teachers (IETs) to be able to recertify and find jobs in a new country. In order to enable the participants’ voices to be heard, Marom (2018) carried out one-to-one semi-structured interviews that allowed the conversations to evolve in different directions.

The pedagogical hurdles that surfaced between the Eastern and Western ideologies of good teaching were also explored by Marom (2018). Marom (2018) believed that it was necessary to include IETs (especially from East and South Asia) into the education system as it was a way to promote teacher diversity within the teaching profession in British Columbia.

Marom’s (2018) study’s theoretical framework was mainly based on the ideas of the “good teacher” and professionalism. As part of a larger, qualitative case study of the teacher education program by the University of British Columbia, this study reviewed only one teacher education program. However, it brought up a valid point by recommending that the teacher re-education programs should take advantage of the opportunity to promote a better comprehension of the variety of teaching styles adopted by the overseas-trained teachers. This would also create greater prospects for pedagogy and improve the diversity of the educational systems. This was an important inclusion in

this study that asserted the need to be more accepting of overseas-trained teachers' prior experience, which will help with their integration into the new education system.

2.3: Immigrant Teachers' Perceptions

Immigrant teachers' perceptions can greatly affect their teaching practice in their new countries, as substantiated by some research done in various parts of the world. The teachers' perceptions on the different curriculum (Makonye, 2017), how teachers perceive teaching in another country as opposed to the one they are teaching in (Liu, Dervin, Xu, & Moloney, 2019) and their interpretation of their own potential (Abramova, 2012) play a huge part in how well the immigrant teachers can integrate in the new education system.

Makonye (2017) did a study which dealt with how Zimbabwean immigrant teachers perceived the mathematics curriculum of South Africa. Since the mathematics curriculum in Zimbabwe is very unlike that in South Africa, it required these immigrant teachers to adapt to the new curriculum in order to be effective in their new jobs. Immigrant teachers from Zimbabwe teaching mathematics in South Africa were the participants in this study. The Zimbabwean immigrant teachers shared on what they had to do to adapt to the teaching and learning of mathematics and how they were regarded and treated in their schools in South Africa. The study also investigated the views these teachers held about the South African mathematics curriculum.

Bernstein's framework of curriculum classification which enables the framing of the curriculum depending on the amount of control teachers and learners have on the learning process (Bernstein, 2000) was adopted by Makonye (2017). Bernstein's classification informs us about how distinct from or integrated with each other some subjects in the curriculum are. Makonye (2017) mentions that adopting Bernstein's theoretical framework is appropriate to the research because a teacher's own mathematics educational background will have a significance on how they perceive the relevance of a mathematics curriculum. According to Makonye (2017), the Zimbabwean teachers teaching the South African mathematics curriculum would experience some amount of tension due to the differences in the Zimbabwean and South African curricula. It is expected that when a teacher immigrates to another country, the curriculum differences may require some amount of getting used to and this study highlighted how the teachers perceived these differences and adapted to appreciate the strengths and merits of the new curriculum.

Formal and informal, semi-structured interviews were carried out to obtain data for this study. With the help of the interviews, Makonye (2017) was able to determine the participants' opinions about what the similarities and differences between the two curricula were, and the assessments and implementation.

A research by Liu et al (2019) focused on a different perception than the study by Makonye (2017) the perception of immigrant teachers of the teaching practice in another country. The study by Liu et al. (2019) concentrated on the perceptions of Chinese immigrant teachers in Finland and how they regarded the teaching of Chinese language in Finland and in Australia. The belief of these immigrant teachers seemed to be that it was better to teach in Australia than in Finland. It was postulated that their beliefs may have been influenced by a series of factors.

A critical intercultural theoretical perspective was adopted by Liu et al (2019), and it moves past the expected "culture shock" and "adaptation" models to appreciate and explain the immigrant teachers' experiences. The concepts of teacher beliefs and ideologies (Holliday, 2010) are adopted in elucidating the perceptions of Finland-based Chinese teachers about teaching in Australia.

Within the critical interculturality paradigm, Liu et al (2019) took an interpretative and contemplative perspective to analyse the dialogues of the Chinese immigrant teachers. The teachers' conversations reflected their thoughts, feelings, and needs in a particular situation, for fixed purposes and showed how they perceived the world around them.

Abramova (2012) did a study focusing on a group of immigrant teachers who were from Russia, teaching in the USA. The study analysed how they perceived their own potential and how their teaching practice was affected. Abramova (2012) investigated the experiences of Russian-speaking immigrant teachers before and after they had immigrated to the U.S. by analysing the factors that framed their beliefs about education in various circumstances.

Curriculum theory, multicultural theory, and Mikhail Bakhtin's theory of language formed the basis for the conceptual framework for this study. Abramova (2012) applied curriculum theory to investigate a teacher's life experience and how it affected her participants' teaching. This was in some ways similar to what Makonye (2017) did in their study. Multicultural theory enabled Abramova (2012) to scrutinize the participants' beliefs and experiences and the impact on their socio-political conditions, in addition to how they are motivated to hang on to their cultures. The theory of language allowed the researcher to explore more about how language can be used as a tool that permits individuals to re-establish their beliefs and experiences (Abramova, 2012). This was similar to the

approach taken by Liu et al. (2019) in their analysis of the Chinese immigrant teachers' discourses.

Together with narrative inquiry, a life history approach was selected by Abramova (2012). The researcher was able to appreciate the experiences of the participants in their own terms and to establish and re-establish their meanings. It was possible to put the participants' beliefs in context due to the qualitative research design. In this research design, it was critical that the voices of the participants be strongly heard as Abramova (2012) had specified that there were very few studies exploring the immigrant teachers' potential and how it was reflected in their current teaching practice.

2.4: Teaching Experiences

The personal and teaching experiences of the immigrant teachers have been explored in various ways in studies done in the USA, Australia, New Zealand and Israel. This included the actual classroom teaching experiences of immigrant teachers, how their experiences influenced their current teaching practices (Jhagroo, 2016; Kern, Roehrig & Wattam, 2012) and the difficulties they faced as they tried to adapt to a system that is dissimilar from what they are used to (Collins and Reid, 2012; Elbaz-Luwisch, 2004).

An ethnographic case study was conducted on an Asian immigrant teacher by Kern et al. (2012). This study focused on the personal expectations and beliefs of the immigrant teacher influencing his student expectations and the teaching and learning methods that he used. The study done in the USA, entailed a series of classroom observations and post-observation interviews that lasted more than twelve weeks.

The true tradition of an ethnographic approach requires that the researchers had to explore their own experiences, backgrounds and beliefs. Having been science teachers themselves, Kern et al. (2012) believed that teachers wanted to do their best for the students. Two researchers in the group were immigrants to the USA and were able to understand their participant better through this access.

On the other hand, Collins and Reid (2012) did a study on the immigrant teachers in Australia. They posited that there were no current, in-depth studies done nationwide focusing on the experiences that immigrant teachers encountered in Australia.

The research by Collins and Reid (2012) studied the various stages of experiences by the immigrant teacher, starting from their resolve to move to Australia and getting their qualifications recognised with the Australian Education Departments, to their classroom experiences as teachers and their lives in Australia. Collins and Reid (2012) conducted fieldwork with immigrant teachers in Western Australia, South Australia and New South

Wales over a period of one year. Qualitative and quantitative analysis were carried out on the data to study the immigration experience, teaching experiences and live in Australia.

Quantitative analysis in the form of surveys were used to generate data on the participants' general information (Collins & Reid, 2012). For example, information such as where the participants previously taught, which curriculum area they received training in, their teaching qualifications and their nationalities. Graphic charts were used to present this data in distinct categories. This was clearly a mixed methods approach.

Collins and Reid (2012) used a qualitative approach to find out more detailed and personal information from their participants. Structured to semi-structured interviews were conducted with their participants, and they asked questions such as, "What difficulties, if any, have you faced as an immigrant teacher in Australia?" (Collins & Reid, 2012, p. 50). They analysed the replies and reported the common responses. For example, a number of participants had "problems with the bureaucratic systems and processes that they encountered in Australia schools" (Collins & Reid, 2012, p. 50). The challenges encountered by the immigrant teachers were mainly "discrimination/racism, employment difficulties, and lack of support" (Collins & Reid, 2012, p. 50). These similar themes were also identified in Jhagroo's (2016) study conducted in New Zealand.

