

# Examining Differences in Learning Motivation Between Online and Face-to-Face Delivery Modes

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## **Abstract**

*Current assessments of the impacts associated with motivation among online and face-to-face learning are considered inadequate in light of recent global events. Using a mixed-methods approach, this research aimed to assess differences in motivation levels among students enrolled in education and social work programmes at the University of Auckland, in Aotearoa New Zealand, through comparing between online and face-to-face formats. The Expectancy-value-cost theory was used to identify the key factors that influence this motivational dichotomy. At the end of the second semester of 2023, a group of 39 students completed questionnaires using a six-point Likert scale. Additionally, five participants were engaged in semi-structured interviews to further explore their motivations for each learning mode. Results indicated that face-to-face learning showed a slightly higher level of motivation compared to online learning. Value was rated as the most influential factor affecting motivation, with expectancy being the second largest influence across both learning modes, while cost had the least impact. However, interview participants felt higher motivation towards online learning, and viewed F2F learning as lacking in terms of flexibility and convenience, while recognizing value and cost as the most influential factors. The research provides valuable insights that bridge existing gaps in understanding the motivational factors that affect students in both online and F2F learning environments, especially in the field of Education and Social Work programmes in Aotearoa New Zealand. It underscores the importance of adapting teaching methods and educational environments to cater to the diverse preferences and needs of students, promoting inclusivity and enhancing students' engagement in learning.*

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# **Chapter 1: Introduction**

## **1.1 Background**

While online learning in higher education was present prior to the onset of the COVID-19 pandemic, the increased adoption and rapid advancements since 2020 have propelled online learning significantly forward (Thamri et al., 2022; Williamson, 2021). Currently, an unprecedented number of students are actively participating in virtual learning environments, reflecting the widespread popularity of online education (Kennedy, 2021). The accessibility, flexibility, and so-called cost-effectiveness of online education have been the driving forces behind its growth, challenging face-to-face learning modes (Nasution et al., 2021; Rasiah et al., 2020; Wright, 2017). However, there is still skepticism surrounding this shift. Debates persist regarding the quality of online courses, the effectiveness of online participation, and the potential loss of personalised face-to-face (F2F) interactions that are essential to traditional education contexts (Baharum et al., 2020). Given these changes in the education landscape, it becomes crucial to understand the motivational dynamics that drive student engagement. The COVID-19 pandemic, in particular, necessitated a swift shift to online learning (an anomalous occurrence), warranting a closer examination of how student motivation varies across these different learning modes.

Motivation, a key determinant of academic success (Linnenbrink & Pintrich, 2002; Vecchione et al., 2014), is the focus of this study. In the context of a dynamic and evolving educational environment, motivation is the psychological foundations that drive students to actively engage, persist and excel in their educational journey, as emphasized by Faridah et al. (2020).



To explore the evolving educational landscape, this study offered a comprehensive analysis of the motivation between two popular learning modes: online and F2F learning. My research attempted to navigate through the perceived dichotomy of online and F2F learning, dissecting the difference of motivation in the context of a worldwide pandemic, and utilising Expectancy-Value-Cost (EVC) theory as a theoretical framework. By shedding light on different motivation levels aligned with each of the two modes, this thesis aimed to provide a nuanced perspective that not only deepened our understanding of student motivation, but also provided practical insights for educators, institutions, and students to navigate the evolving landscape of contemporary education.

## **1.2 The Aotearoa New Zealand Context**

In Aotearoa New Zealand's vibrant educational environment, the availability and diversity of online courses has become an integral part of a student's academic journey. The increase in online courses was based on an understanding of the changing preferences and diverse requirements of the student population, as emphasised by research conducted by Aiello (2022) and Van Der Meer (2021). The shift to online delivery reflected a broader trend in global education, where technology was playing an increasingly important role in shaping the learning experience (Ben-Jacob & Wang, 2020). Moreover, because of the unique circumstances presented by the pandemic, there is a need to examine the experience of Aotearoa New Zealand university students more closely, including the obstacles faced and the strengths identified (Erlam et al., 2021).

Aotearoa New Zealand's social and cultural background, as well as its education system, is characterised by a unique combination of indigenous perspectives and contemporary global influences. However, cultural differences, technological infrastructure, and teaching methods in Aotearoa New Zealand diverge from traditional global norms, and were strongly influenced by the interplay between indigenous and global elements (Eames & Barker, 2011). In addition to this, the country's educational development was shaped by historical factors such as enduring interactions between Pākehā (Europeans) and Māori (Indigenous people), as emphasised by Findsen (2016). The interactions between Pākehā and Māori have made a lasting impact and continue to influence education, particularly on the educational experiences of older adults (Kēpa & Manu'atu, 2008). This rich background highlighted the intricate tapestry in which Aotearoa New Zealand's educational landscape unfolds. It laid the groundwork for a detailed exploration of the tensions and complexities inherent in providing education within this bicultural context. The resulting unique and evolving pedagogies create a distinctive convergence that deeply affects both online and F2F learning.

While different theories can be used to examine motivation, existing literature does not align with the specific focus and participant demographic of the current research. This divergence raised the need for a comprehensive exploration of student motivation in the context of Aotearoa New Zealand, to acknowledge the variety of perspectives and frameworks used in existing research and the dearth of research related to initial teacher education. The rationale for such studies is based on an awareness of this glaring gap. By delving into the complexity of student motivation through the EVC framework, my research aimed to add valuable insights to the existing body of knowledge. In conclusion, given the changing dynamics of education in Aotearoa New Zealand, there is a need to investigate university students' motivation for online and F2F learning.

### **1.3 Rationale**

There are several reasons why my study is of significance. First of all, due to COVID-19, profound changes have occurred in the educational landscape, leading to a sharp increase in the popularity of online learning (Abdull Mutalib et al., 2022; Greenhow et al., 2022; Yu, 2022). Although online learning has been criticized for its rigid course structure (Parkhurst et al., 2008), negative emotions, potential impact on interpersonal relationships, and learning motivation (Wang et al., 2021), recent advances have attempted to address these shortcomings, including personalized learning methods (Zhang et al., 2020). However, the transition from F2F to online learning has had a profound influence on students' learning experiences, happiness, and motivation, and its effectiveness and impact on student motivation are still debated (Bibi et al., 2022; Ghaderizefreh and Hoover, 2018; Hopwood, 2022; Spitz, 2019). My study aimed to develop a deeper understanding of the multifaceted nature of online learning, help understand its advantages and disadvantages, and provide information for effective teaching practices and policy decisions after the pandemic.

In addition, the ongoing debate regarding the relative effectiveness of online learning and F2F learning highlights the necessity for a deeper understanding of their impact on student motivation (Allen et al., 2002; Driscoll et al., 2012; Fortune et al., 2011; Francis et al., 2019). It is crucial to recognize the importance of motivation levels in comparing online learning and F2F learning. Considering students' preferences and perspectives is crucial. By taking their preferences into account, educators can design learning experiences that match students' interests, learning preferences, and preferred modes of interaction (Ismaeel & Al-Mulhim, 2019).

Furthermore, understanding the complex dynamics of expectations, intrinsic value, and cost considerations can provide strategies for improving students' motivation and engagement in different educational environments, whether online or face-to-face (Barron & Hulleman, 2015). By applying the EVC theory, the objective of this study was to reveal important factors influencing student motivation and provide insights for strengthening educational practice.

In the context of Aotearoa New Zealand, there is a considerable gap in the application of the EVC theory in understanding the motivation of university students. Addressing this research gap not only contributes to global discussions on educational motivation, but also helps to develop tailored strategies to support and improve student engagement and success rates in Aotearoa New Zealand's unique educational environment (Qin, 2021).

#### **1.4 Positionality**

The motivation for this research stemmed from my personal love of F2F learning and a keen interest in understanding the dynamics of student motivation amid educational change, especially in the wake of the COVID-19 pandemic.

As someone who personally identified more with the traditional F2F learning mode, the outbreak of the pandemic was a catalyst for reflection. The apparent shift to online learning prompted recognition of the subtle emotions and motivations associated with different learning modes. This introspection, coupled with the heightened sense of excitement and

engagement experienced in F2F settings, served as my inspiration to delve deeper into the broader emotions surrounding online and F2F learning.

Beyond personal curiosity, there is a practical reason related to future ambitions. Wishing to become an English teacher, the findings of this study have considerable relevance in shaping my future teaching methods. Recognizing the diversity of student preferences and comprehending the factors that affect their motivation in different learning environments may help inform effective and engaging teaching strategies. By revealing the intricacies of student preferences and motivations, I aimed to gather insights that will not only enhance my teaching practice, but also help to optimize the broader discussion of the educational experience related to motivation.

In essence, this research was a symbiotic journey to unravel the complex tapestry of student motivation in online and F2F learning environments, which was driven by my personal connection to the discipline and a future-oriented commitment to becoming an impactful educator. Through this quest, I aspired to contribute not only to my own understanding, but also to the collective knowledge base informing the evolution of education in a rapidly changing world.

## **1.5 Research Aims and Questions**

This research sought to investigate the motivation levels among university students enrolled in education and social work programmes, comparing experiences in online learning and F2F learning. Additionally, the study aimed to establish connections between the observed motivation variations and the three key factors outlined in the EVC theory. Employing a mixed-methods approach, the research utilised quantitative methods (questionnaire) and qualitative methods (semi-structured interviews).

The research was framed around two overarching questions:

1. How do the levels of motivation of university students differ between learning in online and F2F delivery modes?
2. Which factors in the EVC theory influence the levels of motivation of university students and why?

## **1.6 Structure of the Dissertation**

This dissertation is composed of five comprehensive chapters.

Chapter 1 serves as a cornerstone for introducing the topic, outlining the background, rationale, and overall purpose of the study.

In Chapter 2, a thorough investigation is carried out on relevant concepts and theories that are essential to this thesis. It explores online learning, F2F learning, motivation, the influence of the COVID-19 pandemic on education, and the EVC theory, clarifying the significance to discuss student motivation and engagement within online learning environments.

Chapter 3 acts as a methodological guide, leading the reader through the intricacies of the research approach; describing the mixed methods design utilised in this research, including site selection, participant recruitment, procedural aspects, data analysis, and ethical considerations.

Chapter 4 presents the qualitative findings and quantitative results. The quantitative results from the questionnaire are presented systematically, followed by a thorough exploration of the qualitative insights obtained from interviews. The chapter concludes with a cohesive synthesis of both quantitative and qualitative results, providing a comprehensive overview.

Chapter 5 presents the culmination of this dissertation, offering a thorough discussion of the primary findings related to the existing literature. It navigates through the implications drawn from the study's outcomes, interweaving them into a cohesive set of conclusions. This chapter also delves into an exploration of limitations and implications, and ends with suggestions for future research endeavours.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

This chapter offers a comprehensive exploration between student motivation, learning environments, and evolving educational approaches. The overall goal is to provide valuable insights into existing gaps in understanding the motivational factors that affect students in both online and F2F learning formats.

The first part of the literature review examines the differences between F2F and online learning. This exploration is important for understanding motivation in these modes. The second part of the literature review looks at motivation, COVID-19 challenges, and the advantages and disadvantages of the two modes (Lu et al., 2022). It emphasizes the need to understand motivation dynamics. The third part focuses on the EVC theory as a framework for understanding motivation. It discusses the history as an extension of Expectancy-Value Theory (EVT) and significance of the EVC theory. The fourth part highlights a research gap in Aotearoa New Zealand regarding the application of the EVC framework and the exploration of student motivation. It mentions other theories used in research. The conclusion discusses insights from online and F2F learning, motivation theory, and EVC theory. These insights are used to introduce the research methods, findings and results, and the discussion, which together provide a comprehensive view of student motivation in different learning modes.



## **2.2 Online Learning Versus F2F Learning**

### ***2.2.1 Definition of Online Learning and F2F Learning***

F2F learning, also referred to as in-person or on-campus learning, is a traditional learning method where teachers and students meet in person at specific times and locations (Ambrose et al., 2010). This allows for real-time interaction and collaboration between teachers and students, as well as between students.

On the other hand, online learning, also known as e-learning, distance education or web-based education, entails a virtual learning system that combines internet connectivity with teaching and learning processes (Adebo, 2018; Koirala et al., 2020; Yang & Kang, 2020). The delivery of instruction through different multimedia and internet platforms and applications is encompassed in electronically delivering instruction (Maddison et al., 2017), which provides students and educators with the ability to utilize computer technologies for designing, creating, delivering, and managing educational content (Suksomboon et al., 2007).

With the emergence of the Internet, online learning offers the advantage of surpassing the limitations of time and space (Nguyen et al., 2020), unlike F2F learning which is restricted to specific schedules and locations. It is crucial to note that F2F learning requires physical contact between teachers and students in a shared environment. As highlighted by Urner (1988), F2F courses adhere to the traditional format in which educators and learners interact in real-time interaction within the same physical space.

### ***2.2.2 Popularity, Growth and Challenges of Online Learning***

Since 2008, the popularity of online courses in higher education has increased, as demonstrated by the participation of millions of students (Abdull Mutalib et al., 2022; Greenhow et al., 2022; Yu, 2022). This trend was expected with the increasing ease of access to online learning and more providers of online learning, however, while some contend that the internet can provide an excellent learning platform (Summers et al., 2005), others remain skeptical (Kalberg, 2005; Parkhurst et al., 2008; Urtel, 2008; Welker & Berardino, 2005). As time has evolved, individuals have transitioned from adopting polarized stances toward online learning to embracing a more holistic and inclusive perspective that encompasses both its benefits and drawbacks (Bibi et al., 2022; Ghaderizefreh & Hoover, 2018; Hopwood, 2022; Spitz, 2019).

Proponents argued that online learning has the ability to overcome any obstacle arising from personal circumstance (Masalimova et al., 2022), for example familial or occupational obligations that may clash with synchronous F2F learning requirements. Learning online can help conquer the problem of time, enabling students to better utilize the limited time they have (Fidalgo et al., 2020; Hussein et al., 2020; Schleicher, 2020). Schleicher (2020) suggested that online learning is actually more cost-effective when compared to F2F learning, highlighting the potential economic benefits associated with online education. Through online learning, various costs associated with traditional classroom environments are usually reduced. These costs may include costs related to physical infrastructure, transportation, textbooks, and other resources. The flexibility and scalability of online learning also enable educational institutions to reach a wider audience without incurring significant additional costs.

Some argued that online courses have not yet been proven to be an efficient mode of learning (Kalberg, 2005; Parkhurst et al., 2008; Urtel, 2008; Welker & Berardino, 2005). Over 15 years ago, Parkhurst et al. (2008) believed that the popularization of online courses heralded the McDonaldization of education. ‘McDonaldization’ is a concept originated by George Ritzer in 1992, originally used to describe the process of standardization and efficiency in fast food restaurants, particularly McDonalds. What Parkhurst et al. (2008) suggested was that personalized and unique courses taught by specialized faculty members were, at the time, being substituted with standardized courses centered on generic content and assessments in the form of multiple-choice exams. As a result, the quality of online courses gradually declined (Balci et al., 2013). Critics of online learning have also pointed out that online learning maintains distance between students and their peers, and between teachers and students (Parkhurst et al., 2008; Urtel, 2008). For instance, in asynchronous online courses, students are unable to participate in impromptu and open discussions online. Teachers and students may communicate through email, announcements or in discussion threads which often see periods of time pass between posts.

However, the ongoing validity of the study's findings may be doubted due to the temporal relevance of the study (Kalberg, 2005; Parkhurst et al., 2008; Urtel, 2008; Welker & Berardino, 2005). In recent years, scholars have taken an increasingly critical view of online learning, offering a more nuanced consideration of its potential strengths and weaknesses (Bibi et al., 2022; Ghaderizefreh & Hoover, 2018). It is important to note that many studies from 15 years ago viewed online learning primarily in a negative light (Kalberg, 2005; Parkhurst et al., 2008; Urtel, 2008; Welker & Berardino, 2005), while contemporary literature tends to take a more neutral stance, acknowledging its advantages and limitations (Bibi et al., 2022; Ghaderizefreh & Hoover, 2018; Hopwood, 2022; Spitz, 2019). The phenomenon of

McDonaldization in education has morphed significantly, with the emergence of various platforms enabling students to independently choose courses that suit their interests, thus promoting personalized learning experiences (Zhang, 2022). Nevertheless, it must be emphasized that the academic community continues to explore the adverse emotional effects that students may encounter in the field of online learning.

Kreijns et al. (2003) and Welker and Berardino (2005) pointed out that in educational research, there is a lack of active inquiry into students' emotions and feelings, and students may feel fear, worry, or anxiety due to technological changes. This emotional confusion often leads to reduced motivation to participate and challenges in the online environment (Wang et al., 2021). In addition, research has documented the coexistence of anxiety and positive emotions among students during online learning, especially in relation to the COVID-19 pandemic, with identified sources covering a wide range of fields (Beirne et al., 2021). The transition to online classes triggered by the pandemic has produced both favourable and unfavourable emotional responses among students, for some manifested by increased anxiety, depression, and fatigue (Bibi, 2022). It is noteworthy that the clarity and understandability of online learning materials contribute to increased satisfaction and reduced negative emotions, while factors such as course complexity, pace, and ambiguity can exacerbate emotional distress (Ghaderizefreh & Hoover, 2018). Furthermore, recent academic research has shed light on new challenges in online learning, particularly regarding students' interpersonal dynamics with their tutors and peers. Hopwood (2022) highlighted the disruptive potential of online learning for peer relationships, while insights from social work education highlight the need to foster strong teacher-student relationships in distance learning environments (Spitz, 2019).

In conclusion, the effectiveness of online learning remains a contentious topic, underscoring the need for a comprehensive examination of the advantages and challenges of learning modes to shed light on the most effective educational approaches.

### ***2.2.3 Importance of Talking about Advantages and Obstacles of Online Learning vs F2F***

Researching the motivations behind online and F2F learning has become imperative, especially in the context of the heightened attention online education has received over the past four years due to the prevalence of online learning within COVID 19 context (Thamri et al., 2022; Williamson, 2021). More and more research has begun to compare the advantages and benefits of online and F2F learning (Paulsen & McCormick, 2020; Salmani et al., 2022), spanning areas such as learning outcomes, student satisfaction, learning preferences and learning habits (Farrell & Brunton, 2020; Paulsen & McCormick, 2020).

Online education has the potential to offer students a sense of academic challenge, which can lead to heightened involvement and drive (Paulsen & McCormick, 2020). When they encounter and overcome the inherent obstacles of online learning, individuals are required to cultivate critical thinking capabilities and hone their problem-solving skills. Consequently, this level of challenge cannot only deepen their learning experience, but also ultimately enrich educational results (Paulsen & McCormick, 2020). Additionally, online education enhances students' creativity and self-learning (Akhter & Mahmood, 2018). To be specific, as students engage in online courses, they are required to be self-motivated and take the initiative in their own learning, which ultimately encourages the cultivation of efficient study strategies and self-regulation.

