



Transformative Learning Experiences in Australian Higher Education

A thesis submitted to fulfil the requirements of the degree of
Doctor of Philosophy

Sydney School of Education and Social Work,
Faculty of Arts and Social Sciences,
the University of Sydney

Jimmy Northwood
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Statement of Originality

This is to certify that the content of this thesis is my own work. This thesis has not been submitted for any other degree or purpose.

I certify that the intellectual content of this thesis is the product of my own work and that all assistance received in preparing this thesis and all sources have been acknowledged.

Jimmy Northwood

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Artificial Intelligence

No content produced by generative AI tools has been used in the preparation of this thesis.

Ethics Approval

This thesis meets the University of Sydney's Human Research Ethics Committee (HREC) requirements for the conduct of research.

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Acknowledgement of Country

I acknowledge the Gadigal people of the Eora nation as the Traditional Custodians of the land on which this work was conducted.

I recognise and respect their enduring connection to land, waters, and knowledge systems, and pay my respects to Elders past, present and emerging.

I acknowledge that this land was never ceded - it always was and always will be Aboriginal land.

Abstract

Transformative learning takes place when an adult learner critically questions their beliefs and assumptions, and as a result, transitions to see and act differently in the world differently, in a way that is more inclusive, reflective, integrative, and adaptable (Mezirow, 2000). As such, transformative learning is fundamental to a meaningful tertiary experience for many learners, where engaging in critical self-reflection upon first-hand experiences allows a revision of prior interpretations, or construction of new interpretations, to better guide future actions (Mezirow, 1996). Creating the conditions, skills, and disposition for this is the “essence of adult education” (Mezirow, 2003, p. 62). Mezirow’s (1991) conception of transformative learning provides a valuable framework to understand higher education students’ experiences. This doctoral study adopted a sequential explanatory mixed methods approach to investigate the foundational concept of transformative learning and the factors impacting transformative learning experiences of learners across all faculties at The University of Sydney. King’s (2009) Learning Activities Survey (LAS) was used to identify whether students have experienced perspective transformation or not, and what factors were associated with their experiences. Deviant case interviews explored how students experienced transformative learning and any similarities and differences. Apte’s (2009) Questions for Reflection triangulated these findings through interviews with educators. The study encompassed 15 units of study, 284 student surveys, 15 educator interviews, and 35 student interviews. The findings indicate that transformative learning is effectively fostered through group projects, shared experiential activities, critical discourse, and critical self-reflective assignments and learning activities. The results contribute to a better theoretical understanding of transformative learning experiences and practices, informing the curriculum design and institutional support required to enable such experiences.

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Chapter 1 - Introduction

1.1 Overview

Transformative learning takes place when an adult learner critically questions their beliefs and assumptions, and as a result, transitions to see the world differently, in a way that overcomes problematic frames of reference, resulting in beliefs and opinions that can better guide future action (Mezirow, 1991). Transformative learning is a process of learning that can be achieved through ‘perspective transformation’, where critical self-reflection leads to a reformulation of meaning structures that govern how people see the world and act within it (Mezirow, 1990; Taylor 1998). That is, it is a process of critical scrutiny and reassessment of beliefs, assumptions, and thought processes through discourse with others with alternative viewpoints to arrive at a more informed personal viewpoint and judgement (Mezirow, 1995).

The role of perspective transformation in adult education is fundamental, being described as the “the engine of adult development” and can lead to collective social action (Mezirow, 1994, p. 228). Policy makers and educators play a crucial role in providing fertile environments during adults’ formative years in early adulthood to reassess their established assumptions upon which their beliefs and actions are derived (Mezirow, 1990). Every adult educator therefore holds the responsibility of facilitating critical self-reflection and transformative learning (Mezirow, 1990). Indeed, Moore (1994) stated that the most powerful learning that educators want to see from their curricula are “significant qualitative changes in the learners themselves” (p. 60). However, Connell (2019) highlights that there is a tension in achieving such ambitions in the modern neoliberal university that undertakes a market approach to education that facilitates inequities, rather than focusing on broader moral, cultural, and civic purposes.