Jhagroo (2016) sought to acquire a more comprehensive understanding of the challenges that immigrant teachers in New Zealand encountered. Other studies done in New Zealand have not really investigated that angle. Jhagroo's (2016) positioning of the study within the hermeneutic paradigm materialized from the idea that realities are divergent, and they depend on the person who is creating it (Van Manen, 1990, as cited in Jhagroo, 2016). The analysis of these realities forms the many sides of the lived experiences (Jhagroo, 2016).

With the aim of understanding the opinions and the challenges the participants faced in the New Zealand classroom, Jhagroo's (2016) study explored their past teaching and learning contexts. It would be possible through these teachers' contributions to the teaching and learning context, to create new ideas for professional learning and teacher education programmes for immigrant students.

Jhagroo (2016) had indicative questions to ask the participants which allowed them to talk freely about their experiences as teachers in New Zealand. The detailed analysis of the participants' sharing during the interviews, enabled Jhagroo (2016) to find out similar ideas focusing around attitudes and beliefs, curriculum, and student-centred learning. The researcher came to the conclusion that in spite of adapting to new pedagogical approaches which posed challenges to their own teaching and learning beliefs, the

immigrant teachers in the study have positively adapted student-centred learning in their own teaching. At the same time, the immigrant teachers in the study, who were mainly of Asian ethnicity, seemed to bring up having to deal with negative attitudes towards their ethnic, cultural and ethnic backgrounds. This issue was also mentioned in Collins and Reid's (2012) study.

Finally, Elbaz-Luwisch's (2004) contribution to the immigrant teacher's experiences was to examine their thoughts of "self" and "place". Due to the explanation given by Elbaz-Luwisch (2004) with regards to the lack of studies done on immigrant teachers, this article has been cited by several other articles. As teachers are responsible in passing on cultural knowledge to the younger generation, it is uncommon to have teachers from a culture that is different from the mainstream culture. However, Elbaz-Luwisch (2004) stated that Israel is a country that is made up of immigrants and the article examined the stories of immigrant teachers in Israel. Likewise, for all the studies explored in this review, where immigrant teachers were in Canada, the USA, Australia, New Zealand, South Africa and Finland.

A sense of the teacher in a place, which is a certain meaningful location for the person inhabiting it, is an important factor but has often been forsaken in modern education (Elbaz-Luwisch, 2004). Over the span of many years, Elbaz-Luwisch (2004) gathered a lot of life story material from immigrant teachers. The material was gathered through numerous interviews by the researcher and the researcher's students, in a series of open-ended life story interviews. The life stories were scrutinised to make sense of the adaptation processes and other themes or critical events that materialized. Much like Jhagroo's (2016) research, the purpose was to find out the immigrant teachers' experiences from their own teaching and learning contexts and place.

The focus of the life story approach was centred on the way the participant chose to tell his or her story and "the structure of the story, language, metaphors, characters" (Elbaz-Luwisch, 2004, p. 394) revealed an abundance of information about the participant who was telling the story (Elbaz-Luwisch, 2004). The researcher disclosed that the storyline guides the direction of the story and it is open to many different types of analysis. The analyses revealed several themes, including learning how to behave and conflict with the system. Elbaz-Luwisch's (2004) study helped to highlight the sense of place that may help the main community to have a better understanding of how teachers are able to make a difference in their work, and what averts them from doing so.

Finally, through the course of this literature review, I had gathered some emerging themes such as career and professional development of immigrant teachers, mentoring for new immigrant teachers, teacher re-education programmes for immigrant teachers,

immigrant teachers' perceptions of their own teaching practices and their teaching experiences in the countries that they have immigrated to.

Through this process, I had discovered several methods that the researchers had adopted as they endeavoured to understand and elucidate the many issues that surround immigrant teachers. Most of the studies were qualitative, but there were a number of quantitative approaches that were also used to garner data. This has contributed to my opinion that qualitative studies can also include some forms of quantitative data collection methods, in a somewhat mixed methods approach.

The numerous methodologies that were utilised by the researchers provided more clarification on how qualitative studies can be carried out. These processes included but were not limited to methodologies such as ethnography, life story, narrative inquiry, life history approach, case study, and etc. The time frames for the studies were also varied, lasting from a few weeks to a few years.

Although the studies conducted on immigrant teachers around the world have different focuses, most of them share a similar goal: that is to improve the overall understanding of the strain that these immigrant teachers put up with in their new environments, and for these teachers' new countries to put forth proper processes in order to help them adapt to the teaching pedagogies, as their valuable experience that should be harnessed and not overlooked.

CHAPTER 3: METHODOLOGY

The purpose of this study is to describe further, the phenomenon of the transitional experiences of the immigrant teachers while they are teaching science in New Zealand, and will provide further clarity on the situational factors that affect how well (or otherwise) immigrant teachers cope with the differences in the science area of the NZC, as opposed to the science curriculum in their own countries. It will also attempt to gain more coherence on the challenges faced by these teachers with respect to teaching and learning practices.

Through the literature review, it was apparent that there were few studies on immigrant teachers focusing particularly on teaching science. This equipped me with the necessary foundation to build knowledge (Ellinger & Yang, 2011) in this topic. Hence, I firmly believe that by doing this research, I will be able to find out current data which will be an addition to the body of knowledge (Newby, 2014) on the immigrant teachers' experiences in teaching science in New Zealand.

According to Mutch (2005), the focus of educational research is the context and the application of teaching and learning, with the specific goal of enhancing systems and practices. The motivation of this research is to expand the perception of how overseas-trained teachers in New Zealand adapt to teaching the science curriculum. The disclosures of these teachers will assist other new immigrant teachers to contemplate on their own teaching practices and improve them.

Having studied the literature around philosophies and theories, my deduction is that the humanistic philosophical position is suited to this study. The focus of the humanistic enquiry is on the world we live in, the world we produce and the world we experience (Newby, 2014). I believe this study will gain from this approach as our knowledge of the world is obtained through what we experience and feel in our minds

Newby (2014) conceded that phenomenology is closely associated to the humanistic position. Phenomenology is connected to how we experience the world, rather than the real idea of how the world really is (Newby, 2014). It is also concerned with the meanings that we associate with our experiences (Newby, 2014). According to Adams and van Manen (2012), Martin Heidegger (1889-1976) was concerned with how the living being would choose to reveal itself as a being. Heidegger started in the field of phenomenology but eventually went on to found a branch known as hermeneutic phenomenology that was concerned with highlighting the minute details in people's lives aimed at constructing meaning and gaining a better understanding (Wilson & Hutchinson, 1991, as quoted by Laverty, 2003). Heidegger also postulated that it is important to make sense of a person's background understanding while learning more about their experiences

(Laverty, 2003). This delves deeper into why a person would choose to associate their experience in such a way. This study also aspires to gain a deeper understanding of why the immigrant teachers have shared the particular experience and what they had gone through.

In this research, the data that is collected through the interviews will be subjected to interpretation by the researcher, which will be suited to an interpretivist approach. An interpretive research makes the assumption that reality is constructed socially and there is no one, visible reality (Merriam & Tisdell, 2016). This study is interested in the explanations and the multiple realities related to being an overseas-trained science teacher in New Zealand. In addition, Daniel and Harland (2017) have stated that in qualitative research, the researcher will interpret conceptual ideas and data, and present it to the reader. The nature of this study will also involve interpretation of the data received through the interviews with the participants.

A term that is reciprocally used with interpretivism is constructivism (Merriam & Tisdell, 2016). Constantino (2012) has stated that a phenomenological methodology is commonly used in the constructivism paradigm, as the researcher asks the participants to reflect on their experience of a certain phenomenon and describe what was most significant to them in the interview studies. This is the methodology that would be adopted for this study the participants' views would be shared more efficiently through interviews. There would be a set of interview questions to guide the researcher on the information required from the participants, as suggested by Partington (2001), who stated the need to create a framework for the participant to respond.