In contrast to F2F learning, online learning has been consistently associated with a worrying outcome over the past two decades: student dropout rates (Stiller & Köster, 2016). Certain studies have shown that the dropout rate of online students was higher online than that of F2F learners (de la Fuente et al., 2021; Tayebi et al., 2021). The root cause of this phenomenon is multifaceted, and as Meneses and Marlon (2020) made clear, online higher education dropout rates are influenced by various factors, including course and programme characteristics, student attributes, and environmental factors. A prominent influencing factor revolves around curriculum characteristics and, as Ferreira et al. (2018) asserted, that inadequate consideration of students' diverse characteristics in learning design and delivery approaches may lead to higher dropout rates. In addition, student-related factors also play a key role, with some studies showing a correlation between computer anxiety and dropout rates (Stiller & Köster, 2016). Students who exhibit computer anxiety may have apprehensions or reservations about technology-mediated learning environments, which may hinder their participation in and adherence to online courses. However, there are more articles that attribute the high dropout rate of online learning to low motivation (Baigarayev et al., 2021; Paas et al., 2005).

While online learning has certain advantages about students' engagement, creation and self-regulation, it is not without inherent limitations when compared to F2F education. It is crucial to mention that online learning may not be suitable for practical disciplines and its scope of application may be limited (Adedoyin & Soykan, 2023; Camerini et al., 2018; Lata & Ram Kudi, 2022; M Nur, 2022). As Salmani et al. (2022) underscored, online learning often lacks the depth of interaction with instructors and peers that characterizes F2F teaching. Consequently, online learning may not enjoy widespread popularity among students and may be less effective in specific subjects, such as physics and nursing (Lata & Ram Kudi, 2022; M

Nur, 2022). These subjects require F2F instruction to enhance engagement and provide practical experiences essential for students to master the material effectively.

The advantages of online learning over F2F teaching extend beyond the areas mentioned in the literature. Its shortcomings are not limited to a non-personalized curriculum, negative attitudes among students, lack of interactivity, or challenges with the widespread adoption of online education in some regions (Adedoyin & Soykan, 2023; Camerini et al., 2018; Lata & Ram Kudi, 2022; M Nur, 2022). However, this study aimed to focus on one area in particular: student motivation in relation to online and F2F learning.

## **2.3 Motivation in Online and F2F Learning**

### ***2.3.1 Introduction to Motivation as a Concept***

Motivation is a crucial area among behavior and psychology and has long been a topic of interest among scholars (Vu et al., 2022). It is considered a cornerstone in the field of behavioral psychology and is of high importance in the field of education (Sahin, 2017). Motivation, as a concept, extends its influence to various fields, penetrating our professional and personal spheres (Cook & Artino, 2016). From its Latin root “*movere*”, the term “*motivation*” derives etymologically and can be seen as encompassing all factors that induce movement when taken literally (McInerney, 2019).

According to Kleinginna and Kleinginna (1981), “motivation refers to those energizing/arousing mechanisms with relatively direct access to the final common motor

pathways, which have the potential to facilitate and direct some motor circuits while inhibiting others” (p.272). In some theories, motivation is usually the result of evaluating a person's intended behavior, for instance in self-determination theory (SDT) (Gagné & Deci, 2005) and self-regulation (Baumeister & Vohs, 2007). Although the term *evaluation* is not commonly used in the context of motivation, its underlying process is similar to that observed in emotional research (Gedera et al., 2015). This evaluation combines two key elements, as described by Wigfield and Eccles (2002): the value attached to the behavior and its expected outcomes; and our belief in the likelihood of achieving those outcomes. These aspects of motivation, known as expectancy and value, are explicitly addressed in theories like expectancy-value theory (Eccles & Wigfield, 2020), attribution theory (Graham, 2020), control-value theory (Pekrun et al., 2017), and Dweck's integrative theory (Dweck, 2017). Though motivation theories do not stand alone, for the purpose of this research study I will be focusing on EVC theory, which adds the element of cost.

### ***2.3.2 The Impact of the COVID-19 Pandemic on Education and Motivation***

The COVID-19 pandemic has triggered major changes in education, with people turning to online learning platforms. This shift had a considerable impact on students' learning, well-being and motivation, affecting their perceptions, values, goals and behaviours (Fong, 2020). Among this digital transformation, the importance of student motivation becomes a key factor in academic success and engagement (Dahlana, 2019; Nguyen, 2021).

Many studies have shown the negative impact of the pandemic on students' motivation, including learning loss, decreased engagement, and impaired well-being (King et al., 2022).



Various factors such as reduced social interaction and disrupted social structures, contribute to these challenges (Gruber et al., 2021; Scott et al., 2021). However, some scholars believed that students' motivation remains strong during the pandemic due to the influence of core driving factors and intellectual factors (Hikmiyah & Burhanuddin, 2020; Maukar et al., 2022).

The impact of the pandemic on students' motivation has provided us with valuable insights into the dynamics of learning. The decline in motivation is a prominent concern in modern education, and it could be argued that COVID-19 has exacerbated this issue (Son et al., 2020). Therefore, in order to foster positive learning experiences and enhance student motivation, educators and institutions must understand and address these motivational dynamics (Lu et al., 2022). Establishing an environment conducive to students' learning that positively influences student motivation requires a comprehensive understanding of the complex interplay of factors involved (Wang & Eccles, 2013).

While the research highlighted the pandemic's general impact on motivation, further investigation is needed to compare and contrast the experiences of students learning online versus those in F2F settings. Do the challenges and potential benefits regarding motivation differ depending on the learning modality? Delving deeper into this question can inform tailored strategies for fostering motivation in each specific context.

### ***2.3.3 Motivation Levels in Online Versus F2F Learning***

In the evolving educational landscape, recognizing the importance of motivation levels in comparing online and F2F learning is essential. While online learning has become a viable alternative to F2F education (Mark Hochberg, 2006), it is important to consider students' preferences and perspectives. By considering their preferences, educators can design learning experiences that cater to students' interests, learning preferences and preferred interactive modes (Ismaeel & Al Mulhim, 2019).

There is no apparent consensus in literature regarding motivation levels comparing online and F2F learning. Some scholars argued that there exists no discrepancy in learning motivation between online students and F2F students (Allen et al., 2002; Driscoll et al., 2012; Fortune et al., 2011; Francis et al., 2019). However, there are few studies that show that a student's online learning motivation is higher than F2F learning. The only one I found was more than 20 years old which was by Fredericksen et al., 1999. He pointed out that students in the online learning environment indicated higher levels of motivation when the course content was designed to be interactive and engaging, with clear learning objectives and feedback (Fredericksen et al., 1999). It is worth noting that Fredericksen et al.'s study was conducted more than 20 years ago, so its conclusions may not reflect the current climate of education. Still, the study did offer valuable perspectives into the factors that influenced online learning motivation at the time. Conversely, some studies argued that motivation for F2F learning might exceed that of online learning (Candelaria & Clements, 2023; Stark, 2019).

### ***2.3.4 The Advantages and Disadvantages of Online and F2F Learning That Affect Motivation***

The challenges associated with online learning significantly affect students' overall learning motivation (Nasution et al., 2021). The challenges include low attendance, lack of online support, and limited infrastructure, all of which hinder students' engagement and motivation in the online learning environment (Baharum et al., 2020; Wright, 2017). In particular, the challenges of insufficient online support and limited infrastructure highlight the prominent drawbacks of online learning (Adedoyin & Soykan, 2023; Zilka et al., 2021). In some regions, the current telecommunication framework may prove inadequate in facilitating a widespread transition towards digital pedagogy. This could potentially lead to sluggish internet speeds, connectivity interruptions, or insufficient capacity, all of which may hinder the efficacy of online education (Zilka et al., 2021). Additionally, socioeconomic differences can lead to unequal access to technology and Internet services. Students from disadvantaged families may struggle to afford the necessary equipment or Internet access plans, leading to further educational inequity (Camerini et al., 2018).

The study by Thamri et al. (2022) elucidated another reason why online learning leads to a decrease in student learning motivation. Thamri et al. (2022) carried out a study examining the experiences of 118 undergraduate students from the English Department of an Indonesia university with online learning amidst the COVID-19 pandemic. They pointed out that more than half of the research participants were unsatisfied with their online learning experience. Researchers analyzed participant questionnaire responses to identify potential factors of student dissatisfaction with online learning. They found that the main reason for the

weakening of motivation was the lack of engaging lectures, which made students feel bored (Thamri et al., 2022).

Contrary to the research findings of Thamri et al. (2022), a study conducted by Bi et al. (2023) compared the motivation levels of online learning and F2F learning. Bi et al. observed that students who take part in online learning exhibit higher interest in their courses compared to those who participate in traditional F2F courses. This higher motivation, to some extent, implies an enhancement of learning motivation (Zazarwait et al., 2022). However, studies from Thamri et al. (2022) and Bi et al. (2023) attributed their results to a common factor - engaging course content. Bi et al. (2023) attributed the higher level of interest in online learning to the use of modern teaching and communication methods in the e-learning environment, which effectively attract students' attention. The views of Thamri et al. (2022) and Bi et al. (2023) both confirmed the importance of interest in cultivating student motivation. This understanding emphasized the importance of providing engaging interactive content online as well as F2F education platforms to maintain student interest and motivation.

In summary, motivation plays a crucial role in both online and F2F learning environments, considerably influencing student engagement, academic performance, and overall learning outcomes (Hensley et al., 2021; Randi & Corno, 2022). Many studies have encountered challenges related to technology and Internet access, and students' interest in learning seems to be an important influencing factor of motivation. These studies not only elucidate the pros and cons of motivational influences in two learning modes, but also emphasize the specific challenges and complexities inherent in participating in online learning environments. In

order to further explore the main factors that influence motivation beyond interest, the EVC theory provides a powerful framework for understanding how students evaluate their motivation based on their expectations, perceived value, and perceived cost (Atkinson, 1957; Francis et al., 2019).

## **2.4 Expectancy-Value-Cost Theory**

### ***2.4.1 From Expectancy-Value Theory to EVC Theory***

The EVC theory is an extension of the expected value theory (EVT) introduced by Atkinson (1964). The EVT model has significantly influenced the study of student motivation, exploring its relationship to academic choice, learning behaviour, and achievement (Brophy, 1983; Jiang et al., 2018). It offers a simple framework for understanding student motivation that revolves around two key factors: expectations, or beliefs about task success, and task value, including personal meaning and intrinsic interest (Cook & Artino, 2016; Wigfield & Eccles, 2000).

EVT has traditionally emphasized expectations and value beliefs with a limited focus on cost primarily focusing on explaining why students are positively motivated about tasks. It is equally critical though to understand reluctance about certain tasks (Rosenzweig et al., 2019).

Past research has highlighted the need to incorporate cost beliefs into the theory (Barron & Hulleman, 2015; Bergey et al., 2018; Flake et al., 2015). In essence, cost refers to the negative aspects that students associate with engaging in a task (Barron & Hulleman, 2015).

For example, university students' dropout rate can be accurately anticipated by considering the cost factor, rather than attributing it solely to expectancy and value (Perez et al., 2014). By acknowledging the impact of cost, EVC theory provides a more comprehensive understanding of student motivation, including both positive and negative motivational factors in their academic pursuits (Rosenzweig, 2019).

In brief, expectancy refers to the belief that a particular action will lead to a desired outcome, value refers to the importance of the outcome, and cost pertains to the perceived negative aspects or barriers linked to the pursuit of the outcome (Allan & Eccles, 2002). In my research, I employed the EVC scale which was first proposed by Kosovich et al. (2015) as a means of gauging the factors affecting motivation. This scale offered a pragmatic instrument for assessing motivation, enabling me to evaluate individuals' prospects of success, the significance they attach to accomplishing a particular objective, and the perceived expenses associated with pursuing that aim.

#### ***2.4.2 Identifying the Most Important Factor of EVC Theory***

Determining the most influential factor among the three factors in the EVC theory is crucial for understanding motivation. Robinson et al., (2019) indicated that expectancy, value and cost exhibit distinct developmental patterns and have unique associations with predictors and outcomes. These results expanded theoretical comprehension of motivation. Previous research on EVC theory has not yet achieved consensus on the most influential factor among the three factors.

Identifying the most crucial factor is important as it allows us to concentrate our efforts on enhancing that particular factor (Alqahtani & Rajkhan, 2020; Sun et al., 2008). For example, if students consider the quality of the course to be the most important factor in improving their motivation, then we as teachers can focus on improving the design and implementation of the course, which is related to value. Conversely, if students believe convenience, which is connected to cost, is more important in improving their motivation to learn, then we can focus on providing students with the support they need.

While these factors are interrelated and vary in importance depending on the individual and the specific situation, they are not always equally important for everyone. Each person has their own unique perspective, priorities, and motivations, which can lead to one factor being more influential than others in a given situation (Kollmuss & Agyeman, 2002).

Various studies have highlighted different factors as the most important in motivating individuals. Ceyhan and Tillotson's (2020) study as well as Stevanović et al.'s (2021) study focused on undergraduate university researchers, who expressed value as being most important in their research experiences. Ceyhan and Tillotson (2020) found students' intrinsic value stemmed from their enjoyment of daily laboratory tasks, learning science, a positive laboratory environment, and interaction with laboratory colleagues. This study emphasized the important role of values in motivating early undergraduate researchers to participate in research, with intrinsic value becoming the main motivating factor. In the area of motivation also, Stevanović et al.'s (2021) study showed value affects motivation levels by different age levels. Their research involved 832 participants, with a focus on understanding the motivational levels of first grade students compared to older students. This study revealed a

noteworthy trend: compared to older students, first grade students exhibit significantly lower levels of motivation in the online learning process. These young students believed that distance learning was low value and unengaging, which seriously affected their motivation levels.

An alternative viewpoint emerges among other students who assert that cost plays a pivotal role in motivation. Hung et al. (2010) conducted a study involving 1051 university students in five online courses in Taiwan. Their research showed that students see learning on the Internet as a low-cost, convenient option, especially when managing work, family responsibilities, and school commitments, making students more willing to study online. More recently, Munir and Sholehah (2021) conducted a survey among students in Islamic primary schools, finding the motivation of students to study online at or below 70% during COVID-19. Factors such as Internet signal and mobile phone use were identified as influencing their level of motivation. It is worth noting that the former study was conducted before the pandemic with older students, while the latter study was carried out during the pandemic with younger students. Despite the differences in timing and demographics between these studies, they both reached the same conclusion.

Expectancy has also been recognized as the most critical factor in motivation (Cook & Artino, 2016; Kim & Frick, 2011; Nehme, 2010; Syauqi et al., 2020). Nehme (2010) synthesized the research results of many articles focusing on law students. He observed that first-year law students may lack motivation to participate in online learning due to students not knowing what to expect from the environment and not recognising the benefits. Cook and Artino (2016) also argued that expectancy is most related to participation and closely related



to actual success based on a summary of contemporary motivation theories as well as practical applications. To put it another way, learners who hold high expectations of success are more likely to participate in the learning process, process information more deeply, and achieve better learning outcomes. Syauqi et al. (2020) contributed to this understanding, revealing that mechanical engineering students feel motivated due to easy access to resources when they are learning online, which is related to expectancy. The findings of Syauqi et al. suggested that teachers are not aligned with students' expectations when it comes to managing online learning. Students felt that online learning did not provide a better experience and productivity in terms of mastery. Furthermore, Kim and Frick's (2011) research, which focused on undergraduate and graduate students in American universities, pointed out that if students perceive learning goals as relevant and feel capable of using technology, they are more likely to be motivated when starting self-directed e-learning. This insight emphasizes the importance of aligning learning objectives with students' perceptions of relevance and their comfort with technology, which can increase their motivation and engagement in online learning environments.

Similarly, Stiensmeier-Pelster and Otterpohl (2018) posited the dominance of expectancy as the primary factor in F2F learning. Their study underscored the significance of students' beliefs regarding academic self-image and general self-concept in shaping expectancy. These outcomes encompass factors such as the choice of study topics, level of engagement and persistence in learning, as well as overall achievement and performance.

Educational motivation is a multifaceted concept, influenced by many factors. Studies by Ceyhan and Tillotson (2020) and Stevanovic et al. (2021) highlighted the importance of

value. Furthermore, the views of Hung et al. (2010) and Munir and Sholehah (2021) highlighted the impact of cost and external factors (such as Internet access) on student motivation, especially in an online learning environment. In addition, expectation is a key factor (Cook & Artino, 2016; Kim & Frick, 2011; Nehme, 2010; Syauqi et al., 2020), affecting student engagement and learning success. Expectations are affected by students' perceptions of the learning environment, beliefs about their own abilities, and the relevance of learning goals. Research by Stiensmeier Pelster and Otterpohl (2018) further highlighted the importance of expectations, especially in F2F learning settings, and their relationship to academic self-image and self-concept. Expectation, value and cost are therefore key factors closely related to motivation and closely related to actual success, underscoring the multifaceted nature of motivation in the context of education.

## **2.5 Aotearoa New Zealand Context**

The continuous transformation of the education landscape is reflected in the enormous appeal gained from global discussions on the comparison of motivation between online and F2F learning modes. In the studies mentioned thus far in this chapter, researchers such as Cook and Artino (2016), Fortune et al. (2011), Francis et al. (2019) and Kim and Frick (2011) directed their investigations towards analyzing US students, while Syauqi et al. (2020) and Thamri et al. (2022) delved into the experiences of participants in Indonesia. Further contributing to this discourse, Rosenzweig et al. (2019) conducted their research in the UK, Stevanović et al. (2021) explored the Serbia context and Ceyhan and Tillotson (2020) investigated in Turkey. Despite extensive research on this topic on a global scale, there are still considerable gaps, especially in research related to the tertiary education context in Aotearoa New Zealand. Discussing the subject in the context of Aotearoa New Zealand is

important due to the country's social and cultural background, as well as the distinct characteristics of its education system (Findsen, 2016; Kēpa & Manu'atu, 2008).

In terms of Aotearoa New Zealand's educational research, there is an obvious gap in the research of student motivation under the umbrella of EVC theory. Few articles make use of this theoretical framework, and even when they do, the focus tends to deviate from the study of learning motivation (Baskerville, 2005). Specifically, Baskerville's research objective focused on assessing Aotearoa New Zealand's response to the exposure draft, aimed to measure the effectiveness of due process and hypothesize the drivers behind fluctuations in response levels. While Baskerville's research contributed to the literature by incorporating EVC theory, it was not centered on analyzing student motivation but examined the level of voter response to an exposure draft in accounting standard-setting.