The University of Sydney is Australia’s oldest higher education institution and offers a wide range of disciplinary areas of study to a diverse student cohort. Given that most transformative learning studies are of small scale and examine narrow non-generalisable contexts, there is much to learn about the factors associated with transformative learning experiences in this context. As Dewey (1944, p. 167) posited, “if we teach today’s students as we taught yesterday’s, we rob them of tomorrow”. Therefore, to provide the contemporary tertiary institution with current and generalisable evidence upon which to construct their transformative curricula and teaching practices, our understanding must continue to develop based on research into novel and transferable contexts. It is accordingly appropriate to investigate how transformative learning is experienced broadly across the University of Sydney through a representative case study.

1.2 Personal motivation

I was fortunate enough to undergo a profoundly transformative experience during my own postgraduate study at the University of Sydney. The Master of Commerce capstone course targeted critical-thinking and problem-solving learning outcomes by combining team-based and experiential learning activities in a cross-cultural setting with critical self-reflective

assessments. This experience resulted in such an epochal shift in my worldview and sense of self that I changed my career and life goals to pursue tertiary education teaching and help facilitate meaningful experiences for other students.

The capstone's process of reflecting on decision making, culture, leadership, and teamwork, allowed me to realise the value, meaning and sense of accomplishment in looking outward to empower others and enable their successes, rather than focusing inward on my own practice and personal contributions. My catalyst for change occurred when a tutor appropriately identified that my leadership style was not enabling the voices of my teammates to be heard nor leveraging their diversities and strengths. By reorienting my focus to supporting my teammates to feel heard and facilitating and building upon their ideas, I discovered the power and joy of collaboration, connection, and community. I learned that each experience was an opportunity for constructive personal reflection and, importantly, an opportunity to help others to do the same with care and authenticity.

Utilising this mindset, I then spent many years as a student-focused educator on this capstone unit of study assisting students to have their own personal transformations regarding their sense of self. I further learned about myself and the process of helping others through successive iterative cycles of this very human and nurturing, yet unpredictable and complex, relationship between student and educator. Completing a Master of Education then allowed me to further develop my pedagogical knowledge and efficacy whilst researching students on this same capstone to investigate their transformative learning experiences (Northwood, 2021). Having experienced the University's wider programs through multiple perspectives as an educator, researcher, professional, and student, the transdisciplinary importance of transformative learning became apparent. In particular, the variability of curricula and teaching approaches across and within programs, and the lack of generalisable data for Australian settings, were key areas of concern.

Resultingly, this research project is motivated by my personal experiences and view that higher education should more purposefully and thoughtfully seek to provide environments of opportunity for students to experience transformative learning. It is now my life's passion to pursue these avenues to provide the best possible educational experiences for learners and facilitators.

1.3 Statement of the problem

Mezirow's (1991) conception of transformative learning provides a valuable framework to understand higher education students' experiences within specific contexts. However, there is a gap in the transformative learning literature regarding student experiences at a broader level, across different disciplines, and in Australian tertiary settings. Previous studies have also tended to focus on teaching practices rather the student experience (Taylor, 2007). Furthermore, while international students make up a significant proportion of Australian institutions' enrolments, including at the University of Sydney, transformative learning studies have not thoroughly examined the role of diversity and culture. Studies that have involved international students tend not be mixed methods, and instead are mostly qualitative investigations (Taylor, 2000).

Mezirow (2003) contends that the role of the educator in facilitating critical reflection and dialectal discourse is at the heart of adult education and is central to facilitating transformative learning. Factors of age and education are also significant in enabling the necessary condition of critical reflection in the transformative learning process, where college demonstrate consistently higher scores in reflective ability (Mezirow, 2003). Taylor's (1998, 2000) sizable systematic reviews clearly demonstrated, and as other authors have furthered and the literature review will discuss, whilst many studies have investigated transformative learning in adult education, most studies are limited by one or more of the following: a narrow population, a small sample size, a homogenous sample, quantitative methods only, qualitative methods only, either solely domestic or international students, only exploring students who did experience transformation, investigating only one disciplinary area, or being based in the United States. Therefore, the generalisability of these studies to inform wider teaching practices in Australia is extremely limited.

1.4 Theoretical framework

Transformative learning theory was established by Jack Mezirow's (1978a) writings on perspective transformation. A transformative experience can lead to new meaning being constructed by learners based on individual and social processes (Mezirow, 2000).

Transformative learning is an adult theory of change that occurs as learners engage in critical self-reflection and revise prior interpretations, or construct new interpretations, from their own first-hand experiences to guide future actions (Mezirow, 1996). The framework assumes that one's worldview is based on their thinking, values, beliefs, and actions, also known as their frame of reference (Taylor, 2015).