People usually understand the experiences of others by basing it on their own experiences (Eberle, 2013). The information is not readily available to the researcher, and thus, it needs to be conveyed. The interview method of data collection will permit some useful themes to emerge during analysis. These themes would be analysed and reported in the study. As mentioned earlier, the data will be interpreted by the researcher.

According to Hershberg (2014) there needs to be a significant emphasis on the relationship between the researcher and the participants in such constructivist approach studies and how these relationships affect the kind of data generated during and after the study. Thus, the phenomenology methodology would enable the interview method of data collection and would emphasize on building relationships with the participants in order to attain better research outcomes.

The chosen paradigm would be qualitative and interpretive. According to O'Reilly (2012), the term interpretivism refers to theories about gaining knowledge of the world and relies on interpreting and understanding these meanings that people bind to their actions. In

this study, the purpose is to interpret and understand the meanings that the immigrant teachers attach to their work as overseas-trained science teachers in Auckland schools.

To find participants to take part in this research, emails were sent to numerous high schools and colleges, seeking the principals' permission to conduct this study and to forward the necessary information on to the relevant teachers in the schools. Several principals responded positively and through them, one suitable participant responded via this channel.

The second participant for this study was an acquaintance of the researcher and in order to invite her to participate in the study, an email was sent to the head of her school, explaining about the study and eventually, this participant was included only after consent was given by the head of the school to proceed with the study. Due to the phenomenological and interpretivist focus of this study, there was no need to acquire a large number of participants and the personal experiences of these two overseas-trained teachers provided the required data.

The research method will be semi-structured and open-ended interviews, to be conducted with the two new immigrant teachers who are currently teaching science in Auckland high schools. The definition of new immigrant teachers was set to refer to overseas-trained teachers who have been teaching in New Zealand for less than three years.

Due to the current COVID-19 situation around the world, there was a necessity to offer the participant the option to have the interview via the online video communications application, "Zoom", instead of the preferred face-to-face method. This was to ensure that the participant will feel safe and it will not inconvenience them in any way. The participants were to indicate which method of interview they would prefer, and the researcher will arrange accordingly.

The interviews would also be recorded with the participants' permission, so that the interview can be transcribed for data analysis purposes. The participant will also be able to withdraw any statement that was made, and this would not be included in the study.

A thematic approach was carried out after analysing the information shared by both the participants. According to Merriam and Tisdell (2016), the main way to approach qualitative data analysis is by identifying patterns, themes or answers to research questions. It is imperative to analyse data by identifying repeated patterns that are characteristic of the data. The final interpretation will reflect the researcher's comprehension of what the participants understood about the phenomenon (Merriam

and Tisdell, 2016). In this case, recurring themes will be identified in the participants' interviews and the data will be analysed thematically.

CHAPTER 4: FINDINGS

This study is based on the narratives of two immigrant teachers teaching science in Auckland high schools. The two participants in this study are both from completely different teaching and learning backgrounds and have varied experiences. For the purposes of this study, each teacher will be identified by a pseudonym.

The first participant is a teacher from the United Kingdom (UK) which is the preferred country that New Zealand has been sourcing for overseas-trained teachers from (Education Review Office, 2020). For this study, she will be referred to as “Katherine”. She has been teaching science in an Auckland private school in the North Shore for about two and a half years. Prior to that, she has had approximately five years of teaching experience in the UK. Her first language is English, and she had done her initial teacher training in the UK and had worked in a variety of schools, including a girls’ grammar school, as well as normal co-educational schools in different areas. In her first year of teaching, she had worked in a poor, working class area with a mainly white demographic. Subsequently, she moved to London and taught in schools with a mix of students, in terms of ethnicities and abilities. She had applied to teach in New Zealand while she was still in the UK and had been offered the job when she was able to attend the interview while visiting Auckland.

Katherine responded via email to the flyer that was forwarded by the principal of her school, as requested by the researcher. After determining that she has been teaching science in New Zealand for less than three years, a suitable time was arranged for the interview. She chose to be interviewed via “Zoom”.

The second participant is a teacher from Singapore, who will be referred to as “Asha”. She has been teaching in Auckland for about two years. In her first year here, she taught at a high school in South Auckland and has since moved on to teach in a non-mainstream, private school which uses an alternative teaching method and is based in the North Shore. It took her six months to find her first teaching job in New Zealand while she was still in Singapore. Prior to moving to New Zealand, she had been teaching in Singapore for about fifteen years in public, as well as independent schools. She has the experience in teaching the International Baccalaureate (IB) programme, as well as the General Certificate of Education (GCE) examinations which most students in the Singapore secondary schools and junior colleges (high school equivalent in New Zealand) sit for. She also has native speaker level of competency in the English language and teaches science. She, too, chose to be interviewed via “Zoom”.

Both the interviews were recorded using the function in the “Zoom” application which allowed the audio recording of the session. Each of the recordings were then transcribed by the researcher and used for data analysis. This was done after checking with the participants if they are comfortable with what they had shared. Both participants were fine with the content and the data was used for analysis. As the participants came from very different teaching backgrounds, they both expressed different issues during their interviews. The purpose of this study is to find out, from these two participants’ points of view, their own transitional experiences and how they are coping with their teaching career here in New Zealand.

In analysing the data from the interviews, it was evident that the backgrounds of the two teachers had an effect on their teaching and learning practices, and their experiences teaching science here in Auckland.

To make the analysis of the findings from the interviews with these two participants more organised, a thematic approach was adopted. The themes that were identified are as follows: Student behaviour and competency, curriculum and assessment, mentoring and induction, and advice for other immigrant teachers.

4.1: Student behaviour and competency

Aside from the obvious discussion on the curriculum differences between their countries of origin and New Zealand, another striking difference that both the participants brought up were the students. For Katherine, having taught in the UK, she said the students in New Zealand were “a refreshing change”. She went on to describe the students that she had to deal with in her teaching experience back in the UK:

“In the UK, they were a lot older, not necessarily in a good way. They’re not very naïve, the kids in the UK. They are quite streetwise, and they’ve been exposed to more.”

In comparison, she describes the students in New Zealand as follows:

“Then, when I started in New Zealand, it was refreshing in that the children were as you would kind of expect kids to be at that age. There’s less of that kind of exposure, I guess to real life and they were more at sort of a level you would expect. And that was what was refreshing, and that was good.”

She went on to add the difficulties she had in her role as a teacher in the UK:

“... the teaching is quite different. You have to be a lot more profound in the UK. You’re partially a social worker, as well as a teacher for a lot of it. And, that’s a really, really important part of your job in the UK. There’s a lot of safe-guarding...”

In contrast to her students here in New Zealand, her students in the UK had “monetary issues” and were “on the schools’ free meals programmes”. She also mentioned cases of children being involved in gangs and being arrested. In response to how she felt teaching in the UK:

“... it was an environment that became quite difficult to work in after a long period of time. It’s very draining, it requires a lot of you emotionally.”

The difference in her students here in New Zealand could be attributed to:

“... because it’s an independent school, tend to be from high decile equivalent, I guess. There aren’t any issues here in terms of behaviour, just the occasional one. They tend to come from quite good, supportive families, so you do get a lot of parental support and a lot of parental interest, as well. Generally, it’s quite a nice community to be a part of, with quite holistic, you know, teaching.”

Here, there is a stark contrast in her teaching experience in the UK and here in New Zealand. It is evident that due to the school environment that she is currently teaching in, she is able to do more holistic teaching, as opposed to her experience in the UK where she spent a lot of time being a social worker and safe-guarding. It is evident that looking at Katherine’s prior experience, her teaching job here in New Zealand is less emotionally draining and allows her to focus more on teaching.

In terms of science teaching in her school, Katherine noted that some students had been to “middle school (intermediate school) and have never done science. In her school, they teach science at Year 7 but there are students that come in at Year 9, completely new to the subject. She also brought this up as a big difference as in the UK, the students learn science from an early age.

This sentiment was also reflected by Asha, as she recalled how she got a rude shock when she realised in the second science lesson that her Year 9 students did not understand what was going on during their science lesson.