In contrast, some student motivation research in Aotearoa New Zealand has used other, connected frameworks. For example, Zhu et al. (2020) adopted Herzberg's motivation theory to study the motivation of student workers in the work environment, providing another perspective on student motivation. Qin's (2021) research used SDT to study student motivation, with a particular focus on online learning motivation. The Aotearoa New Zealand educational research landscape therefore reflects a variety of approaches to studying student motivation, including various theoretical frameworks such as Herzberg's motivation theory and SDT. By exploring the complexity of education and social work students' motivation using the EVC framework, my research strived to provide original insights and contribute to the existing body of knowledge.

While previous research has touched upon different aspects of comparing motivation between online and F2F learning, there has been a lack of attention to specific concerns regarding university student motivation in the educational setting of Aotearoa New Zealand. Perera et al.'s (2021) study focused on academic staff observations in a tertiary institution, while Yates and Starkey's (2021) research specifically targeted high school students. The need for a more detailed exploration, particularly regarding university students' perspectives, is still an important aspect of understanding the dynamics of learning motivation in the educational landscape of Aotearoa New Zealand.

## **2.6 Conclusion**

The comparison between F2F and online learning environments highlighted the complex dynamics surrounding educational provision and student engagement. F2F learning provides real-time interaction and collaboration (Gruber et al., 2021; Scott et al., 2021), while online learning goes beyond the limitations of time and space, with flexibility and accessibility (Nguyen et al., 2020). In recent years, driven by technological progress and the prevalence of COVID-19, the popularity of online courses has soared, but its effectiveness and impact on students' motivation are still controversial (Bibi et al., 2022; Ghaderizefreh & Hoover, 2018). Online learning has many advantages, including cost-effectiveness and scalability, but people still worry about dropout rates (Stiller & Köster, 2016) and emotional health (Bibi, 2022).

The pandemic has amplified these concerns and revealed the importance of understanding the motivational factors that influence student participation (Wang & Eccles, 2013; Lu et al., 2022). Despite differing perspectives, recognizing the advantages and challenges of each

approach is crucial for making informed decisions and pursuing effective educational strategies (Nasution et al., 2021). With the development of education, continuous research and dialogue are important for mastering complex modern learning environments and cultivating student success (Dziuban et al., 2018). In this situation, educators are encouraged to reassess their teaching methods and incorporate emerging technological advancements into their curriculum and curriculum to meet the constantly changing needs of students in today's rapidly developing world (Bi, 2023). This adaptation may help students achieve success in online learning environments (Francis et al., 2019).

EVC theory is an extension of EVT that enriches our understanding of student motivation by integrating the perceived costs associated with academic tasks. While EVT has traditionally emphasized expectations and task value, the inclusion of cost beliefs offers a more comprehensive framework for understanding motivation in the context of education (Jiang, 2021). Through the lens of expectation, value, and cost, researchers can dissect the complex motivations that drive student engagement and achievement. The importance of identifying the most influential factors among expectation, value, and cost is that it makes it possible to tailor interventions and support systems to effectively enhance student motivation (Alqahtani & Rajkhan, 2020; Sun et al., 2008). The existing literature presents differing views on the most critical factors, emphasizing intrinsic value, age-related differences, cost considerations, and the role of expectations in shaping motivation in a variety of educational Settings.

However, in the context of Aotearoa New Zealand, research has identified a clear gap, with regard to the application of EVC theory to understanding university student motivation.

Although existing research drew on other theoretical frameworks, such as Herzberg's Theory

of motivation and SDT, there is a potential need to explore student motivation in depth within the Aotearoa New Zealand higher education sector using EVC. Addressing the gap of the present educational studies not only contributes to the global discussion on educational motivations, but also to the development of tailored strategies to support and enhance student engagement and success in Aotearoa New Zealand's unique educational environment (Qin, 2021).

Considering the above literature review, two research questions (RQs) were developed for this study: firstly, *How do the levels of motivation of university students differ between learning in online and face-to-face delivery modes?* (RQ 1); and secondly, *Which factors in the EVC theory influence the levels of motivation of university students? Why?* (RQ 2). The literature review emphasized the key role of motivation in student participation and academic performance (Hensley et al., 2021; Randi & Corno, 2022). It also emphasized the impact of delivery mode, especially the rise of online learning during the COVID-19 pandemic, on student motivation (Fong, 2020). The EVC theory has been established as a relevant theoretical framework to examine the multifaceted nature of student motivation, taking into account its emphasis on expectations, perceived value, and perceived cost (Atkinson, 1957; Francis et al., 2019). These RQs aimed to help gain a deeper understanding of the complex interactions between student motivation and the learning environment, thereby providing information for educational practices and interventions in both F2F and online environments.

## **Chapter 3: Methodology**

### **3.1 Introduction**

In this chapter, I present my research methodology, which combines quantitative questionnaires with qualitative semi-structured interviews to gain a comprehensive understanding of university students' motivations in both online and F2F learning environments, with a specific view to answer the following RQs:

1. How do the levels of motivation of university students differ between learning in online and face-to-face delivery modes?
2. Which factors in the EVC theory influence the levels of motivation of university students and why?

I firstly explain why I have chosen the University of Auckland as my research site, and then detail how I selected and recruited the participants to collect data. This chapter goes on to outline the rigorous analytical approach I employ; quantitative techniques for identifying motivational patterns and qualitative insights for revealing underlying themes in interview responses. I highlight research reliability and credibility by emphasising careful planning, peer review, and consistency with established theoretical frameworks. Ethical rigour is always emphasised, covering important aspects such as anonymity, confidentiality, informed consent, participant rights, conflict of interest management, data management, voluntary participation and statements of assurance.

### **3.2 Research Approach**

This study employed a mixed approach using both quantitative and qualitative techniques through an anonymous questionnaire and semi-structured interviews respectively. This method leverages the advantages of qualitative and quantitative methods while overcoming individual limitations (Hadi et al., 2013). This fusion not only produces high-quality research results, but also contributes to a comprehensive and thorough understanding and validation of research inquiries (Creswell & Creswell, 2017). It is worth noting that Tashakkori and Teddlie (2010) emphasised that mixed methods research leverages the problem-solving acumen of researchers, thereby yielding more reliable and credible conclusions.

This study was divided into two different stages, the first being quantitative data collection and the second being qualitative data collection. Initially, an anonymous questionnaire was conducted with undergraduate and postgraduate participants in a university environment. Subsequently, the second phase of the study included interviews with participants who voluntarily participated in this phase. During the interview phase, participants elaborated and supplemented their responses to the initial questionnaire (Oancea & Punch, 2014). In addition, participants were asked to provide detailed examples of why certain factors were crucial in motivating them to learn. Moreover, this study explored how external factors outside the EVC theoretical framework affect participants' motivation to learn.



### **3.3 Research Methods**

#### ***3.3.1 Site Selection***

The selection of the University of Auckland as the designated research site was based on several considerations. Firstly, the university enjoys a high reputation among the top 100 universities worldwide, ensuring a favorable and academically rich environment for research work. Additionally, the existing literature review highlights the gaps in research within the Aotearoa New Zealand context, making the chosen topic relevant and requiring timely investigation in that specific location. Moreover, being a student at the University of Auckland provided me with access to the necessary resources, facilities, and participants for research purposes. Ultimately, the alignment between the research objectives, the university's academic reputation, and the accessibility of resources underscores the rationale for selecting the University of Auckland as the research site.

#### ***3.3.2 Participants***

The aim of the study was to enlist undergraduate and postgraduate students studying teaching within the Faculty of Education and Social Work at the University of Auckland. In the initial data collection phase, assistance was sought from 13 programme leaders to distribute the anonymous questionnaire link via Canvas, the university's learning management system. Ultimately, six programme leaders facilitated the distribution of links to the online, anonymous questionnaire through an announcement to students. A total of 39 students successfully completed the questionnaire; 21 from undergraduate programmes and 17 from post-graduate programmes. Of the 39 students who completed the questionnaire, 8 were

studying part-time while 31 were enrolled in a full time programme of study; 25% of students were learning online while 75% were studying their respective programme F2F .

At both the start and conclusion of the questionnaire, participants were asked if they were interested in participating in a subsequent interview. Among the questionnaire participants, 26 students indicated their willingness to partake in an interview. A total of six participants were interviewed, however, due to a technical issue only the transcripts from five participants were included in data analysis. All six interview participants were from master level programmes. Among them there were three teachers, one of them was a secondary school teacher and two were primary school teachers.

### ***3.3.3 Data Collection***

#### ***3.3.3.1 Questionnaire***

The collection of data took place in 2023. After receiving ethics approval for the project (see Appendix A), the student researcher approached programme leaders to seek their consent for inviting students to participate in the research. Upon obtaining consent from programme leaders (see Appendix B), invitations were disseminated through the Canvas announcement page by the student researcher. Students who expressed interest in participating in the research were directed to a Qualtrics link, where they could read the participant information sheet (see Appendix C) and the anonymous questionnaire (see Appendix D) for the online view of the questionnaire) on the understanding that submitting the questionnaire was considered consent to participate.

The anonymous questionnaire was structured into two core sections. Firstly, participants provided demographic details such as their programme of study, current course mode (part-time or full-time), learning status (whether online or face-to-face), and their current study year. Second, they responded to ten Likert scale questions:

1. I know I can learn the material in my courses.
2. I believe that I can be successful in my courses.
3. I am confident that I can understand the material in my courses.
4. I think my programme is important.
5. I value my courses.
6. I think my courses are useful.
7. My assignments of courses require too much time.
8. Because of other things that I do, I don't have time to put into my courses.
9. I'm unable to put in the time needed to do well in my courses.
10. I have to give up too much to do well in my courses.

It is important to note that questions 1-3 are related to expectation, questions 4-6 are connected to value, and questions 7-10 pertain to cost. The Likert scale utilised a six-point system including strongly disagree (1), disagree (2), slightly Disagree (3), slightly agree (4), agree (5), and strongly agree (6). The questions were presented in a column, with two scale columns for responses, one for online learning and the second for F2F learning (see Appendix D). The questions above were specifically designed to assess both online and F2F

learning experiences, taking inspiration from the framework developed by Kosovich et al. (2015). The estimated completion time of the questionnaire was ten minutes.

Following the completion of the anonymous questionnaire, participants willing to engage in an interview were provided with a second link to the interview application link (see Appendix E) and consent form (see Appendix F) to provide their contact details. Participants also had the choice to exclusively sign up for the interview by selecting the interview application link at the questionnaire's outset, without needing to submit the online questionnaire. The interview application step included indicating their preferred interview time and method, which could involve an online interview or an in-person meeting with the student researcher at one of the University of Auckland campuses.

### ***3.3.3.2 Interview***

A pilot interview was carried out with a critical peer to evaluate the comprehensibility of the interview questions for participants. After the pilot interview, a number of modifications were implemented with the intention of improving clarity. These adjustments included simplifying the questions to facilitate understanding and incorporating rating scales to differentiate between online and face-to-face motivation. The final interview segment encompassed six questions that address all aspects of the RQs, focusing on participants' perspectives regarding both online and F2F learning (see Appendix G for the full interview protocol). Each interview lasted approximately 30 minutes. The interview questions explored the motivation levels of participants in both online and F2F learning modes. Participants were requested to evaluate and elaborate on their motivation in each mode, taking into account the factors of

EVC theory. They were also asked to give specific examples to demonstrate the impact of these factors on motivation. Moreover, the participants were probed about factors other than EVC in both modes. Finally, the interview concluded by seeking information concerning observed motivation discrepancies between online and F2F modes among their peer group and pinpointing contributing factors. As an example, an interview query might inquire about the contrast in motivation levels between online and F2F delivery modes.

### ***3.3.4 Data Analysis***

#### ***3.3.4.1 Quantitative Analysis***

The researcher began by collating the demographic data about the students who completed the anonymous questionnaire. This included the number of participants, their respective enrolment plans, enrolment status, year of study, current delivery model and preference for educational programmes. I created tabular data and generated bar charts to visually represent student numbers and demographic information.

Following the demographic overview, I delved deeper into the motivations behind online and F2F learning by conducting a t-test analysis in Excel. I assumed equal variances between the two groups and compared the mean scores for each motivation variable to assess potential statistically significant differences between the online and F2F learning populations. This analysis was structured around the ten key questions and further divided into three distinct factors for each mode of learning: expectations (questions 1-3), value (questions 4-6), and cost (questions 7-10). Using tabular data to generate a bar chart, the Likert scale responses to the ten questions across the two learning modes were analysed.

Subsequently, a more detailed statistical analysis was performed. The data obtained from the questionnaire were calculated in a variety of ways, including the mean of all numerical data points, effect size, pattern, standard deviation, T-statistic, and range. To determine the motivational differences between online and F2F learning modes, a t-test was performed using the two-sample hypothesis equivariance method. This rigorous statistical assessment was designed to answer the first research question regarding any potential variation in the levels of motivation based on participants' experiences of different learning modes.

#### ***3.3.4.2 Qualitative Analysis***

The process of analysing interviews was carried out through the use of inductive encoding, which involves identifying patterns and themes in the transcript data. This was done by summarising and transcribing interview data, and then inferring the theme from the content. Key similarities and differences in the data were identified as initial codes. The codes were then grouped into themes, and the results of qualitative data analysis were subsequently elaborated. Initially, six themes and nineteen codes were identified. However, upon recognizing overlaps between them, the analysis was refined to five themes and thirteen codes. For instance, after careful consideration, the "time-consuming" aspect was categorized as part of the "cost" code because that cost encompasses various forms of consumption.

Table 1 presents the themes and descriptive categories that were identified and generated during analysis. In the first column dedicated to themes, there are five themes identified: external commitment, relational learning, expense, personal drivers, and barriers. These themes are then described in the second column and the codes relevant to each theme are listed in the third column. The final column provides an illustration from the transcript. For

instance, under the theme of external commitment, the interviewees mentioned various commitments, such as work or family responsibilities, that could influence their learning, whether it be online or in-person. An example statement could be, "[Going to a physical classroom] wasn't feasible for me because I had to take care of my son."

**Table 1.**

*Themes and Descriptive Categories*

<b>Theme</b>	<b>Description</b>	<b>Applicable codes</b>	<b>Examples from transcripts</b>
External commitments [C]	This theme is related to other commitments such as work and family.	Work Family	"[Going to a physical classroom] wasn't possible for me. Because I have to take care of my son"
Relational learning [V]	This theme related to the perception that f2f learning was easier and better relationally.	Social connection In person support	"You can ask the question and someone else will talk to you and be willing to help you when studying F2F..."
Expense [C]	This theme is relevant to the possible cost of studying online and face-to-face.	Convenient (flexibility) Cost	"[Going to the classroom] was quite time consuming and quite expensive..."
Personal drivers [EV]	This theme is about the unique and intrinsic factors that influence a student's motivation to engage the online or face-to-face studies	Recognition Interest Personal growth Achievement	"I was excited about learning new things..."
Barriers [EVC]	This theme refers to an obstacle or challenge that hinders the process of learning, understanding, or effectively engaging with educational materials, activities, or experiences.	Technical issues Personality Course difficulty	"But I was conscious of my own lack of understanding of the technical skills needed."

*Note.* [E] represents themes related to expectancy, [V] signifies themes related to value, and [C] indicates themes associated with cost.

### **3.4 Reliability and Credibility**

Reliability is commonly characterized by minimal measurement errors, stability, consistency, and the trustworthiness of scores regarding individuals' traits, characteristics, or behaviors under evaluation (Stratford, 1989). Discussing reliability is crucial in professional evaluation as it ensures that the results accurately represent all potential measurement results of the same nature (Heale & Twycross, 2015). Conversely, as Newell and Goldsmith (2001) emphasized, credibility is related to the reliability of the technology used to collect and analyze the data. It is a measure to determine the accuracy and reliability of research results. According to Cope, (2014), assessing credibility enables us to assess the extent to which research can be considered responsible and accurate.

Firstly, within the context of research design, meticulous planning was undertaken by engaging in discussions with my supervisory team, leading to a consensus on research objects, methods, tools, and interview instructions. The content was subsequently scrutinised by both of my supervisors, reinforcing methodological integrity.

Secondly, the instruments used in this study are highly reliable. The main purpose of this study was to examine the changes in student motivation between online and F2F learning methods. The central focus of this investigation was the implementation of EVC theory, which aimed to identify the key factors influencing these motivational differences and measure their relative importance. Keller and Suzuki (2004) argued for the validity of the EVC scale in accurately describing students' online motivation levels. The questionnaire project was adapted from Kosovich et al.'s (2015) questions to ensure consistency with the



established research framework. Reliability estimates are based on the utilization factor  $\omega$  calculation, which is a more accurate measure of internal consistency compared to  $\alpha$  (McDonald, 2013). In addition, Kosovich et al. (2015) utilized rigorous measurement methods to assess the EVC Scale, thereby strengthening the case for its conceptual soundness and theoretical strength. Their research showed that the EVC Scale exhibited a reliable level of consistency over time at the underlying level, further bolstering the credibility of the EVC Scale.

Interview questions were carefully designed and formulated based on the widely acclaimed EVC theory. The interview questions were designed to clarify the root causes behind students' responses to the EVC questionnaire, thereby gaining a deeper understanding of their motivational dynamics. This careful and thorough consistency with existing and extensive research literature adds to the credibility and authenticity of the interview content.

To ensure consistency in data interpretation, I interviewed participants from different programmes in the schools of Education and Social work to mitigate the risk of subjective bias. The interview questions were based on my research questions designed and grounded in EVC theory to understand why students think in a certain way. Moreover, to ensure consistency and reliability of the results, a pilot interview was conducted with a prospective participant. This pilot meeting provided a unique opportunity to identify and resolve any potential ambiguities or differences of understanding regarding interview questions.

Finally, member checks were conducted by sending the translation of the interview response back to the participants' to ensure that their views were accurately captured. This member inspection process enhanced the credibility of interview findings by verifying the consistency between participants' viewpoints and explanatory findings. These steps improve the credibility of interview data, making the research results more credible and effective (DiCicco-Bloom & Crabtree, 2006).

## **3.5 Ethics**

### ***3.5.1 Anonymity***

The questionnaire used in this study ensured anonymity by not collecting any identifiable information. Access to the data was limited to myself and my supervisors. Participants were assured that in the event that they inadvertently gave identifying information, this would be removed before data analysis.

### ***3.5.2 Confidentiality***

During the interview phase, interviews were recorded and participants were assigned pseudonyms. Precautions were taken during the interview phase in order to avoid recording any identifiable details. While participants were asked to introduce themselves at the beginning of the interview, and this may have involved discussing the participant's occupation, specific workplace details were not recorded. All recorded material was encrypted and stored securely on my password protected personal computer.

### ***3.5.3 Informed Consent of Students***

With regard to the online questionnaire, participants were explicitly told that submitting their responses meant that they fully agreed to participate. Before conducting any interview, whether online or in person, participants were required to sign a digital consent form to ensure consent to be interviewed was given in writing. These consent documents are securely stored within the University of Auckland's licenced Qualtrics platform.