Transformative learning opportunities arise when a learner realises their current situation is incompatible with their previous belief system (King, 2009). The sets of assumptions and expectations in these problematic frames of reference are therefore able to be transformed and become more adept and emotionally able to change. The updated beliefs and opinions that are generated are superior and 'more true' or justified to guide future actions (Mezirow, 2006). Perspective transformation can take place when anomalous experiences result in cognitive disequilibrium, or a disorienting dilemma, often called a trigger event, that enables critical reflection and transformation (Mezirow, 1990). This transformation can be epochal if sudden or dramatic, or incremental if a related series of transformations are involved (Mezirow, 2000). The process is innately personal and is dependent upon each learner's background and approach to learning (Nichols & Dewerse, 2010).

As a learner seeks to resolve their internal disequilibrium, they undergo a process of deliberation that can provide educators with powerful understandings of their learning journey and environment (Mezirow, 1990; King, 2005). A learner can experience significant upheaval when new information is encountered that does not fit within existing frames of reference. Mezirow (1991) defined this process as having ten stages (Table 1).

Table 1 - Mezirow's Ten Stages of Perspective Transformation

Stage	Description
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- 1 a disorienting dilemma
 - 2 self-examination with feelings of guilt or shame
 - 3 a critical assessment of epistemic, socio-cultural, or psychic assumptions
 - 4 recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change
 - 5 exploration of options for new roles, relationships, and actions
 - 6 planning of a course of action
 - 7 acquisition of knowledge and skills for implementing one's plan
 - 8 provisional trying of new roles
 - 9 building of competence and self-confidence in new roles and relationships
 - 10 a reintegration into one's life on the basis of conditions dictated by one's new perspective
-

Source: Mezirow, 1991, pp. 168-169

Mezirow's (1991) ten stages detail the set of emotions and efforts that an adult learner may encounter during their critically reflective journey to arrive at a new sense of self. These stages are not considered as a strict progression (Taylor, 1998), and do not need to occur sequentially, or in entirety, to produce transformative learning (Kitchenham, 2008), as learning and meaning making are highly individualised and context dependent (Clark & Wilson, 1991). Similarly, while it is possible to create an environment where information may be disorienting and transformative learning may be experienced, these cannot be guaranteed given the differences of individual learners (Meerts-Brandsma & Sibthorp, 2021). Ideally, when transformative learning is experienced, it leads to permanent and meaningful change that consistently permeates multiple facets of the individual's life, such as school, work, and home (Hoggan, 2016).

Notably, transformative learning research relies significantly on the contributions of King's (2009) Learning Activities Survey (LAS), originally published in 1998. Numerous studies have since investigated transformative learning across many populations and highlighted the importance of educators employing the tools of critical reflection, dialogue, situated learning, and relationships in their facilitation. The survey is specifically aligned to the ten stages defined by Mezirow (1991) and is considered a robust mixed-methods tool for educators to investigate transformative learning (Onwuegbuzie & Teddlie, 2003). The role of educators in facilitating transformative learning is also pivotal and typically under researched (Apte, 2003). Therefore, Apte's (2009) Questions for Reflection have been devised to seek facilitator's perspectives on their perspectives on fostering transformative learning.

In modern society, the cardinal goal of education is to develop autonomous thinking where learners understand the meaning of their experiences and critically arrive at their own interpretations (Mezirow, 1997). Therefore, it is important that researchers continue to investigate transformative learning and enhance their facilitation of these experiences across diverse environments.

1.5 Research questions

This study investigated the foundational concept of transformative learning and the factors and experiences of adult learners at a major Australian institution through the following research questions:

1. What factors are associated with whether and how students have experienced transformative learning at the University of Sydney? (survey)
2. How do students at the University of Sydney experience transformative learning? (interview)
3. What, if any, are the similarities and differences in transformative learning experienced by students at the University of Sydney? (survey + interview)

To conduct this study, firstly, interviews with Coordinators, the academic staff responsible for delivering each unit of study, otherwise referred to as educators, facilitators or teachers, utilised Apte's (2009) Questions for Reflection to gather their perspectives on facilitating learning in their units of study. Subsequently, King's (2009) Learning Activities Survey (LAS) was used to identify whether students in those units of study experienced perspective transformation or not, and what factors were associated with their experiences. The frequency and effect of transformative learning within each sample was analysed to increase educators' understanding of how students in different courses and faculties differ in their experiences. Follow-up semi-structured interviews with a deviant case sample revealed how students perceived their experiences, giving a detailed account of individual experiences whilst highlighting commonalities and differences. Lastly, the study investigated the differences uncovered across the deviant case samples from the survey and interview phases. These results were useful in disaggregating general trends to reveal deducted themes within the samples. Together, these results from an under-investigated context assist educators by providing novel and localised insights.