“... I went in with the assumption that they would have an idea of what science is...; And it was only after the second lesson, towards the end of the second lesson that I realised that these kids have never been exposed to science prior.”

In comparison to her students in Singapore, where Asha was a teacher from:

“Whereas in Singapore, it’s such a different thing, right, where they would have been exposed to all these things.”

Asha also went on to discuss how the students in New Zealand would have done fun science experiments in primary school, just to trigger their interest but there was “no conscious curriculum or core objectives that they needed to fulfil in the primary school.”

Asha’s views were also similar to Katherine’s in acknowledging that there is a gap in the students’ knowledge of science when they move to high school level.

“I felt there was a huge gap because science was not taught as a subject in the primary school.”

Asha’s teaching experience with her students was somewhat different from Katherine’s as they were from very different backgrounds and are from another part of Auckland (South Auckland). The school that Asha taught in was also a state school and not of a very high decile level. Hence, Asha’s observation of the students’ competencies was as follows:

“In Year 11, I had students who could not spell. So, literacy levels are really low because they are not doing enough in terms of reading and writing in the pre-school years and in primary school years, it just follows through. And until Year 11 it’s not addressed.”

Asha also highlighted the fact that, working in a South Auckland school, there were challenges with gaining the rapport of the adolescent students, but she managed to overcome this issue. Here, she was hinting on the lower decile level of the school and family backgrounds of these students would be very different from Katherine’s students who had supportive families. Hence, Asha would need to put in greater effort in gaining the support of these children who come from challenging backgrounds.

“... the biggest block that initially teachers will see is, when working with adolescents is the rapport where students are happy to come to your class, students don’t want to fight with you. So, let me remind you, I was in a school in South Auckland, okay, so, it was full of... but I managed to cross that. So, I just enjoyed the 3 terms with the students.”

Hence, by gaining the rapport of her students, Asha was able to enjoy her time in the mainstream school in South Auckland before moving to a non-mainstream, independent school in North Shore.

4.2: Curriculum and assessment

Since Katherine had been teaching in the UK, she did not find much variation in the school models. There were some slight differences unique to New Zealand, as expected in any new country but the teaching aspects were quite similar. However, she noted that the content that was required in her lessons were very different from that in the UK.

“... more chilled in terms of the amount of data I’m supposed to put in for them”, which meant that the content of her science lessons was a lot lesser in New Zealand.

In response to the question, “How similar or different was the teaching of science in your home country compared to that in New Zealand?”, she gave the following responses.

“... it’s more rigorous in the UK for sure, it’s structured...”

“... I don’t necessarily think that the way it’s done in the UK is better by any means but certainly the kids that want to do science at a higher level in the university, they are definitely doing more science lower down, I think. Just there’s a much higher requirement in terms of concepts they learn and what they have to do, in terms of examinations. There’s a really strong push.”

In comparison, she felt that the National Certificates of Educational Achievement (NCEA) was not comparable to the assessment in the UK.

“And when we do, like the NCEA, I find that as a qualification, it doesn’t compare, really to what’s in the UK. In my opinion, there’s not enough in there, concept wise. I don’t think it prepares them very well if they want to do science in the university.”

Katherine also mentioned that there was not enough content in the NCEA and that it dealt with very “niche areas” that they spend a lot of time in, when more content could have been covered. As she was also teaching the International Baccalaureate (IB) programme at the school, she was able to compare the two syllabuses and give her opinion about it.

“And I teach IB as well, as well as NCEA, and you can see that there’s a lot more content in IB. And those kids, I think are probably going to be better prepared for university.”

Another issue she highlighted about the NCEA was the lack of standardisation between schools.

“... the other thing that I can see is if you do certain standards in one school, and you do different standards in another, when they come together in the university, I can see that there will be quite a difference between these kids.”

Katherine feels that the curriculum in the UK is too rigorous and the NCEA requires more rigour. Hence, she said “So, there’s got to be some sort of meet in the middle kind of thing. I think NCEA needs a little bit more, I think UK exams need a little bit less actually.”

Compared to Katherine’s concerns about the NCEA, Asha’s concerns were focused on the way the assessment was carried out in her school. As a new teacher to the country

and the school, she was not clear about the objective of the lessons and the assessments.

“So, for year 9 and 10, I felt that there was just a focus on the experiences that a child has in science but no conscious focus on what the objectives are. So, the objectives were not spelt out, that’s what I’m trying to say.”

With this lack of focus in the objectives, Asha felt that she was struggling to make sense of what she had to teach and assess in her lessons. This was the huge difference in the curriculum between Singapore and New Zealand, and Asha found it difficult to navigate with the lack of support in her school.

“There was an assignment where they had to do, where they needed to read about a scientist and write. The rubrics did not match. So basically, I didn’t know exactly what the students were supposed to focus on. So, they just asked them to do a summary. Great. But what is the summary supposed to inform me? Is the child able to summarise, which is a literacy skill? Or is a child able to read a scientific literature and understand what it says? You know? So, the objectives were not clear so the assessment, I felt, that was not fair to the students. So, it’s very loose.”

This “looseness” in assessment was something very unsettling for Asha as she came from a curriculum background in Singapore where the lesson objectives, content for each different level and assessment objectives were clearly stated and mapped to ensure continuity.

“... most of the questions, what I noticed is, it is unlike Singapore where you have a variety...”, referring to the varied types of questions that are included in assessments in Singapore. “Because they don’t have MCQ (Multiple-choice questions), they don’t have structured. It’s all explaining and answering. So, even physics questions, you know, where you have forces, velocity, acceleration and speed. It’s not only calculating. You calculate and then you have to explain”. Asha said this to refer to the heavy focus on explanation in the assessment questions here in New Zealand.

Asha also goes on to explain how an assessment which tests heavily on literacy skills, becomes extremely difficult for students who do not possess that expected level of literacy. As mentioned in the earlier section, many of Asha’s students could not even spell at Year 11 and the assessment expected them to create a text-rich piece of work.

“These guys can’t write but they know. A topic on heat, they can talk about a car. They can, you know, pull out a car and put it back together. They understand what is happening, why it’s happening but the assessment was for them to create like a poster. They couldn’t handle it.”

At this point, Asha was explaining that her students understand the concepts but were not able to explain in writing. However, she did touch on the fact that the NCEA actually allows for various other ways of presenting answers, which could have been beneficial for students who had challenges in literacy. If Asha had known earlier, she could have done much more for her students.

“At that point, at that time, I didn’t know that you could do so many other things. Like a child could have done an interview. A child could have done a video. A child could have gone to Mt Tongariro and taken some pictures. You know, there’s so many ways to do this. I could have done a verbal interview for those kids who were struggling to write.”

Hence, in order to help her students to gain credit, Asha had to do model to them and change the assessment a little. She would show them what they could do about one volcano in New Zealand, for example, and then give them feedback about their work. Then, she would get them to do another one, following the previous example. However, even with this support, Asha felt her students were still struggling.

“Very few of them can get excellence, simply because they don’t have the literacy skills and then, tagged to that with the motivation. Asking them to show words when they don’t have a lot of words for you.”

The main difference between the Singapore curriculum and the New Zealand curriculum, as adopted in Asha’s school, is the lack of organisation and curriculum mapping.

“It is as simple as organising their resources. Before organising their resources, getting their act together by spelling out what the objectives are. And then, mapping it out so in year 9 they do a certain thing. They prepare them towards whatever else that’s happening later on.”

She goes on to explain how it was done in Singapore:

“I mean that’s what we used to do in Singapore, right? You are very clear about the map. And you know students need to always write units. They would have kind of done that in secondary 1 and then they would have revisited in secondary 2, they would up the level to, you know, a certain level in secondary 3 and by the time they are in secondary 4. I was doing IB so, by the time they went on to their (upper) years, they would know how to calculate average, they would know how to present a table with their 3 replicates, they would know all these.”

Asha could only discuss what was done in her school and felt frustrated that it was not more organised.

“But, over here, in that school, I really don’t know how other schools do it but in that school, that’s not the case.”