### ***3.5.4 Right to Withdraw from Participation***

After submitting the anonymous questionnaire, participants could not withdraw their data, however, they could choose to skip the questions or reject the questionnaire altogether. During the interview, while participants could have declined specific questions or stopped recording, all chose to participate, and activate their cameras. Throughout the process, participants could ask questions using the contact details provided in the PIS. With their consent, the interview was recorded and transcribed, and final transcripts were sent to them for review. Participants could withdraw interview data within two weeks of receiving their transcripts.

### ***3.5.5 Conflict of Interest***

This study was related to the Master of Education programme in which I was enrolled. While it was possible for me to potentially identify the participants due to this association, confidentiality measures ensured that the identities of the participants were not made public. Participation was voluntary and free of any coercion. The supervisors may have taught on some of the courses the participants attended, but they had no role in recruitment or

interviewing. The supervisors only had access to the edited, anonymised transcripts to ensure that participants' voices in the recording could not be identified.

### ***3.5.6 Data Management***

Data will be securely stored for six years at the University of Auckland on a password-protected computer and in the secure Qualtrics platform. After this period, all data will be destroyed in line with the University of Auckland's data management policies.

### ***3.5.7 Voluntary Participation***

When programme leaders invited participants on my behalf, they confirmed that participation was fully voluntary. Programme leaders provided assurance that a student's decision to participate or not in the research would have no effect on their relationship with the programme leader or the Faculty. I fully respected the will of my participants, and they had the right to skip questions or even withdraw from the research. During the interview, participants could refuse to answer any questions or request the interview recording to be stopped at any time without giving a reason. All participants of the questionnaire and interview chose to engage willingly.

## **3.6 Summary**

This chapter presented the research methodology, which was a comprehensive mixed method that combines quantitative evaluations using questionnaires and qualitative insights gathered from semi-structured interviews. The chapter also described the research site, participants,

and provided specific information about the questionnaire and interview content, highlighting the methods used for collecting and analyzing data. Additionally, the chapter addressed reliability and credibility in addition to ethical considerations. In the following chapter, I present the results and findings of the aforementioned data analysis.

## **Chapter 4: Results and Findings**

### **4.1 Introduction**

In this chapter, the results of questionnaire and interview data analysis are presented. Based on the structure of the questionnaire, this chapter first introduces the demographic data of the students, and then presents the analysis of the online learning motivation and the F2F learning motivation Likert responses. The questionnaire conducted in this study aimed to measure students' perceived EVC between online and F2F learning, using a ten-item scale developed by Kosovich et al. (2015). I conducted a t-test to compare the students' learning motivation based on the following influencing factors: expectancy (questions 1 to 3), value (questions 4 to 6) and cost (questions 7 to 10); this analysis allowed me to gain an understanding of participants online and F2F learning motivation and the connection to these factors. Finally, I summarise the correlation between the ten questions and the EVC theory for each learning mode. The second part describes the results of the semi-structured interviews with the five participants and provides insight into the motivation and level of engagement of participants when learning online as well as F2F. The qualitative data is presented under the different themes identified in analysis, and summarised using participants' statements from their interview to give a more in-depth understanding of participants' views, experiences and thoughts.

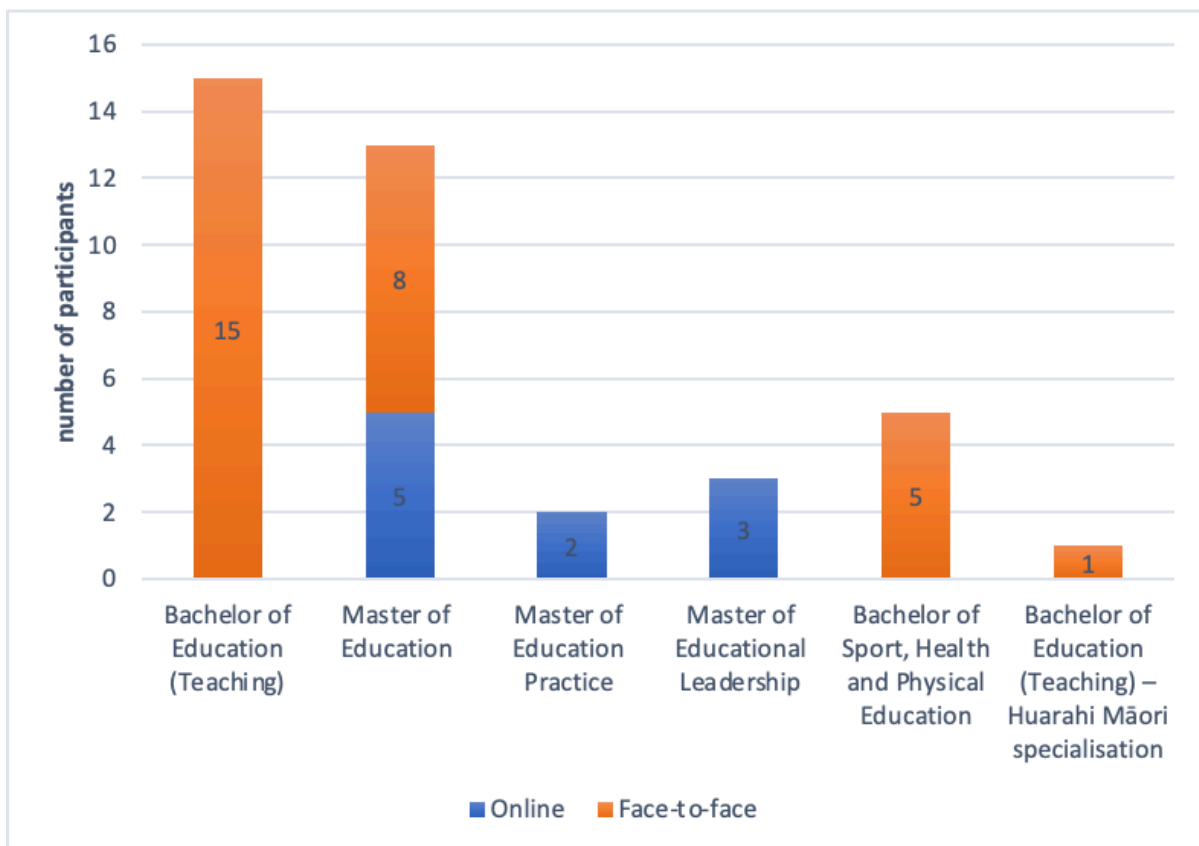
## 4.2. Quantitative Results

### 4.2.1 Participants' Demographic Data

In my study, I explored the educational backgrounds of the participants to gain a better understanding of the diversity within the sample. The figure below shows the number of participants and the programmes they were enrolled in at the time of data collection, as well as the mode of delivery.

**Figure 1.**

*Number of Participants and Programmes They Are Enrolled In*



When analysing the distribution of participants in different educational programmes, the majority of participants (38% of the total sample) were pursuing study toward a Bachelor's degree in Education (Teaching). This programme had the highest participation, with 15

students. The overall number of masters students was 46% while bachelor students in total took 54%. This was followed by the Master of Education programme with 13 participants (33% of the total sample). Other programmes had smaller representation, with only five participants (13% of the sample) enrolled in the Bachelor of Sport, Health, and Physical Education programme. Meanwhile, 8% of participants, a total of three people, were enrolled in the Master's in Educational Leadership programme. Participation from the Master of Education Practice reflected 5%, which equated to two students from this programme and the Bachelor of Education (Teaching) Huarahi Māori (Māori-medium) specialisation accounted for 3% of the participants, with only one participant in the study.

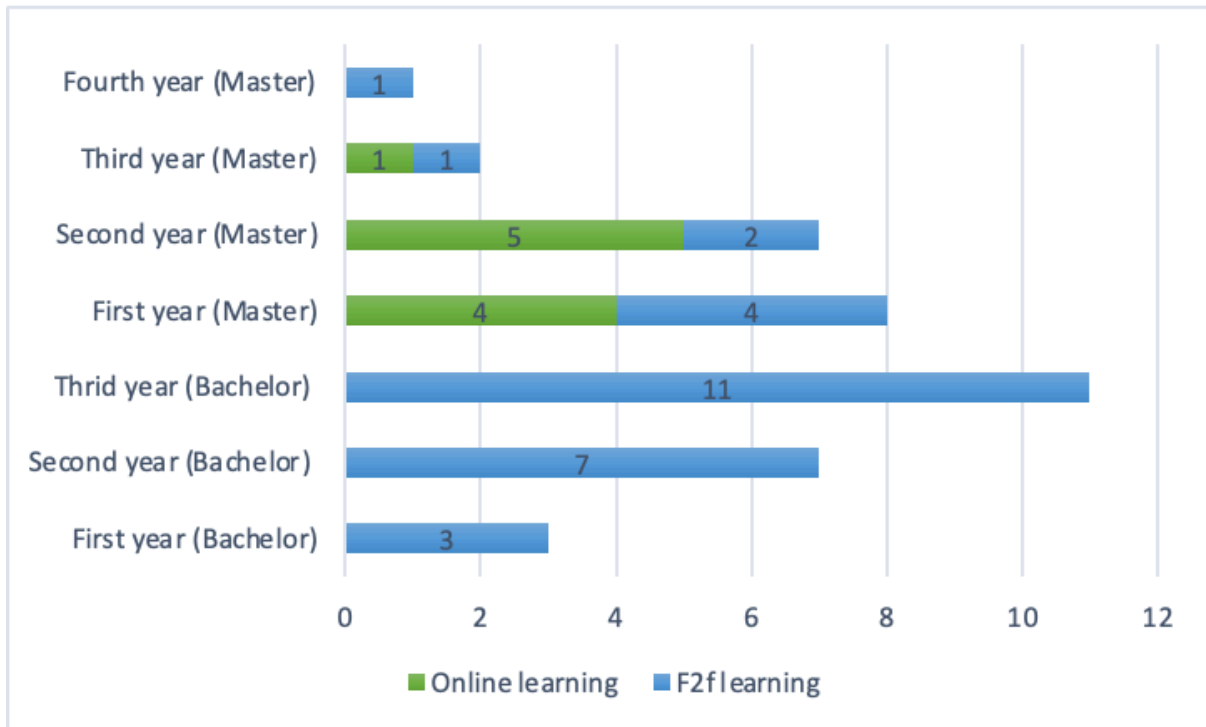
Figure 1 above also shows the distribution of students across different programmes and their mode of study. All students who were engaged in pursuing a Bachelor of Education, Bachelor of Sport, Health and Physical Education, and Bachelor of Education (Teaching) Huarahi Māori specialisation were undertaking F2F learning, as these programmes are only offered as F2F programmes. Students enrolled in the Master of Education Practice and Master of Educational Leadership programmes displayed a clear preference for online learning, with all students in these programmes opting for this mode even though they had the choice to study F2F. Importantly, within the Master of Education programme, the data revealed a noticeable division, with more than half of the students (eight individuals) choosing F2F instruction, while five students opted for online studies.

In addition to detailing the educational programme distribution among participants, it is helpful to highlight the enrollment status of the participants. Out of the 39 participants, 8

were enrolled in part-time courses while the remaining 31 were full-time study students (see Figure 2).

**Figure 2.**

*Study Year of Participants*



Regarding their progress in their respective programmes, a large proportion of participants were in their second year at the time of data collection, with a total of 14 students. This was closely followed by 13 third year participants. There were significantly fewer first-year Bachelor students and third/fourth-year masters across year levels, with one notable exception: the fourth-year masters. In contrast, the number of participants in the fourth year was considerably smaller, with only one person falling into this category. The notably low representation of master participants in the third and fourth years can be attributed to the fact that these individuals are engaged in part-time studies. This extended programme duration, as compared to full-time studies which typically last 1 to 2 years, accounts for the longer duration of their studies. This data highlighted the relative uniformity of the distribution of



participants across year levels, with the exception of a considerably lower representation in the third and the fourth year.

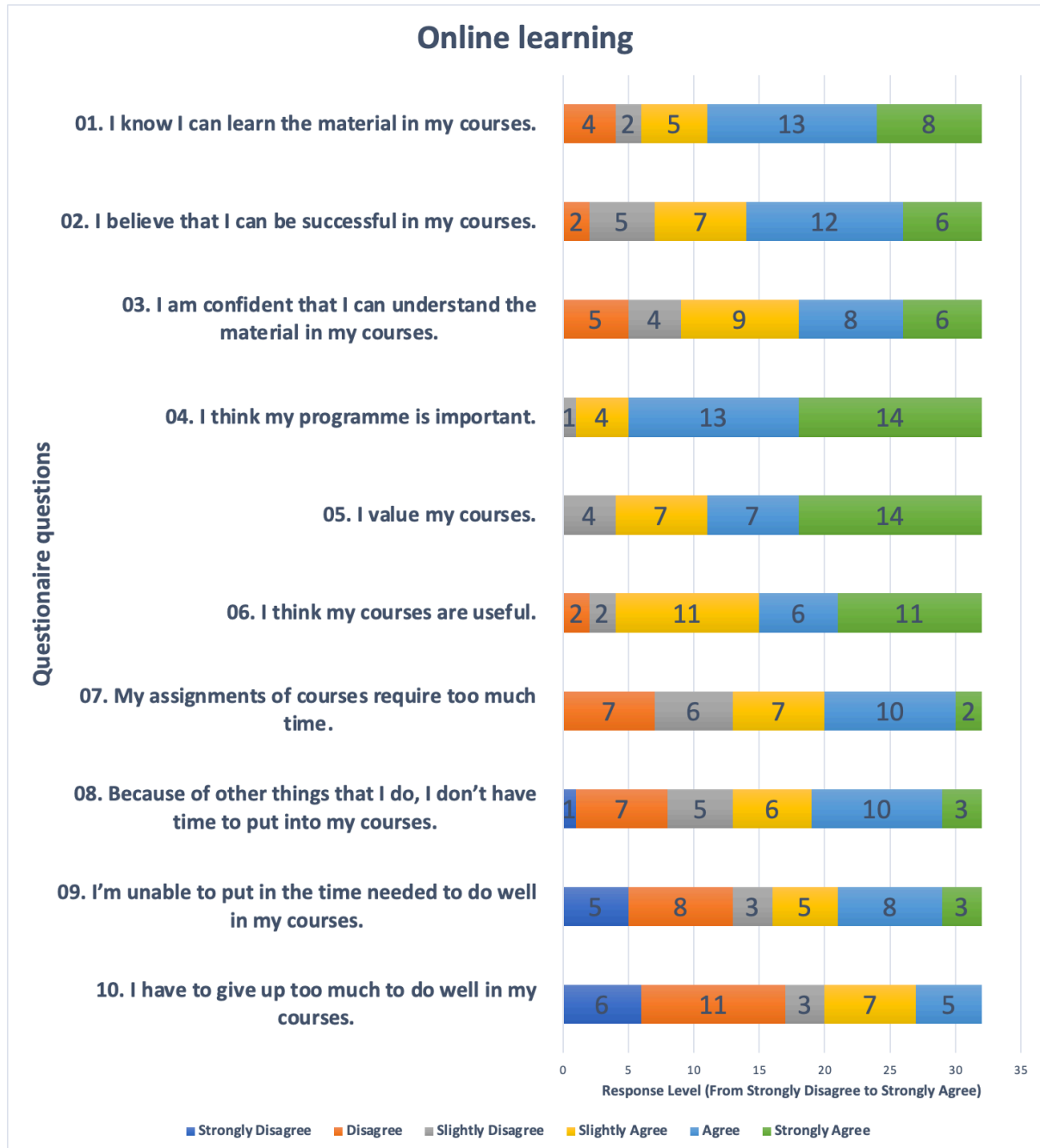
Since undergraduate students were required to attend F2F courses, all Bachelor students were automatically enrolled in the F2F learning mode. However, an analysis of the data showed that a greater number of second-year postgraduate students opted for online learning (5) instead of F2F learning (2). Additionally, the number of first-year and third-year postgraduate students who chose either learning method was approximately the same, with two students in each mode. When considering these results together, it suggested that there is a stronger preference for online learning among the student population at postgraduate level.

#### ***4.2.2 Motivation Questions***

After gathering demographic information in the questionnaire, the motivation section comes next. This section consists of ten items divided into three sections to assess expectancy (Q1-3), value (Q4-6), and cost (Q7-10) for both online and F2F learning modes. A Likert scale was employed, ranging from strongly disagree (1) to strongly agree (6). The feedback from the participants on these Likert scale inquiries, shown in Figure 3 below, provides insight into the students' perspectives on motivation in their online learning courses. The motivation-related questions were previously explained in the Methodology chapter and can be found in Appendix D.

**Figure 3.**

*Likert Scale Responses to Ten Key Questions of Online Learning*



In question 1, the majority of students (81%) expressed agreement, whether it was a slight or strong agreement, when it came to their belief in their ability to learn the materials in their

online courses. A similar pattern was observed in question 2, where 78% of students unanimously believed that they could succeed in their online courses, rating their response as 4 (Slightly Agree) or higher. This demonstrated a strong consensus regarding their potential for success in online courses. However, there was a slight variation in question 3, where there was still confidence in understanding the material (72%). It is worth noting that in the first two questions, more students chose 'agree' compared to 'slightly agree' and 'strongly agree'. Specifically, in the first question, 'agree' accounted for 41%, while 'slightly agree' (16%) and 'strongly agree' (25%) were lower. Similarly, in the second question, 'agree' accounted for 37%, while 'slightly agree' (22%) and 'strongly agree' (19%) were also lower. However, in the third question, this contrast was less pronounced, with 'agree' accounting for approximately 25%, while 'slightly agree' (28%) and 'strongly agree' (19%) were not significantly different.

Questions 4, 5 and 6 revealed a general consensus among students, showing that they attach great importance to the importance of the curriculum. Notably, more than half of the students strongly affirmed the value and significance of their academic programmes. Particularly striking was the response to question 4, in which 97% of students admitted that their programmes were important. This point is further reinforced by question 5, where 87% of students attached great importance to their courses. Similarly, in question 6, 87% of participants admitted that their courses were useful.

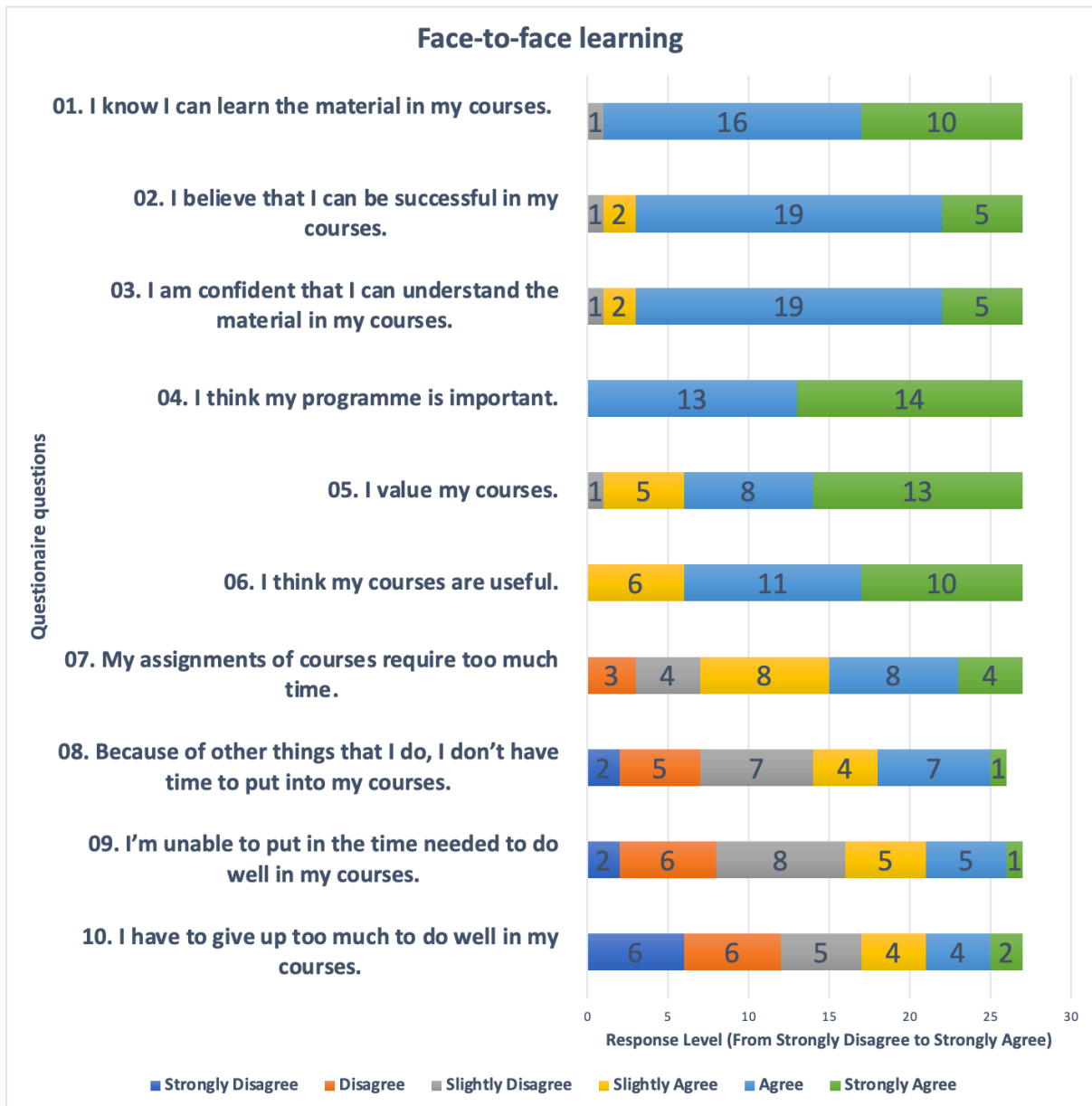
It is important to mention that questions 7 to 10 were all related to the negative aspects of motivation—cost. Therefore, agreement indicated recognition of the adverse effects of online learning, while disagreement suggested a rejection of these negative impacts. In both questions 7 and 8, 59% of students agreed with the statements, showing that a majority of

students felt that assignments take up too much time and that they don't have enough time for their courses due to other commitments. As for question 9, regarding whether they can dedicate time to mastering the course, 50% of participants believed they could, while 50% believed they could not. Interestingly, the distribution of responses from strongly disagree to slightly disagree to disagree matches the distribution from slightly agree to agree to strongly agree, with most individuals holding either a disagreeing (25%) or agreeing position (25%). Question 10 reveals that 20 participants (63%) disagreed to varying degrees with the statement, indicating that they don't believe they have to make unnecessary sacrifices. It is worth mentioning that only 32 individuals responded to this questionnaire about online learning, seven fewer than those who completed the demographic part. This might be because participants encountered too many questions and chose to submit the questionnaires without completing it entirely. A surplus of questions may potentially discourage further participation among participants (Groves et al., 1992).

The Likert scale questionnaire results (shown in Figure 4) offer insights into students' perceptions of their F2F learning experiences.

**Figure 4.**

*Likert Scale Responses to Ten Key Questions of Face-to-Face Learning*



Questions 1-3 revealed strong agreement levels among students, with more than 89% participants agreeing that they can learn, be successful, and understand the course material in F2F learning mode. Questions 4 and 5 also showed a general consensus among participants, with 100% students slightly agreeing and agreeing that their programme is important and 96% valuing their courses.

Additionally, question 6 demonstrated a positive perception of course usefulness, with 100% of participants indicating agreement. Regarding question 7, a majority, comprising 74% of participants, expressed a concern about assignments taking too much time. Similarly, question 8 revealed a nearly balanced dichotomy of viewpoints; while 46% of students felt that their other commitments hindered their course engagement, a slightly lower percentage, 54%, held the opposite opinion—the difference being two participants. Question 9 provided an interesting insight into time management. The majority of students (59%) disagreed with the idea that they could not manage their time in order to do well in their courses. This positive sentiment continued in question 10, where 63% of students felt they did not have to sacrifice much to succeed academically.

It is worth noting that the total number of participants in the F2F learning questionnaire was only 27, which is 5 fewer than those who filled out the online learning form and 13 fewer than the demographic information. Among them, only 26 participants answered the eighth question. Except for some students who may find that there are too many questions and stop filling out the questionnaire, this may also be related to unclear questions. Two participants provided feedback. One of them was confused about the purpose of the sixth question, and the other mentioned the difficulty of answering some questions in the online learning

questionnaire because they felt that their experience during the height of the COVID-19 pandemic was different from that in later times. This feedback showed us the necessity to take diverse experiences in online learning into account and to consider more carefully the structure and content of the questionnaire.

#### **4.2.3 EVC findings**

Kosobich's (2015) ten-item scale, used in this study, was designed to assess three key aspects of student motivation by dividing the ten questions into three different parts to measure expectancy, value and cost. The results of the EVC questionnaire focused specifically on the first research question: *How do the levels of motivation of university students differ between learning in online and face-to-face delivery modes?* To elaborate further, questions 1-3 were designed to measure expectancy while questions 4-6 examined the concept of value. The final four questions (7-10) revealed cost associated with online learning and F2F learning. In this section of the results, I present the t-tests outputs, which were conducted for each EVC factor to determine if there was a difference between learning modes.

##### **4.2.3.1 Expectancy**

The t-test output shown below (see Table 2) presents the results for the expectancy-related questions (specifically questions 1-3) in both F2F and online learning environments concerning motivation level. The purpose of this analysis was to identify whether there was a statistically significant difference in the level of expectation between the two modes of teaching. By examining metrics such as average scores, variances, observations, and key statistics such as the t-stat and p-value, the table provides insight into whether students in

either situation show significantly higher expectations in their learning. In short, it helps determine whether students are more motivated in a F2F or online learning environment, based on their answers to the given questions.

**Table 2.**  
*T-Test Results Related to Expectancy (Questions 1-3)*

	<i>Online</i>	<i>Face-to-face</i>
Mean	4.416666667	5.12345679
Variance	1.592982456	0.434567901
Observations	96	81
Pooled Variance	1.063421517	
Hypothesized Mean Difference	0	
df	175	
t Stat	-4.542858851	
P(T<=t) two-tail	1.0308E-05	
t Critical two-tail	1.973612462	

It is evident that the average expected score of motivation in F2F learning (5.12) exceeded the average expected score of online learning (4.42). This difference was not just accidental, as indicated by statistically significant differences ( $p < .05$ ). The  $p$ -value (1.0308E-05) was significantly lower than the selected significance level ( $\alpha = .05$ ), leading me to reject the null hypothesis. Therefore, I can conclude that there was a statistically significant difference in students' motivation level in the expectation field between online learning and F2F learning in the first three questions of the EVC questionnaire. In addition, the degree of this difference was considerable, characterised by a large effect size (Cohen's  $d = -1.26$ ), emphasising a significant and meaningful comparison of expected scores between the two learning modes.



To be more specific, students had the expectation that they can be more successful in F2F learning mode than in online learning mode.

#### 4.2.3.2 Value

Table 3 below, shows an analysis using the T-test to examine how students perceive the value of the course in both F2F and online learning environments. It specifically focused on their responses to questions 4-6. The purpose of this analysis was to determine whether there were significant value perception differences between the two learning modes.

**Table 3.**  
*T-Test Results Related to Value (Questions 4-6)*

	<i>Online</i>	<i>Face-to-face</i>
Mean	4.96875	5.296296296
Variance	1.125328947	0.561111111
Observations	96	81
Pooled Variance	0.867400794	
Hypothesized Mean Difference	0	
df	175	
t Stat	-2.331064434	
P(T<=t) two-tail	0.020889624	
t Critical two-tail	1.973612462	

The *p*-value (.021) was smaller than the significance level ( $\alpha = .05$ ) so there was a statistically significant difference ( $p < .05$ ) in students' motivation levels between online and F2F learning modes for this specific aspect of value. The negative t-statistic (-2.33) suggested that, on

average, students in F2F learning (5.29) had a slightly higher mean score for this aspect compared to students in online learning (4.96). In other words, the students' motivation in the F2F learning mode was more closely associated with the concept of *value* compared to their motivation in online learning. It reflected the extent to which students might consider F2F learning more worthwhile than online learning mode. However, it is important to note that the effect size of the difference was relatively small ( $t = -2.33$ , Cohen's  $d = -0.32$ ). This means that the difference between the two groups is not very large. Additionally, there was a considerable amount of variability within each group, as evidenced by the large variances. This means not all students within each group are experiencing the same level of motivation related to value.

#### 4.2.3.3 Cost

Questions 7-10 aimed to determine if perceived cost differed according to mode. The t-test results in Table 4 show that there is no statistically significant difference in students' perceived cost of online and F2F learning modes for this specific aspect ( $p > .05$ ).

**Table 4.**  
*T-Test Results Related to Cost (Questions 7-10)*

	<i>Online</i>	<i>Face-to-face</i>
Mean	3.453125	3.495327103
Variance	2.234005906	2.101393052
Observations	128	107
Pooled Variance	2.173675595	
Hypothesized Mean Difference	0	
df	233	
t Stat	-0.218524265	
P(T<=t) two-tail	0.827211935	
t Critical two-tail	1.970197599	

The slight difference between the mean scores of online learning (3.45) and F2F learning (3.49) were not statistically significant. This was supported by the very small t-statistic of -0.22, which meant that, on average, participants had quite similar views when it comes to the cost aspect related to motivation for both F2F and online learning. The p-value (.83) was much greater than the significance level ( $\alpha = .05$ ). This means that the observed difference in means is likely due to chance rather than a meaningful difference. In summary, the data strongly suggested that, for the aspect of cost, students' perceptions of F2F and online learning modes were similar, and there was no statistical evidence to conclude that one mode was significantly different from the other in this regard.

#### 4.2.3.4 Overall Motivation

This study aimed to clarify the comparison between the two teaching models in terms of motivation, highlighting considerable differences and variance indicators in order to fully understand the level of motivation. Table 5, therefore, provides the results of the t-test for focusing on motivation in two different learning environments (F2F and online), as embodied across all questions (1-10).

**Table 5.**  
*T-Test Results Related to Motivation (Questions 1-10)*

	<i>Online</i>	<i>Face-to-face</i>
Mean	4.196875	4.52788104
Variance	2.114723746	1.83970482
Observations	320	269
Pooled Variance	1.989161443	
Hypothesized Mean Difference	0	
df	587	
t Stat	-2.837228968	
P(T<=t) two-tail	0.004707873	
t Critical two-tail	1.964013537	

As seen in Table 5, the p-value of .0047 indicated that there was statistical significance in the difference in students' motivation levels between online and F2F learning modes, as it was smaller than the chosen significance level ( $\alpha = .05$ ). The negative t-statistic (-2.84) suggested that, on average, F2F learning was associated with a slightly higher mean motivation level compared to online learning. This implies that, for the questionnaire items analysed,

participants might exhibit higher motivation in a F2F learning environment than with online learning.

However, it is important to consider that the impact of this difference is relatively small, with Cohen's  $d$  being  $-0.18$  and the  $t$ -statistic being  $-2.84$ . This indicates that from a practical perspective, the gap between these two groups is negligible even though it is statistically significant. In addition, there was significant variability in each group, as evidenced by the significant difference in motivation scores. These findings indicated that although there was a statistically significant difference in motivation levels, the actual extent of this difference was relatively small between the online learning group and the F2F learning group.

Examining Tables 2, 3, and 4 revealed that the three key factors of expectancy, value, and cost impact students' motivation in both online and F2F learning environments in different ways. When I delved deeper into the average values, Table 3 indicated that both online and F2F learning have higher averages than the other factors. This suggested a strong correlation between motivation and the value factor. Specifically, in online learning, the average for the factor of value was  $4.9$ , surpassing expectancy at  $4.4$  and cost at  $3.4$ . Similarly, in F2F learning, the value average was  $5.3$ , once again exceeding expectancy at  $5.1$  and cost at  $3.5$ . In terms of their impact, expectancy appeared to have a moderately weaker influence on motivation, while the effect of cost seemed minimal. Among these factors, the most influential difference was seen in expectancy, with a  $0.7$  gap between online and F2F learning modes. Conversely, cost showed the least variation, with a marginal difference of  $0.04$ .

### **4.3 Qualitative Findings**

Before delving into the interview results, I would like to briefly reiterate the interview recruitment process. A total of 26 students initially expressed interest in participating in the interview; however, due to resource constraints and other logistical considerations, a selective process was conducted, resulting in only six students being selected for the interview stage. It is worth noting that the final dataset only includes the responses of five interviewees, as one interviewee's transcript could not be included due to technical issues. All names mentioned below are pseudonyms and gender has been randomly assigned.

#### ***4.3.1 Demographic Data***

At the time of their interviews, all five participants, Donna, Sam, Maccoy, Gunnin, and Nick, were pursuing master's degrees. One participant was a full-time secondary school teacher, while two worked as primary school teachers. Additionally, one was employed at an educational institute, while the other participant's job was unknown. Among these interviewees, four of them, namely Donna, Sam, Maccoy, and Gunnin, were enrolled in the online offering of their respective programme of study.

#### ***4.3.2 Findings from the Semi-Structured Interviews***

The interview questions in this study were specifically crafted to explore the second research question, to uncover factors that influence motivation levels in EVC theory and to illuminate the reasons behind these factors. Through careful analysis of the interview transcripts, I identified five salient themes that shed light on the complex interplay between these factors and motivation: external commitments, relational learning, expense, personal drivers and barriers. External commitments, including work and family responsibilities, influenced an

individual's learning motivation by needing to do other commitments thus impacting on time to study. Relational learning emphasized the importance of social connections and in-person support networks in cultivating a sense of belonging and collaboration. Expense considerations include convenience and cost factors, based on the accessibility of educational needs and the level of motivation influenced by investment. Recognition, interest, personal growth and achievement were personal driving factors that propel individuals to achieve learning goals. On the contrary, technical issues, personality, and course difficulty can hinder progress and weaken motivation. Understanding and addressing these themes and codes can provide information for motivational strategies and create a more favourable learning environment for individuals seeking to participate in educational pursuits.

#### ***4.3.2.1 External Commitments***

Based on interview transcripts, it is clear that most of the participants have different motivations behind their choice to study online or F2F learning - namely due to external commitments in their lives. These external commitments include a variety of obligations that students have outside of their academic pursuits, such as work and family responsibilities. The findings showed that these external commitments have a considerable impact on students' motivation levels. For example, some participants with full-time jobs or family responsibilities expressed higher motivation to enrol/study online. This is mainly because online learning offers greater flexibility and convenience compared to traditional F2F learning. To illustrate this, Sam mentioned that “If I had a choice I would probably choose to go into university everyday but it wasn’t possible for me because I have to take care of my son.” The responsibility of caring for her son left her no time for F2F attendance, so online learning was a more viable option for her. In addition, after maternity leave, Sam gradually

returned to work while studying part-time. She found that, given her current situation, online learning was the most appropriate option. Similarly, Nick said, “I’m working so I can only study in the evening. I can find anytime I want to listen to or watch the [lecture] recording when I am doing online learning. I don’t have to attend the specific [class] time.” For her, online meant “flexible studying”. Gunnin was in a similar situation as she was working as a volunteer in another country, which limited her access to traditional courses and forced her to opt for online learning.

Overall, these participants clearly identified a preference for online learning over traditional F2F learning because of the flexibility it offers. Their online programmes allow them to engage in learning at their own pace and set a schedule based on their work, family and other commitments. The affordance of flexibility is a key driving force behind their motivation to pursue online education.

#### ***4.3.2.2 Relational Learning***

Relational learning is an important concept regarding the various factors that can affect the level of student motivation to engage in online and F2F learning environments. Relational learning refers to the quality of relationships between students and their tutors, classmates, and other members of the learning community. These relationships play an important role in shaping students’ motivation to engage in the learning process, to seek help when needed, and to actively participate (Chiu et al., 2021; Pelikan et al., 2021). It can be thought of as the "in-person support" [Sam] that enhanced the learning experience. Students who have a positive relationship with teachers and classmates are more likely to be motivated and participate in learning (Martin & Collie, 2019; Wentzel, 1998). The interview participants



were also more likely to seek help when needed. Maccoy, for example, emphasised the value of F2F learning for its opportunities to build connections and gain in-person support, stating that “because you can ask the question and someone else will talk to you and [is] willing to help you.” She explained that being able to ask questions and receive immediate assistance from both teachers and peers greatly enhanced her learning experience.

Maccoy also mentioned that she felt she can gain more support in a F2F learning environment, as she said “there was a lot more support for learning the mechanics of the university, workshops on how to navigate everything” when she was doing F2F learning in her bachelor degree. She found online learning more challenging, primarily due to delays in receiving answers to her queries. Sam had similar feelings, emphasising the confidence and comfort gained through F2F communication. In a F2F environment, the ability to ask questions and receive immediate feedback from teachers and peers is critical to relational learning (Dann, 2019). This constant interaction creates a comfortable environment for questioning, taking risks, and exploring new concepts. In addition, it allows students to assess their performance by observing the reactions of teachers and peers, helping to identify strengths and areas for improvement. As Sam mentioned in the F2F learning, “you can kind of tell if I'm on the right track, or my ideas are good ideas or something like that.” These types of interactions grew her confidence and enabled her to believe that “I can do this”.