4.3: Mentoring and induction

In Katherine’s school, her immediate support system was very good. The other teachers in the science department were good with sharing resources and since she had been teaching in the UK, she felt she did not have a lot to learn in terms of teaching and learning processes. She only needed to find out what was included in the various syllabuses and was able to adjust to these differences fairly easily.

In terms of mentorship, she stated that the Head of the science department was “very supportive” and was always available for conferencing if she needed to talk about any issues. Besides the Head of science, there were also other people available that she could talk to if she needed any help. In addition to this support from the staff of the school, she was also able to attend sessions organised by the Beginning Teacher Coordinator in her school.

“... we have a beginning teacher coordinator at the school, as well, so I was able to drop in on some of those sessions across the year, which helped. Even though I wasn’t a beginning teacher, it was useful to see if there were any differences there.”

The higher management in her school did not do much checking and were content with letting the teachers carry out their work independently. Even though she did not think this was good, she felt she was not being “negatively affected”.

In contrast, Asha was teaching at a school where she did not get much support. Within the first few months, she realised that the rest of the staff in her department did not understand what she was trying to share in terms of her own prior experiences, and it was challenging. She said that as a beginning teacher in New Zealand, she was not given organised resources and did not understand what the objectives were for particular modules.

“... there was not much of a support. There was just this assumption that I have already provided these lessons. It’s some other teacher’s power point slides, okay. So, they created some power point slides and you are supposed to teach through it. But when you teach, you are not clear about what objectives you are trying to meet. So, is the child supposed to know the vocab? Is the child supposed to know the concept? Is the child supposed to know, maybe, the thinking skills? So, what is the focus?”

When Asha went to her HOD to seek clarification, she was left clueless:

“... when I asked my HOD, the answer was, ‘What do you think you want to cover?’ So, it was left loosely.”

Without an understanding of what was to be assessed in the different levels of the NCEA assessment (i.e. Levels 1, 2 and 3), Asha found it more difficult and said, “It became a huge guessing game for me.”

Asha explained how it continued to be challenging when the other staff in her school did not understand what she was trying to explain about the way things were done in Singapore that could be adopted here in New Zealand:

“That was really challenging and how did I cope? Oh, I just learned to smile because I realised within the first few months that the teaching staff, the department, including the HOD, they didn’t understand where I was coming from. Because we would have actually seen it done in a very organised way which makes it easy in Singapore. But when you describe it over here, they are still figuring it out, like how to make it most effective.”

She went on to explain how she eventually refrained from giving feedback and learned to assimilate:

“So, when you talk about , ‘Oh, you know we can actually do curriculum mapping, we can actually do this’, and then they are clueless, and then it might come across as you are being very arrogant. So, I just learnt to smile a lot and go with the flow.”

Asha eventually decided that it was not worth risking coming across as arrogant and went along with how they did things in her school. Despite these issues, she felt her principal was supportive and the staff welfare of the school was good.

“What my principal told me in the first week was, ‘Don’t worry about the chaos there. It’s going to be there for you. It doesn’t really matter.’ She was basically telling me, ‘Don’t worry about it. Put that aside. It will happen eventually when you actually see the big picture later on. It will happen later on’.”

Here, Asha said that it was the best advice she received which lifted the weight off her shoulders and helped her to focus on what was important, which was to teach the students and the teachers supporting each other as a community. She briefly compared this to how it was stressful in Singapore due to the teacher ranking process, where “you do like 20% of your core job, core business which is to teach and 80% will be all these extra you have to do to prove yourself.”

4.4: Advice for other teachers

Katherine’s advice to other immigrant teachers was to bring all their resources along as these would still be useful here. For teachers specifically from the UK, she said, “If you

are coming from the UK, you are going to need to really just drag out the key concepts of things but don't worry about the additional in that."

She also had this to say about streaming of the students:

"I don't know in this school particularly, that streaming doesn't necessarily happen. Um, in UK, they are quite heavy on streaming so, you have banded sets. Yeah, well in my school anyway that doesn't exist, so you are going to have to do lots of differentiation within the classroom itself... um, probably do a higher level." Since, in New Zealand, not many schools do streaming or banding, it may be necessary for the teacher to do some kind of differentiation of the students in the class in order to cater to the appropriate level of the students.

Asha's advice to other immigrant teachers is to arrive with the mindset that the first year will be "learning curve". She feels that there is so much of difference in the curriculum and teaching and learning environment between the two countries that it would be necessary to have the right attitude to learn in order to make it through the first year of teaching in New Zealand. Having since moved to a non-mainstream school after teaching in the South Auckland school for about a year, she has started learning all over again but this time:

"I am enjoying it a lot more because it has given me an opportunity to look at learning as a whole. So, now I am enjoying it because it is a very different process. It's not about getting the students to get their grades. It's really about learning together and being current with learning."

She acknowledges that her journey is different from other immigrant teachers who would come to New Zealand and teach in mainstream schools. However, she said that she is more settled and has more say in how the programme is run in her new school. She also explained that if she had an experienced science teacher to mentor her about the NCEA curriculum and assessment designs, she would have had less issues in adapting to teaching the NCEA Level 1 curriculum and conducting the assessments. Even though she did attend the NCEA assessment workshop, she felt that there were still a lot of unanswered queries and many teachers had numerous questions as it is changing every year. Hence, a good sharing network, to be made available for all new overseas-trained teachers would be a good way to help them learn about the New Zealand curriculum and assessment. In addition, Asha also added that the purpose of Level 1 assessment was to prepare the students for Level 2 and Level 3 assessments which were more important if they wanted to go on to the university. If done properly, Level 1 assessments would be able to really prepare the students well for their senior years in high school.

CHAPTER 5: DISCUSSION

This chapter will discuss the themes and issues that emerged during the interviews with the teachers.

While analysing the themes that emerged in the participants' discourse, the most striking difference between the two participants was the availability of induction and mentorship by the schools that they were teaching in. For Katherine, the transition to teaching in New Zealand was a fairly easy one due to the fact that the education systems in the UK and New Zealand are fairly similar. This has been reiterated by the New Zealand Ministry of Education feeling more at ease at recruiting overseas-trained teachers from a said few countries, namely the United Kingdom, Ireland, Canada, South Africa, Australia and Fiji. This would also explain why some principals were reluctant to hire overseas-trained teachers due to their concern with a lack of fit with the New Zealand school environment (Ministry of Education, 2016). Teachers with overseas training may be operating from a different knowledge base of education (Cruickshank, 2004), hence the more aligned they are to the New Zealand system, the better the fit.

The minor differences in the New Zealand education system was easily comprehended by Katherine and she was able to adapt to it due to the amount of support she received from her school. From her interview, Katherine had mentioned that she had good support from the head of science in her school, and in general, from all the other teachers in her department. If she had any doubts, she was able to talk to any of the teachers and clarify her doubts that way. There was also a Beginning teacher coordinator at her school, which means that the school takes the process of new teacher induction seriously enough to have appointed someone to be in-charge of it. The ongoing regular sessions also enabled Katherine to get up to speed with aspects of the New Zealand system that she may not have been familiar with and was quickly able to adapt in that way. According to Peeler and Jane (2005) the objective of the mentoring process is to reduce the gaps in the professional knowledge of teachers. In Katherine's case, the good mentoring support she received from her school further helped in making her transitional experience effortless.

On the other hand, Asha did not get much support from her school. From her discourse, it was obvious that the school did not have any system to induct new teachers into the school environment. In addition, there was also a lack of mentorship. When she went to her head of department for answers on how to go about the NCEA assessments, she was asked what she would like to do instead. This must have been very unsettling for Asha, as a beginning teacher in a new country, working with a completely different curriculum. Oloo (2012) quoted Steeves (2011) in his study when he posited that it is of

utmost importance for immigrant teachers to learn approaches to the curriculum and pedagogy because it involves the teacher's development as a person and professional. This can only come about through a proper induction programme by the school that employs the immigrant teacher.

In addition to the lack of support in terms of mentorship, Asha also struggled with making sense of the curriculum and assessment objectives. Having come from Singapore, it was inevitable that she compared the New Zealand curriculum with that of Singapore. This was similar to the participants in Makonye's (2017) study who compared the South African mathematics curriculum to that of their home countries. However, in time, they got used to the differences which were mainly on curriculum coverage and depth. Such a difference was also stated by Katherine when she talked about how the NCEA curriculum lacks depth compared to the curriculum in the UK.