In addition to the provision of in-person assistance, social interaction played a crucial role in the process of acquiring knowledge through relationships, thereby influencing the levels of motivation experienced by individuals being interviewed. For instance, Nick discovered the value of engaging with classmates as a means to acquire insights regarding study plans and to

establish meaningful objectives, stating that “I find if I study in the classroom, I prefer to interact with other classmates and know other classmates and what their study plan was.” The exchange of ideas and the opportunity to learn from peers greatly facilitated her educational journey. Similarly, Sam valued the direct communication atmosphere of F2F interactions. She noted that “expectancy is increased in a F2F setting due to the social cues associated with the language you hear and the facial expressions and gestures you observe.” This encompassed not only verbal language but also facial expressions and other non-verbal cues. Such rich interaction considerably heightened her motivation and expectancy. On the contrary, some participants did not prioritise social interaction in their learning experiences. For example, according to Gunin, “Now because I have social connections in my work life or in other areas of my life, going into uni and developing those relationships wasn’t important to me.” But in the past she thought social interactions were “a lot more important” because it was “a big factor in relationship and connection”. Maccoy observed that some of her peers did not want to continue as a whole group, indicating that they have different preferences regarding the importance of socialising.

In summary, relational learning, including F2F support and social interaction, affected students' motivation levels in both online and F2F learning environments. The nature of these relationships and their impact on motivation vary from individual to individual, highlighting the diversity and personalisation of learning experiences.

#### ***4.3.2.3 Expense***

In the context of education, expense is not just a financial consideration; it is both the financial and non-financial costs, such as time, associated with pursuing academic

endeavours. My research revealed how students' perceptions of these costs, mostly about time spent, affect their level of motivation. In this research, time costs and convenience associated with pursuing education are two factors worth noting within the theme of expense. These non-economic costs emerged as main factors that can affect learning motivation in this research. For some participants, online learning was perceived as a more cost-effective alternative compared to F2F learning. They valued the ability to save time commuting and the flexibility online learning provided in terms of scheduling, which, in turn, influenced their motivation. Donna shared that the reason she preferred online learning was because of the capability to study and work at the same time. She shared with me that she has "a very nice computer setup", which allowed her to "do everything easily while the lectures are going on, have the assignment open and be working on that at the same time". Similarly, Nick also thought learning online was more convenient primarily because he did not "have to attend the classes at a specific time". Whereas Sam clarified that online learning is less time consuming because "you don't have to use lots of time to go and study".

Conversely, one interviewee stressed that the expenses associated with F2F learning heightened their motivation. Nick illustrated this by saying that because she takes her time to get to the campus she makes more of an effort to study well. Participants invested substantial time and effort in their F2F courses, and this commitment fostered a sense of responsibility towards their studies. For Nick in particular, they were likely to recognise the significant personal investment and, as a result, approach their coursework with greater diligence when they are doing F2F learning.

For some interviewees, educational expenses are a major obstacle. For example, students who have other commitments to support themselves have less time and energy to devote to their studies. Sam, for instance, pointed out her constrained schedule, which involves childcare and a full-time job. In such scenarios, it appears online learning presented a preferred choice due to its flexibility in offsetting the expense of study. This format permits students like Sam to access course materials and engage in studies at times that align better with their schedules, offering a more accommodating learning environment.

In the context of the expense theme, participants found that online courses offered a more flexible and convenient option than traditional F2F learning. For those with additional commitments, such as work, child care, or other financial responsibilities, it becomes especially important to be flexible in managing their learning pace and schedule. This highlighted the delicate relationship between time and cost in education. By providing students with the flexibility to balance academic pursuits and external commitments, online learning addresses some of the financial and time-related constraints that can affect motivation and the overall learning experience.

#### ***4.3.2.4 Personal Drivers***

Motivation is an intrinsically personal phenomenon (Morris et al., 2022). This is reflected in the fourth theme, personal drivers. Through conversations with the interviewees, I discovered the profound impact of personal factors on motivation. Personal driving factors represent the internal force that motivates students to achieve educational goals. These driving factors may vary among students, but common examples I encountered in the interviews included interests, achievements, personal growth, and recognition.

Interest is that feeling of wanting to learn more about something; it is like a spark of curiosity that motivates people to explore and understand. For instance, Gunnin expressed she highly valued what she was learning, stating that “I've been able to choose the papers that I am deeply interested in”. Donna also shared her enthusiasm for a paper that she was doing, citing her genuine interest in the topic as a source of motivation.

Achievement is when individuals set goals for themselves and work hard to reach them, it is about succeeding in what they do. For example, Gunnin's study on children's literacy, which is related to her work, is one of the biggest reasons she wanted to do her postgraduate studies. She stated:

...this one [course] directly impacts what I'm doing right now but also in the future. I can see a very strong link between what I'm learning and my current situation, and how I can use them to support each other.

Maccoy found that early academic successes gave her a sense of competence, reinforcing her determination to continue her online studies. She shared that success in her first assignment helped her “feel competent”. According to her, it “felt vigorous and satisfying when I got back into study and got back into academic language”.

Personal growth represents the desire to improve oneself, to learn new things, and to challenge oneself intellectually and emotionally. The interviewees' perspectives on the importance of personal values in online learning can be closely related to their personal drivers and motivations for studying online. Each of them highlighted the importance of values as a driving force in their online learning journey. They all mentioned that they wanted

to learn new knowledge. For Maccoy, she declared that “As an older student, why I decided to study wasn't for the qualification, I saw it as a good opportunity to do some study”. This demonstrated the personal value of self-improvement and continuous education. Nick also said that she could improve her knowledge about certain concepts or philosophies, aligning her personal drive with the value of intellectual growth. Moreover, some of the participants had other values to achieve. Gunnin stated that “I highly value what I'm learning and it's not only related to my growth but also to my career”, recognising that her education not only contributes to her personal growth but also enhances her career prospects. Additionally, F2F classes give students the opportunity to learn from experienced teachers as well as fellow students. For Sam, studying F2F at university is the best because she has the chance to work with very good lecturers who are at the top of their field, saying that she was starstruck and this was a big motivation for her.

Recognition serves as a pivotal element within the realm of personal drivers, particularly in motivating individuals through acknowledgment and praise. Recognition includes their confidence in their ability to succeed (perceived competence), their intrinsic desire for knowledge, and their overall appreciation of the value of education. These deeply rooted personal motivators vary from person to person, which further increases the complexity of motivation. Three individuals identified perceived competence as a key motivating factor. As Sam explained, the belief in one's abilities to succeed in academic tasks can significantly impact their commitment to studying. After confirming that he could still learn after many years, she continued her studies and wrote another article. Similarly, both Maccoy and Nick credited their assignment successes for boosting their confidence to persevere through subsequent papers. Perceived competency aligns with the expectancy component of the EVC

theory, as it influences individuals to anticipate success and thereby enhances their motivation to engage in academic pursuits.

In summary, the findings from the interviews suggested that motivation in education is profoundly personal, driven by a variety of factors known as personal drivers. These include interest, achievement, personal growth, and recognition. Interest fuels curiosity and exploration, achievement centres on setting and reaching goals, personal growth reflects the desire for self-improvement, and recognition encourages individuals to excel. These factors play crucial roles in shaping students' motivation in both online and F2F learning environments. However, it is worth noting that only one individual highlighted that personal growth predominantly influenced motivation in face-to-face learning, attributing it to the opportunity to interact with experienced teachers.

#### ***4.3.2.5 Barriers***

Barriers are any factors that hinder a person from achieving their goals, whether they are external factors such as technical failures or course complexity, or internal factors such as personality traits (Mak et al., 1999). In conversations with interviewees, the topic of barriers became one of the focuses, revealing the challenges students face in their academic efforts. These obstacles manifest in various forms, originating from technical issues, personality factors, or the perceived difficulty of the course content.

Technical problems can hinder the ability to complete tasks involving the use of various digital technologies. For instance, Maccoy was more in favour of F2F learning because

serious technical challenges had impacted previous online learning experiences. Maccoy shared her experience by saying that “I didn’t know how to use Canvas or even didn’t even know how to use my school account email”, which soured her online learning experience. Similarly, Sam expressed the demotivating effect of technical problems, saying that “I couldn’t get into my group. Everyone was assigned to groups, and I didn’t know how to do that. I felt really depressed about that”. She shared an instance where she was unable to join an online group meeting, leading to feelings of frustration and disappointment. These experiences underline the impact of technical obstacles in affecting motivation and learning experiences in the online education domain.

Personality plays a role too, as it is a unique blend of characteristics, thoughts, and behaviours. Introverted individuals may find in-person classes challenging due to the need for face-to-face interactions (Davidson et al., 2015). Nick’s experience served as a testament to this. She candidly expressed her discomfort with discussing questions in a crowded classroom, by saying that “I’m not comfortable to ask a question in front of a lot of people unless I know them well”. This discomfort, in turn, diminished her motivation when engaging in F2F learning. It underscores how individual personality traits can strongly impact motivation and the choice of learning mode.

Additionally, the level of difficulty in a course exerts a substantial influence on students' motivation. Certain courses inherently present greater challenges, characterised by intricate subject matter or heavier workloads. Participants highlighted that when faced with particularly demanding courses, they often found online learning to be a more appealing option. The ability to replay recorded content proved invaluable in deepening their



comprehension and mastery of the subject matter. Nick's experience is a clear example of this. While studying psychology, she faced a tough neuroscience course that covered intricate aspects of the brain. Nick said that when she encountered such demanding courses, her first reaction was to put in a lot of effort, but she also considered giving up. However, she found online learning helpful in these situations. She said, "When I find a course too difficult online, I can choose the best time for me to listen to the lecture." This flexibility allows her to "slow down, take notes, and understand the content more effectively". Nick's experience shows how a course's perceived difficulty may affect students' motivation and their preference for certain learning methods. It also highlights how online learning can adapt to the challenges posed by demanding academic courses.

In essence, these conversations illustrate that barriers in education are diverse and multifaceted, encompassing technical issues, personality traits, and the perception of course complexity. Acknowledging these barriers is crucial in shaping an inclusive and accommodating educational landscape that can address the diverse needs and preferences of students.

#### **4.4 Summary**

Participants from the Faculty of Education and Social Work completed a questionnaire about online and F2F learning modes. Out of all participants, 74% were enrolled in traditional F2F learning, while 26% chose online learning. Students pursuing bachelor's/undergraduate degrees in education were enrolled in F2F instruction by default, while those pursuing postgraduate programmes such as educational practice and educational leadership appeared to

prefer online learning. By analyzing the motivation behind their choices, it is evident that overall, students felt higher motivation in F2F learning. Regardless of the learning mode, graduate students and master students valued the factors that influence motivation and attach great importance to value. However, interviews showed that many master's students express that due to the flexibility and convenience of online learning, especially considering their additional commitments, they have a higher motivation to engage in online learning.

## **Chapter 5: Discussion**

### **5.1 Overview**

The purpose of this research was to investigate, quantify and describe the difference in motivation among students enrolled in Education and Social Work programmes, comparing the online and F2F learning modalities at the University of Auckland. To accomplish this objective, I employed the EVC theory as the theoretical framework. This framework offered a comprehensive perspective within the context of educational programmes.

In this discussion chapter, I interpreted the analysis of the data collected through the questionnaires and interviews, made connections to existing literature, drew relevant comparisons and identified gaps. I also critically examined the implications of the results for pedagogical practices and the administration of education in the higher education landscape of Aotearoa New Zealand. This discussion aimed to shed light on the factors that influence student motivation, providing valuable insights that can inform strategies for enhancing the quality of education across diverse instructional modalities.

## **5.2 Foregrounding the Research Questions**

This study is driven by two central questions:

1. How do the levels of motivation of university students differ between learning in online and face-to-face delivery modes?
2. Which factors in the EVC theory influence the levels of motivation of university students? Why?

My study involved the participation of Faculty of Education and Social Work students who completed a six-point Likert scale questionnaire. The questionnaires were distributed at the beginning of the second semester of the 2023 academic year, allowing me to capture valuable insights about students' motivation levels at a key moment in their academic journey. Additionally, six students each engaged in one thirty-minute interview. The interviews provided in-depth insights from the students, enabling them to clarify which factors they felt had the greatest impact on their motivation and the reasons behind their perceived outcomes.

## **5.3 Summary of Findings**

### ***5.3.1 Findings of the Questionnaire***

The overall results of my study found that motivation levels of university students differ slightly between learning in online and F2F delivery modes. I found that students have higher motivation about F2F learning rather than online learning through the results of the anonymous questionnaire. It is worth noting that the difference is relatively small. Moreover, the questionnaire results indicated that value has the greatest impact on student motivation ( $p$

< .05), with expectancy following closely behind ( $p < .05$ ), while the influence of cost on student motivation is minimal. The factor of expectancy showed the biggest difference between online learning and F2F learning among the three factors, with a 0.7 gap between the two modes. Cost showed the smallest difference.

The demographic distribution of students participating in the questionnaire is particularly intriguing. However, it is noteworthy that in three programmes students, including Bachelor of Education (Teaching), Bachelor of Sport, Health and Physical Education and Bachelor of Education (Teaching) – Huarahi Māori specialisation, students must study F2F. Regarding the other three programmes, students have the option to choose between online and F2F learning. All participants from the Master of Education in Practice and the Master of Educational Leadership programmes chose online learning, indicating a strong preference for this mode of education at postgraduate level. However, it is worth mentioning that among the Master of Education students, more students chose F2F learning: a total of 8 students opted for F2F learning, while 5 students decided on online learning. This suggests that the student body is diverse, with varying motivations and needs.

In conclusion, the study showed that university students are slightly more motivated in F2F) learning compared to online formats, based on questionnaire responses. Notably, value significantly impacts motivation, followed by expectancy while cost has minimal influence. The demographic breakdown revealed varied preferences across programmes, with some requiring F2F study and others offering choice. While many Master of Education Practice and Master of Educational Leadership students preferred online learning, nuances exist within the Master of Education cohort, with a slight preference for F2F instruction. This

diversity reflects the complex landscape of student motivations in higher education. However, interview findings revealed a contrasting trend, with more students expressing a preference for online learning while also recognizing value as the most influential factor in motivation.

### ***5.3.2 Summary of Interview Findings Related to EVC Theory***

Contrary to the quantitative data, interviews indicated that more than half of the participants think they have higher motivation for online learning than F2F learning. The reasons were summarised under five themes: expense, relational learning, barriers, personal drivers and external commitments. However, the reasons were mostly related to expense and personal drivers which is about cost and value under EVC theory.

When discussing the top factors influencing their online learning experience, all participants consistently stressed the importance of value which can be related to personal drivers. They consistently said that their motivation peaks when they are exposed to content they find valuable and relevant. Essentially, the desire to acquire new knowledge drives their enthusiasm, underscoring the importance of content relevance and perceived value in optimising engagement in online learning. Some interview participants shared that they have great interest in knowledge, which connects to the theme of personal growth. Moreover, over half of the participants highlighted the importance of online learning. Three of them noted that they felt more motivated in online learning due to other commitments, such as balancing work, family, and study responsibilities. One interviewee mentioned that cost was also important to her as online learning was less time-consuming and cost less money, when considering transportation, which speaks to the theme of expense.

For two of the interviewees, the most influential factor on their motivation levels when studying F2F courses was value. They gave the same reasons for both online and F2F learning and argued that value is always the core driver of their motivation, which is relevant to personal drivers' themes. In contrast, two interviewees chose cost as the most influential factor of F2F learning. The reason was related to time consumption. F2F learning requires more time investment than online learning. Only one participant thought that expectancy influenced her motivation the most. She thought that when she was learning F2F, she could tell whether she was on the right track from the faces of her teachers and also the conversation between all those present.

## **5.4 Synthesis of Analysis and Literature**

### ***5.4.1 RQ1: How do the levels of motivation of university students differ between learning in online and face-to-face delivery modes?***

In the questionnaire, students expressed slightly higher motivation for F2F learning compared to online learning. Some literature aligned closely with the findings presented in my research, illustrating a clear preference for F2F learning over online alternatives (Baharum et al., 2020; Candelaria & Clements, 2023; Nasution et al., 2021; Patricia Aguilera-Hermida, 2020; Stark, 2019). The study by Nasution et al. (2021) supported this view, showing that students in Islamic religious education programmes overwhelmingly preferred F2F learning, with 78% of students choosing this mode of learning. In contrast, 20% chose blended learning and only 2% selected online learning. This statistic suggests a strong preference for traditional, F2F educational settings in this particular academic field of Islamic religious education studies. Wright's (2017) findings established that students generally associate F2F study with higher motivation and interest. This association is attributed to several factors, including a better

understanding of the material, an emphasis on classroom interaction with the instructor and fellow students, and significant engagement from the instructor (Wright, 2017); sentiments reflected in my qualitative findings. Students may think it's because F2F courses are more interesting and useful so they have higher motivation than with online courses (Stark, 2019). Also, students might experience more rapport with their instructors during face-to-face classes compared to their online classes. Candelaria and Clements (2023) found a significant positive relationship between instructor-student rapport and student motivation in both online and face-to-face classes, again a sentiment reflected by my interview participants. These factors can all be related to value.

Plausible explanations for this preference for F2F learning may also be related to the inherent problems of online learning, such as the lack of physical interaction, the inability to receive direct feedback, lack of online support and the inability to online learning as found in my study. Existing literature has found similar issues regarding limited network support (Baharum et al., 2020; Wright, 2017), reduced physical distance and social interaction (Gruber et al., 2021; Scott et al., 2021). It must be recognized that the initial exposure to online learning, especially under the intense stress of the pandemic, may make individuals tend to focus primarily on its shortcomings (Zhu, 2022). As a result, the immediate challenges associated with online education risk overshadowing its potential benefits.

While my study showed that students are slightly more motivated to learn F2F compared to online teaching in both the questionnaire results as well as interview findings, it is important to look at these findings with a critical eye. The observed differences in the quantitative data, although statistically significant, are still relatively slight (considering the effect size in the

t-test results of the questionnaire and interview findings). The finding of a slight difference between the two modes aligns with the broader consensus in existing literature, where a large body of academic research argues that the difference in motivation between online and F2F learning may be less pronounced than previously assumed (Allen et al., 2002; Driscoll et al., 2012; Fortune et al., 2011; Francis et al., 2019). For example, Francis et al. (2019) emphasised that there were no prominent distinctions in initial motivation between online and F2F students. Subsequent subgroup analysis revealed that both student groups exhibited largely similar patterns of motivation. Similarly, Fortune et al. (2011) found no statistically significant difference in individual learning preferences between the two different modes of learning. Driscoll et al. (2012) reached a similar conclusion, emphasising that student satisfaction levels did not deviate significantly between the two learning environments, while Allen et al. (2002) asserted that online learning did not show a significant decline in student satisfaction compared to traditional F2F teaching methods.

However, the background of these articles differs from my research. The complexity of preferences for specific learning modes, within the literature, stems from a complex interaction of various factors, including subjects, cultural backgrounds, and time. Therefore, these articles may not offer full support for my argument. For instance, examining subject matter, Nasution et al. (2021) delved into religious education programmes, emphasising the practical aspects of Islamic teaching, faith, and practice. The necessity of adopting practical approaches in this field has raised concerns about truly replicating practical experiences online. Moreover, the study conducted by Francis et al. (2019) is centred around mathematics—a discipline inherently abstract. In such instances, the decision between online and F2F learning carries less significance, considering the theoretical nature of the subject. It is important to appreciate and utilise the diversity of students' experiences, recognizing how



these experiences shape their motivation and preferences. My participants were students from the Education and Social Work Faculty. Some programmes emphasized F2F learning, while others allowed for online learning, making them relatively different from the subjects of other articles. The effectiveness of online learning may not be universally reflected in different subjects, as each field may have unique features that are inherently consistent with a specific learning mode, introducing additional complexity for comparative analysis. Although previous research has reported no prominent disparities in motivation across these two learning modalities (Allen et al., 2002; Driscoll et al., 2012; Fortune et al., 2011; Francis et al., 2019), it is essential to recognize the temporal context of the majority of these studies, as they were conducted prior to the transformative impact of the COVID-19 pandemic. Given this altered landscape, it is plausible to anticipate that repeating these studies in the current context could yield markedly different results. This contrast in research findings also raises questions about the evolving nature of education, especially in the context of technological advancements and the global circumstances that can impact the choice of learning mode.

There is a clear difference between the interview findings and the questionnaire results in my research. The interview revealed an interesting finding that suggested students actually felt slightly more motivated in online learning environments. The difference observed between the interview and questionnaire results prompts critical reflection on several methodological and interpretive dimensions. One possible explanation for inconsistency is the composition of the samples used in the questionnaire survey and interviews. The questionnaire collected responses from bachelor and postgraduate students, while all interviewees were postgraduate students. This change in sample composition introduces the possibility of bias that may affect the observed differing perspectives. From the interview, a common element was identified - they all have full time jobs. Moreover, some of them have children. This commonality is

related to their strong preference for online learning, mainly because it provides flexibility and convenience for their work and family commitments. Francis et al. (2019) made similar conclusions as to the reasons why some students think online learning might be more beneficial. They pointed out that adult learners who are 24 years old or older, are more likely to have work and family obligations so they expect to perform better in online courses. Another explanation could be that some questions within the questionnaire may have confused participants, which will be further addressed in the limitations section.

Based on the previous analysis, most articles concluded that online learning does indeed have a negative impact on student motivation (Gruber et al., 2021; Scott et al., 2021), but the potential advantages of online learning cannot be ignored. As demonstrated in my qualitative findings, online platforms provided flexibility and accessibility that traditional classrooms cannot match. In addition, with the advancement of technology and teaching strategies, many initial obstacles to effective online education are being addressed. It is critical to acknowledge that in the last four years, the educational landscape has changed considerably and online learning has improved (Thamri et al., 2022; Williamson, 2021). This has made many students aware of the advantages of online learning. As mentioned earlier, my research found that participants have responsibilities beyond learning, which leads them to lean towards the convenience provided by online learning. Most undergraduate university students, however, may not need to have flexibility with their study time like postgraduate students do with work and family. Therefore undergraduate students may not recognize the benefits of online learning. As mentioned by Zhu (2022), the COVID-19 pandemic has accelerated the adoption of online learning in ways that were forced, so this rapid transition may make students unable to fully adapt to or appreciate the benefits of online education.

As online learning platforms and teaching methods continue to evolve, so too may students' motivations and preferences. In light of these differences, it is evident that the landscape of education is dynamic and multifaceted. The ongoing debate surrounding the effectiveness and motivation associated with online and F2F learning underscores the necessity for further research. It is crucial to recognize that the relationship between motivation and learning modes is not fixed and may continue to evolve with changes in technology, pedagogy, and student experiences. A comprehensive understanding of these dynamics is essential for educators and institutions to create more effective and motivating learning environments that cater to the diverse needs and preferences of students.

In my opinion, overall, university students tend to have the motivation to engage in F2F learning, while postgraduate students with work and family backgrounds may be more inclined towards online learning. In summary, although it is understandable that people prefer traditional classroom environments compared to online learning, considering the current limitations and challenges, this discussion must be approached with objectivity. Instead of directly rejecting online education, it is better to conduct critical evaluation of online learning to ensure a commitment to providing high-quality education in different contexts. With the continuous development of technology and the adaptation of educational practices, the dichotomy between traditional learning and online learning may become less apparent, ultimately benefiting both students and educators.

## ***5.4.2 RQ2: Which factors in the EVC theory influence the levels of motivation of university students? Why?***

### ***5.4.2.1 Expectancy as an Influential Factor***

Expectancy has also been recognized as a critical factor in motivation in online learning mode (Cook & Artino, 2016; Nehme, 2010; Syauqi et al., 2020). Students' lack of motivation for online learning in Nehme's study (2010) was attributed to unfamiliarity with the online environment and a failure to recognize its benefits, while Cook and Artino (2016) and Syauqi et al. (2020) emphasized the crucial role of expectations in driving learner participation and success. Syauqi et al. (2020) additionally suggested that teachers are not aligned with students' expectations when it comes to managing online learning.

In my participant pool, no student believed that expectancy was the most influential factor of motivation in online learning. This finding emphasised the importance of delving into potential shifts in students' perspectives, understanding the continuous development of online education, and trying to find out the unique experiences that may affect student motivation. Unlike previous studies that emphasised the importance of expectations, participants in this study may have different priorities and may be influenced by increased familiarity with the online environment, a better awareness of the benefits, or a shift in the educational environment. As one interviewee mentioned, although she acknowledged lacking support in utilizing online learning tools, including email and school websites, when asked about the most crucial factor influencing her motivation to learn, she still prioritized value. She explained that she put that value over the cost and, even though stressful, found ways to overcome technical issues.

Regarding F2F learning, Stiensmeier-Pelster and Otterpohl (2018) asserted that expectancy is the most influential factor; however, it is important to consider subtle variables. Their research highlighted the impact of students' beliefs about academic self-image and general self-concept on expectations. However, the views shared by my interviewees tended to focus more on getting expectancy from external sources. In my study, one interviewee in particular highlighted the key role of expectations in F2F learning. According to her, the feedback she received from classmates and teachers played an important role in boosting her confidence and staying motivated to learn. This view differs from the individualised focus on academic self-image in Stiensmeier-Pelster and Otterpohl's (2018) study. This suggests that, at least in the context of my interviewee's master's degree research, external validation and feedback played a larger role in shaping her expectations and motivations. It is worth noting that my interviewee's viewpoints of expectancy may have been influenced by her advanced academic level of accumulated learning experience over several years. This long academic journey may have given her a thorough understanding of herself and made her value external feedback as a means of effectively tracking and reinforcing her learning.

#### ***5.4.2.2 Value as an Influential Factor***

In my study, the primary determinant shaping students' motivation in the choice between online and F2F learning is notably identified as *value* in both learning delivery modes. The concept of value, as defined, refers to the influence that value exerts on events and potential outcomes (Feather, 1992). For instance, participants perceived value as the necessity to acquire knowledge and experience personal growth. This resonates with findings from other studies, where the authors highlight the centrality of value as the most critical factor in adult online learning (Ceyhan & Tillotson, 2020; Stevanović et al., 2021). However, it is essential to note a difference in the focus on value between my participants and the findings in the

articles. Ceyhan and Tillotson emphasized that their participants' motivation to engage in research was predominantly driven by intrinsic value, indicating the interest and enjoyment individuals derive from the task. The second most expressed value type was the utility value of undergraduate research, focusing on the task's usefulness for achieving desired outcomes. Similarly, Stevanović et al. (2021) found that lower-level students perceived distance learning as less valuable and interesting compared to higher-level students, impacting their motivation. In both studies, intrinsic value outweighed utility value. However, in my study, most participants emphasized utility value, such as personal growth benefits, acquiring knowledge, and career advancement. This divergence may stem from differences in participant demographics, with their study comprising undergraduates and my interviewees pursuing master's degrees. The maturity and advanced academic level of my interviewees likely influenced their emphasis on utility value. This correlation with age is supported by Oumar (2022), who found that utility-value interventions may have minimal impact on the academic performance of young individuals aged 18 to 25 studying STEM subjects in higher education settings.

#### ***5.4.2.3 Cost as an Influential Factor***

Various studies asserted that cost is the most influential factor, and my interviewees provided supportive perspectives. Specifically, two of the participants in my study agreed with Hung et al. (2010), who highlighted the low cost and convenience of online learning, that cost was the primary motivation. These two participants subscribe to the view that the F2F classroom environment requires a significant time commitment, especially when juggling career, family, and schoolwork.

However, the picture becomes more nuanced when a wider range of student preferences is considered. Research by Abualadas and Xu (2023) and Masalimova et al. (2022) showed that F2F learning remained the preferred choice for students, despite the cost-effectiveness and time efficiency of online learning. Interestingly, a similar sentiment was expressed by one of my interviewees, who expressed a preference for learning F2F without external commitments. As mentioned earlier, the interviewee expressed a preference for F2F learning, but ended up choosing online learning due to their prevailing situation. This example raises questions about the authenticity of educational preferences and prompts people to consider whether these preferences truly reflect an individual's ideal learning mode, or whether external factors, such as obligations or practical considerations, influence their choices.

Moreover, this raises a key point about the validity of assuming that students choose online learning solely due to situational constraints. Even those who preferred F2F learning may choose online platforms for practical reasons, a finding that challenges direct explanations of motivational factors. The subjectivity of motivation becomes apparent, depending on a delicate balance between personal preference and practical need. In the case of my participants, although they preferred F2F interaction, the perception that online learning can enhance motivation highlights the complexity involved in dissecting and understanding student motivation. This highlights the importance of recognizing the multifaceted nature of the determinants of motivation and the need for a nuanced analysis of specific situations.

## **5.5 Implications, Limitation and Future Research**

### ***5.5.1 Implications***

This research has implications for educators, educational institutions and students themselves, urging a reevaluation of learning environments to accommodate diverse preferences and foster inclusive, engaging educational experiences. The research findings indicated that, overall, students tend to prefer F2F learning. Through interviews, clear advantages of traditional learning have come to be recognized, including receiving timely feedback from teachers, seeking assistance from peers, and accurately assessing one's progress. However, most interviewees leaned towards online learning due to its inherent convenience and flexibility. It is important to note that these interview participants are master students and have expressed some negative feedback regarding online learning. Some have found it challenging to navigate complex Canvas webpages or locate school emails. This insight highlighted the need for educational institutions to offer robust technical support and actively address the limitations of online learning. Enhancing the timeliness of feedback and strengthening the connection between students and teachers, and students with other students can foster a positive environment that boosts students' confidence and motivation.

Educational institutions could also consider catering to the diverse needs of students at different stages of life, particularly research students who may have other commitments. Educators are encouraged to acknowledge the role of cost in student motivation, especially in F2F learning environments. This calls for proactive exploration of strategies to reduce the time demands on students and provide flexible class schedules, such as a blend of online and F2F teaching. Universities can schedule F2F classes in the evenings or on weekends while offering online resources for the remaining course content. This blended approach allows



students to balance their academic and personal commitments more effectively (Castro-Rodríguez et al., 2021; Khalil et al., 2018). By closely integrating these methods, educators can leverage the advantages of both online and traditional learning while actively working to address the challenges associated with each mode, ultimately creating a more effective and student-centered learning experience.

All students, whether they are engaged in online or F2F learning, understand the importance of value as a significant factor in their educational journey. In the research, codes related to value were mainly about personal growth. As mentioned before, younger students were more likely to care about intrinsic value while older learners focus on utility value. This understanding enables institutions to cater to the diverse value and developmental stages across different age groups. When it comes to intrinsic value, institutions could increase engagement by offering courses that directly relate course material to real-world applications and the individual interests of students (Hulleman & Harackiewicz, 2009; Palmer, 2019). Showing the practical relevance of the curriculum and how it can impact students' lives and careers can greatly boost motivation. As for personal growth, institutions can provide tailored guidance through communication with students. For example, creating opportunities for students to connect with faculty, alumni, and peers can offer valuable mentorship and guidance. Additionally, educators should actively recognize and celebrate students' achievements equally effectively in both online and F2F courses, regardless of how big or small, acknowledging their progress, dedication, and contributions to the learning community. By reinforcing the inherent value of personal growth and its connection to course content, institutions can inspire students to strive for excellence and foster a dynamic learning environment (Zalts et al., 2021).

The research findings were of great value to students as they offer important perspectives on their learning experiences. Recognizing that in-person learning settings generally generate greater motivation among university students than online platforms presented a chance for students to reflect and explore. It encouraged students to contemplate the various factors that contribute to their motivation and engagement in different learning environments. Furthermore, my research indicated that some students believe their motivation for F2F learning is higher because they can interact with more experienced teachers and experts in the field of education. For students, this means they can model their own practices based on what they observe or experience F2F, as they will be teaching face-to-face in their own classrooms. This insight suggested that F2F learning may provide students with valuable experiences that can help enhance their teaching methods in the real world—an affordance that may not be present with online learning.

### ***5.5.2 Limitations***

While the consistency between questionnaires and interviews seems to enhance the reliability of my findings, inherent limitations in the research must be acknowledged and critically evaluated. First, the small sample size, which included 39 questionnaire participants and 5 interviewees, raises concerns about the generality of the questionnaire results.

It is also worth noting that while some literature emphasised expectancy as the most influential factor in motivation (Cook & Artino, 2016; Nehme, 2010; Syauqi et al., 2020), none of my participants felt that way. Notably, the divergence between the literature that

emphasised expectations as a primary motivator and the participants' differing perspectives highlights potential limitations of the study's scope.

A third important limitation is that all interview participants were working master's students, and participants were drawn entirely from the fields of Education and Social Work. The exclusive focus on master's students who were employed, with a narrow representation from the Education and Social Work fields, introduces a limitation, potentially limiting the broader applicability of the findings.

Furthermore, the research findings heavily depended on data that is self-reported, which makes them vulnerable to the biases of the participants (Antin & Shaw, 2012; Donaldson & Grant-Vallone, 2002). The responses of the students may be influenced by various motivations and preferences, and the context of the interview may introduce a bias towards socially desirable answers (Antin & Shaw, 2012).

Although my research was based on the EVC theory, I acknowledged that there are a wide range of factors that can influence motivation. For example, as Schunk and DiBenedetto (2020) pointed out that motivation within social cognitive theory is shaped by individual and environmental elements, where pivotal internal mechanisms include goals, self-efficacy, social comparisons, values, and self-regulation. It can be challenging to determine one's own motivation, especially when comparing motivations for online and F2F learning at the same time.

In recent years, participants have been limited to one mode of learning due to the format of the courses. Some participants may have only experienced traditional F2F courses many years ago, which means that their responses to the questionnaire may be based solely on past experiences, leading to potential bias. However, with the continuous development of online learning, their comparisons may still be highly personalized. One participant expressed concern about the changes in their online motivation over the past three years, particularly highlighting considerable changes during the COVID-19 pandemic. Therefore, it is important to carefully consider whether I should address motivations for online learning after the COVID-19 period. Additionally, one participant mentioned that they found my questions to be confusing, indicating that the questionnaire may have caused some level of confusion and uncertainty among the students regarding how to respond. One way to address this is by having critical peers complete the questionnaire first, allowing the clarification of any ambiguities in the survey questions based on their feedback.

### ***5.5.3 Future Research***

Due to the limitation of self-reported research (Antin & Shaw, 2012; Donaldson & Grant-Vallone, 2002), the subjective views of participants alone may not explain the differences in motivational results within my research. A more thorough investigation is needed to understand the complex interaction of individual experiences, learning preferences, and cultural backgrounds. It is important to explore how these factors intersect with the constantly changing landscape of online education. Specifically, research into whether there are cultural or individual influences that either worsen or alleviate the difficulties that come with online learning in the future.

First and foremost, future investigations could further explore demographic factors, particularly by examining the potential links between participants' demographic backgrounds and their preferences for online or F2F learning. By closely examining variables such as employment status, age, and cultural background, researchers can gain a more nuanced understanding of how these factors interact with motivation. Additionally, expanding the scope of research to include comparative studies across different faculties within the university may provide valuable insights. By understanding how motivation differs across disciplines, researchers can identify discipline-specific factors that influence learning preferences and engagement levels (Breen & Lindsay, 2002).

The multi-cultural scenery of Aotearoa New Zealand, influenced by its bi-cultural foundations, calls for further examination of the reasons why students opt for online learning instead of F2F methods. Despite its unique situation, there is little research specifically focused on this phenomenon in Aotearoa New Zealand. It is important to fill this gap in knowledge in order to create effective online learning methods that connect with our diverse student body. By conducting a comparative analysis of the experiences of university students from various countries, we may uncover differences within the Aotearoa New Zealand student population and identify similar or dissimilar patterns on a larger scale. Gaining an understanding of how cultural factors influence motivation and learning preferences can guide the development of inclusive and culturally sensitive educational practices (Anyichie & Butler, 2023).

Lastly, expanding the research questions to include diverse student perspectives on both learning modes may uncover additional themes related to online learning motivation.

Exploring topics such as the perceived benefits and drawbacks of online learning, the impact of technological proficiency on motivation, and the role of social support networks in online learning success may provide valuable insights.

By pursuing these lines of inquiry, future research endeavours may contribute to a deeper understanding of motivation in online and F2F learning contexts. Such insights could inform the development of effective educational strategies and interventions tailored to diverse student populations, ultimately enhancing the quality and inclusivity of higher education.

## **5.6 Thesis Conclusion**

This research offers a comprehensive examination of student motivation across different learning environments, addressing existing gaps in our understanding of how online and F2F formats impact motivation. Using the EVC theory as a framework, this study investigated differences in motivation levels among Education and Social Work students at the University of Auckland, Aotearoa New Zealand, utilizing a mixed-methods approach. In the second semester of 2023, 39 students completed Likert-scale questionnaires, and five participated in semi-structured interviews for deeper motivational insights. Findings revealed slightly higher motivation levels in F2F learning. The questionnaire data identified value as the primary motivational factor ( $p < .05$ ), followed by expectancy ( $p < .05$ ), with cost carrying the least influence. Interestingly, interview participants expressed greater motivation for online learning due to its flexibility and convenience, although acknowledging the importance of value and cost. While the study did not find significant differences between online and F2F motivation, it shed light on potential disparities influenced by demographics, situational

contexts, and the prioritization of utility value over intrinsic value. These insights can inform educators, institutions, and students to create a learning environment that leverages the strengths of both online and F2F formats, optimizing student experiences and outcomes. Further research with a larger, more diverse sample and additional variables like employment status, age, and cultural background could expand upon these findings.