Another observation to discuss here would be how Asha tried to share some ideas about how to do curriculum mapping the way it is done in Singapore so that there would be a way to prepare students over the years and build up their skills to the level that they would be assessed at the end. The problem that Asha faced was that the other teachers in her school, including her head of department did not understand or accept her ideas and were quite content with doing what they had always been doing. Peeler and Jane (2005) explain that when a new teacher is not included in what is common knowledge for all other teachers, they become anxious of their own knowledge. The lack of guidance will cause these new teachers to feel hopeless and unaccepted, and eventually, their attitude will become "Why bother?" (Duff & Horne, 1997, quoted by Peeler & Jane, 2005, p. 329). This happened to Asha when she eventually decided not to pursue with her feedback and just decided to smile and go along with the others. It shows that Asha had resigned to the "Why bother?" attitude described in Peeler and Jane's (2005) study, which is a sad reflection of what happens when the experienced teachers assume that the new teacher is knowledgeable about their "taken for granted practices" and understand "things we have always been doing" (Kostogriz & Peeler, 2004, quoted by Peeler & Jane, 2005, p. 329).

Okamura and Miller (2010) stated that it would be helpful for some immigrant professionals, including teachers, to integrate rather than to assimilate. It was evident that Asha assimilated when she decided to just "smile a lot and go with the flow" (p. 62). In her situation, at that time, it must have felt like the best thing to do as she did not get much support for her ideas and suggestions. To support their findings of integration being better than assimilation, Okamura and Miller (2010) quoted Ward and Kennedy's (1994) research that "adopting an integration strategy during their acculturation process" will enable the immigrant teachers to establish their teaching positions with less difficulties.

However, this will also be possible with a more supportive environment for the new immigrant teachers in their new schools.

Stewart (2010) stated that immigrant teachers are dealing with the difficulties of living in another country and the “transitional shock” (Stewart, 2010, p. 49) of changing to a very different school system. A study that followed immigrants discovered that often immigrants were expected to replace their knowledge with “a new knowledge framework” when they work in a new country (Williams, 2007 quoted by Stewart, 2010, p. 49). It seemed that in Asha’s case, the expectations of her school were similar in that the other staff in her school expected her to just adopt the way that they were doing things in their school and not keep talking about what was being done in Singapore schools.

According to Stewart (2010), a healthy critique of the different way of doing things in New Zealand schools shows that the immigrant teachers are “actively engaging in professional inquiry” (Stewart, 2010, p. 49). This is important if they are going to truly understand and become competent in the pedagogical practices of New Zealand teachers (Stewart, 2010). If Asha had more support for her ideas or if anyone was able to have a healthy discussion with her about her suggestions, it would have helped her in her transitional experience and becoming more comfortable with the New Zealand curriculum. As reiterated by Marom (2018) that it is undeniable that there are differences between the school systems and some adaptations are always necessary when teaching in a new context.

When Katherine spoke about her teaching experience in the UK in comparison to that in New Zealand, it was evident that she preferred the teaching environment in New Zealand. This was obvious in the way that she referred to the students in New Zealand as “refreshing”. After dealing with students with lots of social issues and spending much time being a social worker while helping the students around their issues, Katherine definitely welcomed the change of having students who behaved as expected for their age. Teachers aim to provide more holistic and individualized support for their students, according to Marom (2018). Katherine may have missed out in that respect in the UK as she mentioned that the environment became difficult to work in and emotionally draining after some time. Like the participants in Collins and Reid’s (2012) research who rated their teaching experience in Australia more favourably compared to their experience back in their home countries, Katherine also favours teaching in New Zealand. The school environment, support and the students all play a part in this.

The final observation with regards to information obtained from the interviews with the two participants was that they both came from very different backgrounds and had very different support systems and school environments. Nevertheless, they both have taken

it in their stride and have made a successful career teaching here in New Zealand, despite the challenges that were faced. Kern et al. (2012) sums this up with the statement, "Teaching is a highly personal endeavour; how one teaches is a reflection of who one is, and is strongly shaped by beliefs, whether articulated or not, about teaching, learning, and students." (Kern et al., 2012, p. 470). Kern et al. (2012) also advised that immigrant teachers may need to learn how to work out the unique differences of teaching and learning in the new education system and in their local context. This enabled the two participants to work well in their schools now, having navigated the nuances of the New Zealand education system.

While talking about what could have helped Asha to adapt better to the New Zealand system, she mentioned that if she had the guidance of an experienced New Zealand science teacher who could have coached her about the NCEA, the requirements and objectives and the assessments, the situation would have been better for her. Peeler and Jane's (2005) research also supports this. They posited that the guidance by experienced staff helps new teachers gain the appropriate knowledge and enables them to work out the meaning of workplace routines. They go on to explain that this would affect the present and would greatly impact the future. Hence, mentoring relationships not only have a positive influence on the career development of immigrant teachers, they also help them to overcome their identity crisis (Peeler & Jane, 2005). In the long run, not only the immigrant teacher but the whole school community would benefit.

According to Stewart (2010), the fresh ideas shared by an immigrant teacher can help New Zealand teachers analyse and identify practices that are better for student learning and those that have become a habit. By listening with an open mind and not taking criticisms of the New Zealand education system or their school too seriously (Stewart, 2010), the colleagues of the immigrant teachers can get some valuable insight into improving their own teaching practice. Stewart (2010) also urged New Zealand teachers not to overlook or devalue the professional knowledge, expertise, diversity or perspectives that the new immigrant teachers bring to their school community. From this small study, it was evident that not many schools are on board with this, as Asha's experience clearly shows.

CHAPTER 6: CONCLUSION

The purpose of this study was to find out about the transitional experiences of immigrant teachers teaching science in the New Zealand high schools. Two participants took part in this study and they both from very different backgrounds: one of them was a teacher from the UK while the other was a teacher from Singapore. Their different teaching backgrounds include a more western education system like the UK which is similar to the New Zealand education system, and another more eastern system, which also adheres to a similar assessment but follows a different teaching and learning style from New Zealand.

It was evident from this study that the teacher from the UK had a much easier transitional experience compared to the teacher from Singapore, partly due to the supportive environment she had from her school which had systems in place to assist new teachers to the school system. However, the teacher from Singapore had a much more challenging transitional experience due to the lack of support from her school and colleagues, who expected her to know how things are done in the New Zealand schools and to just “go with the flow”. Nevertheless, after the initial challenges in her first school, the teacher from Singapore has now found her place in a non-mainstream school and having a great time building her career there.

During the interviews, the other issue that was brought up by both the teachers is that they were both surprised to find out that the students were not taught science in primary school and came to high school with virtually little or no science background. The teacher from the UK felt that students who intend to do science in the university will be at a disadvantage due to the lack of content and depth in the NCEA curriculum and the lack of consistencies in the content covered in different schools. The teacher from Singapore also felt that the lack of literacy skills in the students meant that they were unable to do well in the NCEA assessments which only seemed to be testing one skill set in her school instead of providing a variety of assessments, which may be beneficial to students of all literacy levels.

Aside from these, the lack of acceptance of different ideas and suggestions by an immigrant teacher seems to bring out some issues which should be further studied. There is definitely a lot to be gained through professional sharing of ideas between teachers with experience in different education systems. The experienced colleagues of new immigrant teachers should engage in such dialogue to learn more about the experiences of their new colleagues and use the opportunity to guide them on the New Zealand practices. This will show a greater amount of mutual respect for one another and forge a stronger support system among the teaching staff. All schools that employ

immigrant teachers should have such a support system. This would even benefit locally trained beginning teachers and perhaps, reduce the teacher attrition rate as they would be encouraged to stay on in the profession.

Hence, this study further provides evidence for the need for solid new teacher induction programmes and mentorship programmes to be organised by the management of schools. The programmes will not only benefit immigrant teachers but local beginning teachers, too.

The other issue that primary schools should look into is their science programmes. There are great benefits to introducing structured science lessons to primary school students which will then enable them to easily progress on to higher level science in the high schools. The Ministry of Education should look into standardising assessments or content coverage across the high schools to ensure that students would achieve a certain amount of science foundation before they go on to the universities and there would not be too much discrepancies between students from different schools.

Teachers coming from countries with very structured objectives should be prepared to be flexible when teaching in New Zealand. There are many positives to this. The teachers can choose how much they want to cover depending on the ability of their students, rather than be bound by a rigid and prescribed syllabus. Their flexibility in assessments will also enable students of different abilities to excel and not be negatively affected by examinations. Immigrant teachers should come with the mindset to learn and experiment with the New Zealand science curriculum, while adapting their prior experience to suit the current teaching context.

The limitations of this study are obvious as only two participants were interviewed. However, due to the difference in their backgrounds, it was possible to do a good comparison between them. An extension to this study could be done whereby more participants would be interviewed and these participants will be from the usual source countries for New Zealand principals (namely the UK, Ireland, Canada, South Africa, Australia and Fiji) and other countries (i.e. Asia, other parts of Europe, the United States of America and South America). It would be possible to derive a pattern in such a study and the results would help to structure better induction programmes for new immigrant teachers.

Finally, due to the COVID-19 crisis around the world, many people have become used to the new norm of doing interviews, i.e. through online applications such as "Zoom". The participants in this study also preferred that mode for the interview. Although it was possible to see the participants while conversing with them online, it was still unnatural, and some aspects of an actual face-to-face interview were lost in this process. For

example, it was not easy to build rapport online for one interview whereas it would have been possible in a face-to-face interview. Some observations of body language were also lost but this was not really necessary for this study. Hence, for future studies, face-to-face interview should be the way forward.

REFERENCES

- Abramova, I. (2012). Perspectives of teachers from the Soviet Union in U.S. Schools: Through the eyes of immigrant teachers who "tend to go against the grain". *Multicultural Education*, 19(3), 34-38.
- Adams, C. & van Manen, M. (2012). Phenomenology. In Givens, L. M. (Eds.), *The SAGE encyclopedia of qualitative research methods* (pp. 615-619). SAGE Publications. <https://dx.doi.org/10.4135/9781412963909>
- Bernstein, B. (2000). *Pedagogy, symbolic control and identity*. Rowman & Littlefield Publishers.
- Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review*, 46(1), 5-68. <https://doi.org/10.1111/j.1464-0597.1997.tb01087.x>.
- Cohen, L., Manion, L. & Morrison, K. (2018). *Research methods in education*. Routledge.
- Collins, J. & Reid, C. (2012). Immigrant teachers in Australia. *Cosmopolitan Civil Societies Journal*, 4(2), 38-61.
- Costantino, T. E. (2012). Constructivism. In Given, L. M. (Eds.), *The SAGE encyclopedia of qualitative research methods* (pp. 116-120). SAGE Publications. <https://dx.doi.org/10.4135/9781412963909>
- Cruickshank, K. (2004). Towards diversity in teacher education: teacher preparation of immigrant teachers. *European Journal of Teacher Education*, 27(2), 125-138. <https://doi.org/10.1080/0261976042000223006>
- Daniel, B. K. & Harland, T. (2017). Ontology and epistemology. In B.K. Daniel and D. Harland. *Higher education research methodology: A step-by-step guide to the research process* (no pp). Routledge.
- Denzin, N. K. (2001). *Interpretive interactionism*. Sage. <https://dx-doi-org.ezproxy.aut.ac.nz/10.4135/9781412984591>
- Education Review Office. (2020, June). *Overseas Trained Teachers: Adjusting to living and working in New Zealand*. <https://www.ero.govt.nz/assets/Uploads/Overseas-Trained-Teachers-FINAL.pdf>

- Eberle, T. S. (2013). Phenomenology as a research method. In Flick, U. (Eds.), *The SAGE handbook of qualitative data analysis* (pp. 184 – 202). SAGE Publications Ltd. <https://dx.doi.org/10.4135/9781446282243>
- Elbaz-Luwisch, F. (2004). Immigrant teachers: stories of self and place. *International Journal of Qualitative Studies in Education*, 17(3), 387-414. <https://doi.org/10.1080/0951839042000204634>
- Ellinger, A.D. & Yang, B. (2011). Creating a whole from the parts: Qualities of good writing. In T.S. Rocco & T. Hatcher (Eds.), *The handbook of scholarly writing and publishing* (pp. 115-124), Jossey-Bass.
- Hershberg, R. M. (2014). Constructivism. In Coghlan, D. & Brydon-Miller, M. (Eds.), *The SAGE encyclopedia of action research* (pp. 183–186), SAGE Publications Ltd. <https://dx.doi.org/10.4135/9781446294406>
- Jhagroo, J. R. (2016). “You expect them to listen!”: Immigrant teachers’ reflections on their lived experiences. *Australian Journal of Teacher Education*, 41(9), 48-57. <http://dx.doi.org/10.14221/ajte.2016v41n9.3>
- Kern, A. L., Roehrig, G. & Wattam, D. K. (2012). Inside a beginning immigrant science teacher’s classroom: an ethnographic study. *Teachers and Teaching*, 18(4), 469-481. <https://doi.org/10.1080/13540602.2012.696047>
- Laverty, S. M. (2003). Hermeneutic phenomenology and phenomenology: A comparison of historical and methodological considerations. *International Journal of Qualitative Methods*, 2(3), pp. 21-35.
- Liu, H., Dervin, F., Xu, H. & Moloney, R. (2019). They have it better there: Chinese immigrant teachers’ beliefs, ideologies and imaginaries in cross-national comparisons. *Frontiers of Education in China*, 14, 453-479. <https://doi.org/10.1007/s11516-019-0022-8>
- Makonye, J. P. (2017). Migrant teachers’ perceptions of the South African mathematics curriculum and their experiences in teaching in the host country. *SAGE Open*, 7(2). <https://doi.org/10.1177%2F2158244017706713>
- Marom, L. (2018). Eastern/western conceptions of the “good teacher” and the construction of difference in teacher education. *Asia-Pacific Journal of Teacher Education*, 46(2), 167-182. <https://doi.org/10.1080/1359866X.2017.1399982>

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation*. Fourth edition, Jossey-Bass.

Ministry of Education. (2016). *Secondary teacher supply working group report*.
<https://www.education.govt.nz/assets/Uploads/Secondary-Teacher-Supply-Working-Group-Report-9-August-2016.pdf>

Mutch, C. (2005). Understanding the nature of educational research. In C. Mutch, *Doing educational research: A practitioner's guide to getting started*. (pp. 13-28). Wellington, New Zealand: New Zealand Council for Educational Research.

Newby, P. (2014). Understanding the research process. In P. Newby. *Research methods for education* (pp. 35-52). Routledge.

New Zealand Herald. (2020, September 19). *COVID-19 coronavirus - New Zealand's historic border closure six months on*. NZ Herald.
<https://www.nzherald.co.nz/nz/covid-19-coronavirus-new-zealands-historic-border-closure-six-months-on/NBQZVTXVR5TXWSBXF5CEQPKDL4/>

Okamura, Y. & Miller, J. (2010). Career development strategies for Japanese immigrant teachers. *Australian Journal of Career Development*, 19(3), 33-42.
<https://doi-org.ezproxy.aut.ac.nz/10.1177/103841621001900306>

Oloo, J. A. (2012). Immigrant teachers in Saskatchewan schools: A human resource perspective. *KEDI Journal of Educational Policy*, 9(2), 219-237.

O'Reilly, K. (2012). *Key concepts in ethnography*. London, England: SAGE Publications Ltd. <https://dx.doi.org/10.4135/9781446268308>

Partington, G. (2001). Qualitative research interviews: Identifying problems in technique.

Peeler, E. & Jane, B. (2005). Mentoring: Immigrant teachers bridging professional practices. *Teaching Education*, 16(4), 325-336.
<https://doi.org/10.1080/10476210500345623>

Rallis, S. F. (2018). Conceptual Framework. In Frey, B. B. (Eds.), *The SAGE encyclopedia of educational research, measurement, and evaluation* (pp. 355–356). SAGE Publications. <https://dx.doi.org/10.4135/9781506326139>

Stewart, R. (2010). Being an inclusive faculty in New Zealand schools. *New Zealand Journal of Teachers' Work*, 7(1), 47-52.