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## **Appendices**

Appendix A: Ethics Approval Letter of Acceptance

Appendix B: Consent Form for Programme Leaders

Appendix C: Participant Information Sheet

Appendix D: Anonymous Questionnaire

Appendix E: Interview Application

Appendix F: Consent Form for Interview

Appendix G: Full Interview Protocol

## Appendix A: Ethics Approval Letter of Acceptance



The University of Auckland  
Private Bag 92019  
Auckland, New Zealand  
Level 3, 49 Symonds Street  
Auckland, New Zealand  
Telephone (09) 373 7599 Ext 83711

### UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE (UAHPEC)

14/06/2023

Miss Megan Clune  
Curriculum and Pedagogy

**Re: Application for Ethics Approval (Our Ref. UAHPEC25919): Approved**

The Committee considered the application for ethics approval for your study entitled "**Examining Differences in Learning Motivation between Online and Face-to-Face Delivery Modes**".

We are pleased to inform you that ethics approval has been granted for a period of three years.

The expiry date for this approval is **14/06/2026**

**Completion of the project:** In order that up-to-date records are maintained, you must notify the Committee once your project is completed.

**Amendments to the approved project:** Should you need to make any changes to the approved project, please follow the steps below:

- Send a request to the UAHPEC Administrators to unlock the application form (using the Correspondence tab in Ethics RM).
- Make all changes to the relevant sections of the application form and attach revised documents (as appropriate).
- Change the Application Type to "Amendment request" in Section 13 ("Submissions and Sign off").
- Add a summary of the changes requested in the text box.
- Submit the amendment request (PI/Supervisors only to submit the form).

If the project changes significantly, you are required to submit a new application.

**Funded projects:** If you received funding for this project, please provide this approval letter to your local Faculty Research Project Coordinator (RPC) or Research Project Manager (RPM) so that the approval can be notified via a Service Request to the Research Operations Centre (ROC) for activation of the grant.

The Chair and the members of UAHPEC would be happy to discuss general matters relating to ethics approvals. If you wish to do so, please contact the UAHPEC Ethics Administrators at [humanethics@auckland.ac.nz](mailto:humanethics@auckland.ac.nz) in the first instance.

**Additional information:**

- Do not forget to fill in the 'approval wording' on the PISs, CFs and/or advertisements, using the date of this approval and the reference number, before you use the documents or send them out to your participants.

All communications with the UAHPEC regarding this application should indicate this reference number: **UAHPEC25919**.

UAHPEC Administrators

University of Auckland Human Participants Ethics Committee

## Appendix B: Consent Form for Programme Leaders



### Default Question Block

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#### Project Title: Examining Differences in Learning Motivation between Online and Face-to-Face Delivery

Name of Supervisors: Megan Clune, Shareen Sapsworth

Name of Student Researcher: Xiyao Liu

---

Please read the project's Site access & Consent form (hyperlinked below)

1. [Site Access Form](#)
2. [Consent Form](#)

---

For your information: Student [PIS](#) & [CF](#)

#### Your information

First name

Surname

Programme leader of

---

Please indicate that you agree to the following:

- Yes, I have read the Site Access Form
- Yes, I have read the Site Access Consent Form
- Yes, I agree that the students in my programme may be approached to take part in the research

---

By signing your name below, you are consenting to the students on your programme being approached to take part in this research in line with the conditions of the above consent form.

SIGN HERE

× clear

---

Signing date

## Appendix C: Participant Information Sheet



### EDUCATION AND SOCIAL WORK

SCHOOL OF CURRICULUM AND PEDAGOGY  
Te Kura o te Mātauranga me te Ako

Epsom Campus  
Gate 3, 74 Epsom Ave  
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The University of Auckland  
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Symonds Street, Auckland 1135

### PARTICIPANT INFORMATION SHEET (students)

**Project Title:** Examining Differences in Learning Motivation between Online and Face-to-Face Delivery

**Name of Supervisors:** Megan Clune, Shareen Sapsworth

**Name of Student Researcher:** Xiyao Liu

My name is Xiyao Liu. I am a master student in the Faculty of Education and Social Work at the University of Auckland, under the supervision of Megan Clune and Shareen Sapsworth. As part of my study, I am investigating how delivery modes impact motivation in undergraduate and postgraduate students programmes. This proposed study aims to explore the potential difference between the motivation of students learning online and face-to-face (F2F) by using the Expectancy-Value-Cost theory (EVC) and explore which factors in the EVC theory influence the outcome the most. The EVC theory assesses an overall motive to achieve, or avoid, failure in relation to the probability of success on a task and the resulting incentive to complete the task along with the perceptions of any consequences for completing the task. I hope the results will help to identify key factors in relation to students' learning needs, and develop the transformation of course modalities.

I would like to invite you to participate in my study. Your Programme Leader has provided assurances that participation or non-participation will not prejudice your relationship with them or the Faculty in any way.

#### **Project Procedures**

The research has two data gathering strategies: (1) an online anonymous questionnaire to investigate the various modes of undergraduate and postgraduate course delivery; (2) an interview to further explore how and why each factor in EVC theory affects motivation. If you agree to participate, you may choose to undertake one or the other or both data collection options: 1) Online anonymous questionnaire; 2) interview.

The data will only be used in quantitative analysis that compares the motivation between two modes of course delivery. Personal data will not be individually extracted and revealed in any other circumstances. Details of each of these two data gathering strategies is outlined below.

#### 1. Anonymous Questionnaire

The questionnaire is designed to investigate the motivation in two modes of course delivery. The questionnaire will take approximately 10 minutes to complete. Submission of the questionnaire will indicate that informed consent has been provided by you (this is clearly stated at the start of the anonymous online questionnaire).

The anonymous questionnaire is presented using a secure online tool called Qualtrics that is licensed for use to the University of Auckland. The questionnaire does not ask for any personally identifying information, thus is completely anonymous.

#### 2. Interview

If you wish to participate in the one-on-one structured interview, you can click the link at the beginning of the questionnaire even without submitting the questionnaire. If you want to receive a summary of findings, you can tick yes in the consent form also.



The one-on-one structured interview is designed to explore your experience and perceptions of the various modes of delivery in relation to the initial questionnaire findings. If you would like to bring a support person to the interview, you are most welcome. The interview will take approximately 30 minutes via online or face-to-face, at a time and place suitable for you. With your permission, I will audio-record the interview.

If there are more than five volunteers from each course, the first five volunteers who submit their emails via the link will be selected and sent a consent form to confirm their willingness to be interviewed. Those not selected will be sent an email notification thanking them for their willingness to be involved.

#### **Anonymity (questionnaire)**

I will store the questionnaire data on my personal computer and encrypt them. In order to protect your privacy, the survey does not require you to sign your names, nor does it require you to fill in any identifying information. Only me and my supervisors will read the data and analyse it.

#### **Confidentiality (interview)**

During the interview, I will avoid recording any identifying information about you and ensure that in the final data, no identifiers are present. I will apply a pseudonym to your interview data and use this in both the analysis and writing up of findings. The recording of interview data will be securely stored and encrypted in my password protected computer. Only my supervisors and I will have access to the data.

#### **Informed Consent**

For the online questionnaire, you will be informed that submission of the questionnaire indicates full consent. Regarding the interview, you will sign a digital consent form to give their consent no matter choose to meet online or face-to-face.

#### **Right to Withdraw from Participation**

Participation in this research is completely voluntary. You have the right to withdraw from the research at any point until data analysis is underway. You will have the right not to answer a questionnaire question, complete and/or submit the questionnaire. Once the questionnaire was submitted, you cannot withdraw your data as it will not be possible to identify within the dataset.

You can refuse to answer a question in an interview, to have the digital audio recorder turned off for a time or to leave the interview at any time without giving any reason. You will be emailed a transcript for your review and approval within two weeks, after which time data analysis will commence and you will not be able to withdraw your data.

#### **Data Storage/Retention/Destruction/Future use**

All digital data will be securely stored on a password protected computer and in password protected files. All data will be completely destroyed after six years. Electronic data will be wiped from the computer on which they were stored.

#### **What will happen at the end of data collection?**

After data collection, I will conduct the analysis and write my findings. My findings will be used in my masters thesis and may be used in articles or presentations, but will be used only for academic purposes.

#### **Contact Details**

If you have any queries, please contact me, and my supervisors:

Researcher: Xiyao Liu  
Email [xliu639@aucklanduni.ac.nz](mailto:xliu639@aucklanduni.ac.nz)

Main Supervisor: Megan Clune  
Email [m.clune@auckland.ac.nz](mailto:m.clune@auckland.ac.nz)  
Phone 09-6238899 EXT: 48216

Co-Supervisor: Shareen Sapsworth  
Email [s.sapsworth@auckland.ac.nz](mailto:s.sapsworth@auckland.ac.nz)

Head of School: Katie Fitzpatrick  
Email [k.fitzpatrick@auckland.ac.nz](mailto:k.fitzpatrick@auckland.ac.nz)

Thank you very much for your time.

For any queries regarding ethical concerns you may contact the Chair, the University of Auckland Human Participants Ethics Committee, Office of Research Strategy and Integrity, The University of Auckland, Private Bag 92019, Auckland 1142. Tel 64-(0)9 373-7599 ext. 83711 or email [humanethics@auckland.ac.nz](mailto:humanethics@auckland.ac.nz).

Approved by the University of Auckland Human Participants Ethics Committee on 14/06/2023 for three years.  
Reference Number UAHPEC25919.

## Appendix D: Anonymous Questionnaire

### Examining Differences in Learning Motivation between Online and Face-to-Face Delivery Modes

Programme you are in

Please state your registration status

Which year of study you are in

What delivery modes are you currently in

### Anonymous Questionnaire

Anonymous Questionnaire: Examining Differences in Learning Motivation between Online and Face-to-Face Delivery

During the last one-three years, you will have experienced both online and f2f delivery of courses. Please answer the following questions by thinking about each of those delivery modes in turn. Your answers may relate to current or previous study.

Please click to answer the questions.

	Online learning						Face-to-face learning					
	1 Strongly Disagree	2 Disagree	3 Slightly Disagree	4 Slightly Agree	5 Agree	6 Strongly Agree	1 Strongly Disagree	2 Disagree	3 Slightly Disagree	4 Slightly Agree	5 Agree	6 Strongly Agree
1. I know I can learn the material in my courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. I believe that I can be successful in my courses.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
3. I am confident that I can understand the material in my courses.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
4. I think my programme is important.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
5. I value my courses.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
6. I think my courses are useful.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

7. My assignments of courses require too much time.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
8. Because of other things that I do, I don't have time to put into my courses.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
9. I'm unable to put in the time needed to do well in my courses.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
10. I have to give up too much to do well in my courses.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

If you have any questions, please write down there

*Clicking on the blue button below will submit your answers. Please check you have nothing else to add before proceeding.*

## Appendix E: Interview Application

Thank you for your interest in being interviewed for my research project called ***Examining Differences in Learning Motivation between Online and Face-to-Face Delivery.***

Please leave your details below so that I can contact you to set up an interview at your convenience.

Email address

First name

Last name

What interview format you would like?

- Online
- Face-to-face (City Campus)
- Face-to-face (Epsom Campus)

Which day do you prefer to have an interview? (Please select all that apply)

- Monday
- Tuesday

- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

What time do you prefer

- Morning
- Afternoon
- Evening

## Appendix F: Consent Form for Interview



**EDUCATION AND  
SOCIAL WORK**

SCHOOL OF CURRICULUM AND PEDAGOGY  
Te Kura o te Mātauranga me te Ako

**Epsom Campus**  
Gate 3, 74 Epsom Ave  
Auckland, 1023, New Zealand  
T +64 9 373 7999  
W [www.education.auckland.ac.nz](http://www.education.auckland.ac.nz)  
**The University of Auckland**  
Private Bag 92601  
Symonds Street, Auckland 1135  
New Zealand

### CONSENT FORM (Student Interviewee)

This form will be kept for a period of six years

**Project Title:** Examining Differences in Learning Motivation between Online and Face-to-Face Delivery

**Name of Supervisors:** Megan Clune, Shareen Sapsworth

**Name of Student Researcher:** Xiyao Liu

I have read the Participant Information Sheet and have understood the nature of the research and why I have been selected to participate in this interview. I have had the opportunity to ask questions and have them answered to my satisfaction.

#### **I understand that:**

- (1) I am invited to participate in a one-on-one interview.
- (2) Participation in this research project is completely voluntary.
- (3) I will sign a digital consent form to give my consent before the interview..
- (4) My programme leader faculty has provided assurances that my decision to participate or not participate in this research will have no effect on my relationship with them, the faculty or my courses.
- (5) The interview will take about 30 minutes via online or face-to-face, at a time suitable for me.
- (6) I will be audio-recorded in the interview by Zoom.
- (7) I can refuse to answer any questions and may request the interview recording to be stopped at any time without giving a reason.
- (8) My identity in recording will be replaced with a pseudonym.
- (9) The student researcher will conduct and transcribe the audio-recording, and I will be provided with a copy of my interview transcript for review and approval.
- (10) I can withdraw interview data, or request changes up to two weeks after receiving a copy of my interview transcription. After this time, withdrawing data will not be possible as analysis will be underway.
- (11) Data will be used in the student researcher's master's thesis, conference presentations and journal publications.
  
- (12) Data will be securely stored for six years at the University of Auckland in a locked cupboard or on a password-protected computer and in the Qualtrics platform. After that time all data will be completely destroyed. Electronic data will be wiped from the computer on which they were stored.

Approved by the University of Auckland Human Participants Ethics Committee on 14/06/23 for three years. Reference Number UAHPEC25919

# Appendix G: Full Interview Protocol



**EDUCATION AND  
SOCIAL WORK**

SCHOOL OF CURRICULUM AND PEDAGOGY  
Te Kura o te Matauranga me te Ako

**Epsom Campus**  
Gate 3, 74 Epsom Ave  
Auckland, 1023, New Zealand  
T +64 9 373 7999  
W [www.education.auckland.ac.nz](http://www.education.auckland.ac.nz)  
**The University of Auckland**  
Private Bag 92601  
Symonds Street, Auckland 1135  
New Zealand

## Structured Interview Protocol

**Project Title:** Examining Differences in Learning Motivation between Online and Face-to-Face Delivery

**Name of Supervisors:** Megan Clune, Shareen Sapsworth

**Name of Student Researcher:** Xiyao Liu

### Introductions:

*Student researcher will introduce herself*

*Invite the participant to introduce themselves if they wish*

### Briefing:

*Student researcher to explain that there will be six questions - they may answer as many of them as they wish. Tell them because I am a foreigner, I may need to ask for clarification and ask them to repeat themselves. Remind the participant that they may turn off the recording at any time and also conclude the interview at any stage.*

*Finally, ask the participant if they are happy to proceed and if they have any questions before doing so.*

### Start Recording:

*"During the last one-three years, you will have experienced both online and f2f delivery of courses. As you answer the following questions, please think about each of those delivery modes in turn."*

### Questions:

1. How would you describe your motivation levels when learning in an online delivery mode compared to a face-to-face delivery mode? (give participant time to answer)
  - a. How would you rank them on a scale of 0 to 10, with 10 representing the highest level of motivation? (give participant time to answer)
  - b. Can you please tell me a little bit about why you have ranked each mode as you have? (give participant time to answer)

*Before asking the following question, paste the following into the Zoom chat:*

***Expectancy** refers to the individual's belief that they are capable of successfully completing a task. For example, a student who believes they are good at math is more likely to be motivated to take a challenging math course than a student who does not believe they are good at math.*

***Value** refers to the individual's assessment of the importance or worth of a task. For example, a student who values learning new things is more likely to be motivated to complete a difficult school assignment than a student who does not value learning new things.*

***Cost** refers to the perceived negative aspects of engaging in a task. For example, a student who perceives a math course to be too difficult or time-consuming may be less motivated to take the course than a student who does not perceive these costs.*

My study uses Expectancy, Value, Cost theory. I have just put in the chat what each of those terms means. I'll just give you a minute to read it before I ask the next question.

2. In your experience, what factor in EVC theory has the most influence on your motivation levels when you are studying online? For example: enhance your motivation or decrease your motivation.
3. Can you provide specific examples of how the (restate their identified factor) factor affects your motivation? (give time to answer)
  - a. Why do you think it can affect you when you are doing online learning?
4. What factor in EVC theory has the most significant influence on your motivation levels when you are learning face-to-face? Can you give me an example and explain why?
5. Are there any other factors in EVC that you believe could enhance motivation levels when you are learning online and face-to-face? (give time to answer)
  - a. Why do you think these factors can affect your study? (please give an example)
  - b. *If participant can't think of any, paste the following into the chat: perceived competence, autonomy, social interactions, relevance and applicability, goal setting and progress monitoring and ask: do any of these factors enhance your motivation levels in either mode? If participants would like any factors explained, use the definitions at the bottom of the page.*
6. Have you observed any differences in the motivation levels of university students between online and face-to-face delivery modes within your peer group? If so, what factors do you think contribute to these differences?

Before we go, do you have anything to add that may have come to mind since we began?

Thank you so much for your time, I really do appreciate it.

**Other factors:**

**Perceived competence:** *When learners feel competent and capable of succeeding in a learning task, their motivation tends to increase. In both online and face-to-face settings, providing opportunities for learners to experience success, receive feedback, and develop a sense of mastery can enhance motivation levels.*

**Autonomy:** *Allowing learners to have a sense of control and autonomy over their learning can increase motivation. In online learning, providing choices and flexibility in terms of pacing, content selection, or learning strategies can enhance motivation. In face-to-face settings, encouraging student autonomy through activities that promote self-directed learning and decision-making can also be beneficial.*

**Social interactions:** *Interacting with peers and instructors can have a positive impact on motivation. In online learning, incorporating collaborative activities, group discussions, and virtual communities can foster social interactions and create a sense of belonging. In face-to-face settings, promoting peer collaboration, cooperative learning, and creating a supportive classroom environment can enhance motivation.*

**Relevance and applicability:** *When learners perceive the content and skills they are learning as relevant and applicable to their lives or future goals, their motivation can increase. In both online and face-to-face settings, emphasizing the real-world connections, practical applications, and providing examples that resonate with learners' interests and contexts can enhance motivation levels.*

**Goal setting and progress monitoring:** *Setting clear and achievable goals, and providing opportunities for learners to monitor their progress, can enhance motivation. In online learning, using progress tracking tools, providing regular feedback, and allowing learners to reflect on their progress can boost motivation. In face-to-face settings, implementing goal-setting strategies, sharing learning objectives, and providing timely feedback can also be effective.*