Unite Against COVID-19. (2020, November 4). Travel to New Zealand.
<https://covid19.govt.nz/travel-and-the-border/travel-to-new-zealand/#who-can-travel-to-new-zealand>

APPENDIX A: Participant Information Sheet

Date Information Sheet Produced: 05 September 2020

Project Title

Immigrant teacher's experiences teaching science in secondary schools in Auckland New Zealand.

An Invitation

I am a Master of Education student from Singapore in the process of completing a dissertation as part of the requirements of the programme. I am carrying out a study for which I would like to invite overseas-trained teachers teaching science in high schools in Auckland to participate in.

What is the purpose of this research?

The study will focus on the science learning area of the New Zealand Curriculum and how overseas-trained teachers, who are recent immigrants to New Zealand, adapt to teaching science in the Auckland classroom. Teaching of science in New Zealand may be different from teaching science in other countries and through this study, the aim is to find out how overseas-trained and experienced teachers, cope with these differences in their new careers as teachers in New Zealand.

This study will help to gain a better understanding of the transitional experiences of these teachers as there are few studies done on immigrant teachers in New Zealand and with particular emphasis on science teaching. The findings of this research may be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You responded to an advertisement placed your school seeking participants for my study. As the study involves finding out more about the transitional experiences of immigrant science teachers, I would like to invite teachers who are overseas-trained and have been teaching in New Zealand for less than three years. As an overseas-trained teacher, I seek your valuable insights in your experiences in adapting to teaching in New Zealand.

How do I agree to participate in this research?

If you choose to participate in this study, you would need to complete the Consent Form that is included and email it back to me. If you choose an online interview you will need to copy the content of the Consent Form into an email and send that to me with a sentence indicating your agreement to participate. In this case, it is important that the email is clearly from you. Your participation in this research is voluntary and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

For this study, an interview lasting not more than thirty minutes, will be conducted at a venue of your convenience e.g. at a café or online via zoom. The interviews will be recorded and transcribed. These will then be sent to you for verification before being used for data analysis. The interviews will be semi-structured and open-ended and you will be able to decide what you would like to share and decline talking about issues that you do not feel comfortable with.

**What are the discomforts and risks?**

The discomforts and risks will be minimal as you will be able to let me know if you do not feel comfortable at any point. You will not be identified in any way as pseudonyms will be used to refer to you and your school and great effort will be taken to ensure that you will not be identified in the study. Since you will also be able to look at the transcriptions of the interviews, you will also be able to inform me if you would like to remove certain parts of the interview if you feel it may cause you any risks.

How will these discomforts and risks be alleviated?

AUT Health Counselling and Wellbeing is able to offer three free sessions of confidential counselling support for adult participants in an AUT research project. These sessions are only available for issues that have arisen directly as a result of participation in the research and are not for other general counselling needs. To access these services, you will need to:

- drop into our centres at WB219 or AS104 or phone 921 9992 City Campus or 921 9998 North Shore campus to make an appointment. Appointments for South Campus can be made by calling 921 9992
- let the receptionist know that you are a research participant, and provide the title of my research and my name and contact details as indicated on this Information Sheet

You can find out more information about AUT counsellors and counselling on <http://www.aut.ac.nz/being-a-student/current-postgraduates/your-health-and-wellbeing/counselling>.

What are the benefits?

The research findings may help you to reflect upon your own teaching practices and to share your experiences which may provide insights about transitional experiences to other new immigrant teachers teaching science in New Zealand.

This research will also enable me, the researcher, to complete a dissertation for the degree of Master of Education. I am an international student who was a science teacher in Singapore prior to moving to New Zealand and have a particular interest in understanding the transitional experiences of immigrant teachers in New Zealand classrooms.

How will my privacy be protected?

As detailed earlier, your privacy will be protected as you will not be identified and there will not be any references made that will lead to your identification.

What are the costs of participating in this research?

As a participant in this study, you will be giving thirty minutes of your time for the interview. At a later date after the interview, another thirty minutes would be required for you to review the transcription of your interview session.

What opportunity do I have to consider this invitation?

It will be optimal if you are able to reply within two weeks if you would like to participate in this study.

Will I receive feedback on the results of this research?

A summary of the findings will be sent you via email after the completion of the study.

**What do I do if I have concerns about this research?**

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Jyoti Jhagroo. She can be contacted via email at jjhagroo@aut.ac.nz, or her phone number at 921 9666 ext 7913.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEK, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Dr Jyoti Jhagroo (Supervisor) and Sujatha Mahalingam (Researcher)

Researcher Contact Details:

Sujatha Mahalingam

sujatha_mahalingam@yahoo.com.sg

Project Supervisor Contact Details:

Dr Jyoti Jhagroo

jjhagroo@aut.ac.nz

921 9666 ext 7913

Approved by the Auckland University of Technology Ethics Committee on **23 October 2020**, AUTEK Reference number **20/336**.

APPENDIX B: Consent Form

Project title: Immigrant teacher's experiences teaching science in secondary schools in Auckland New Zealand.

Project Supervisor: Dr Jyoti Jhagroo

Researcher: Sujatha Mahalingam

- I have read and understood the information provided about this research project in the Information Sheet dated 05 September 2020.
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I agree to take part in this research.
- I wish to receive a summary of the research findings (please tick one): Yes No

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....
.....
.....
.....

Date:

**Approved by the Auckland University of Technology Ethics Committee on 23 October 2020
AUTEC Reference number 20/336.**

Note: The Participant should retain a copy of this form.

APPENDIX C: Advertisement



Overseas-trained teachers sought for a study done by AUT Masters student.

If you are an overseas-trained teacher teaching science in a high school or college in Auckland, we would like to invite you to participate in a study to find out more about the transitional experiences of immigrant teachers in New Zealand.

CRITERIA:

MUST BE TEACHING SCIENCE IN A HIGH SCHOOL CURRENTLY.

MUST HAVE BEEN TEACHING IN NEW ZEALAND FOR LESS THAN 3 YEARS.



Ethics approval has been sought for this study through AUTEK.

Please contact the researcher at sujatha_mahalingam@yahoo.com.sg for further information or enquiries.

APPENDIX D: Indicative Interview Schedule

Participant: _____ **(Pseudonym)**

1. What was your experience like when you first started teaching science in New Zealand?
2. How different or similar was the teaching of science in your home country compared to that in New Zealand? What aspects of the curriculum do you find are challenging to adapt to?
3. What kind of support did you get from your school and fellow teachers that helped in your transition to teaching in New Zealand?
4. How did you cope with the initial challenges of teaching in a new environment?
5. How comfortable are you now, teaching science here?
6. What advice would you give other new overseas-trained teachers coming to teach science in New Zealand, to make their transition easier?

APPENDIX E: Ethics Approval Letter



TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Auckland University of Technology Ethics Committee (AUTEC)

Auckland University of Technology
D-88, Private Bag 92006, Auckland 1142, NZ
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

23 October 2020

Jyoti Jhagroo
Faculty of Culture and Society

Dear Jyoti

Re Ethics Application: **20/336 Immigrant teacher's experiences teaching science in secondary schools in Auckland, New Zealand**

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 23 October 2023.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTEC in this application.
2. A progress report is due annually on the anniversary of the approval date, using the EA2 form.
3. A final report is due at the expiration of the approval period, or, upon completion of project, using the EA3 form.
4. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form.
5. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
6. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.
7. It is your responsibility to ensure that the spelling and grammar of documents being provided to participants or external organisations is of a high standard and that all the dates on the documents are updated.

AUTEC grants ethical approval only. You are responsible for obtaining management approval for access for your research from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

Please quote the application number and title on all future correspondence related to this project.

For any enquiries please contact ethics@aut.ac.nz. The forms mentioned above are available online through <http://www.aut.ac.nz/research/researchethics>

(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: Sujatha_mahalingam@yahoo.com.sg