1.6 Purpose and significance of the study

The aim of this study was to explore the lived experiences of participants in higher education at the University of Sydney using a sequential explanatory mixed methods approach (Ivankova et al., 2006). Researching the factors that enable transformative learning allows educators to understand the relationships this has with the associated variables (Taylor, 2008).

An at-scale, cross-disciplinary investigation of transformative learning in an Australian institution may bring many benefits which are discussed below.

Firstly, it contributes meaningfully to the breadth of literature in the transformative learning field and supplements other research exploring tertiary education learning experiences. It should be noted that, generally, these contributions lie within contextual application rather than theoretical innovation.

Secondly, the study assists filling the current void regarding transformative learning in broad settings for Australian educators at major institutions. This serves to aid program designers'

offerings and curricula on a macro basis, whilst providing more granular detail regarding effective learning activities that encourage the facilitation of transformative learning at a unit of study level. Importantly, the study triangulates data through both quantitative and qualitative methods, and through both learner and educator perspectives, whilst evidencing these learnings at a greater scale than many previous studies.

Thirdly, it acts explicitly incorporates the under-researched views of facilitators of transformative learning and acts as a bridge between students, staff, and the institution. The particular methods combined are novel in their design and contribution to the literature.

Fourthly, the study provides a uniquely Australian lens, embedded with the inherent diversity of its adult learners, through which further studies of transformative learning may be compared.

Fifthly, it aims to serve as the broadest investigation of transformative learning at a major institution by investigating every faculty across the University, with a specific focus on similarities and differences experienced commonly across these various learning environments.

Finally, and ultimately, this research assists the understanding of tertiary educators of diverse cohorts and can enable more effective program design, and subsequently, facilitation of learning that is transformative, meaningful, and personalised.

1.7 Limitations of the study

Whilst this research does intend to make significant improvements regarding extrapolation of results, it is not without limitations.

Firstly, the study aimed to provide a representative case study by investigating a large institution specialising in both teaching and research with domestic and international students across a range of disciplines. However, it will not be fully representative of all Australian universities, nor of more bespoke tertiary education institutions with differing cohorts and programs. Despite this, the study is novel in its breadth of investigation in Australia, which has been under-investigated to date.

Secondly, while the study investigated all faculties at the University of Sydney, it did not investigate all disciplines within those faculties, nor were the unit of study populations equal, meaning greater frequency of voices are inherently heard from some programs where student cohorts were larger. Furthermore, response rates were uneven across the units of study, may introduce some non-response bias for some units of study, and therefore may not generalise across the broader university population.

Thirdly, the study did not seek to investigate units of study representatively across the institution by selecting them randomly or proportionally. Instead, the study used purposive sampling with selection criteria derived from the transformative learning literature to recruit Coordinators from units of study where transformative learning was deemed most likely to be occurring to investigate the phenomenon most proximally. Resultingly, conditions that

specifically hinder or are incompatible with transformative have not been explicitly investigated and may inflate positive findings.

Fourthly, each discipline investigated generally had differing sets of learning objectives and ways of teaching and learning. The study's findings present both learners' and teachers' perspectives on their experiences, but it did not investigate teaching practices and curricula directly. Therefore, it does not intend to validate the perspectives of its participants, nor be representative of the intentions of the institution itself. Further to this, while researcher judgment was used to classify student participants accurately, some self-report bias may be present due to the nature of the survey mechanism asking students to reflect on their own experiences.

Finally, it is acknowledged that only conducting descriptive statistics, rather than including inferential statistics, is a limitation of this study. Upon careful consideration, greater weight was given to providing sufficiently thick description of participants' lived experiences through qualitative data. This decision also leveraged discussion from Geertz (1973) and Apte (2003), prioritising illumination of the complexity of the phenomena through vivid and sharp narrative, and to arrive at conclusions from delicate and densely textured accounts.

1.8 Assumptions and biases of the study

The literature demonstrates that it is increasingly appropriate for a study to clarify what assumptions, experiences and worldview underpin the analysis and interpretations (Merriam & Tisdell, 2015). The study and the underpinning theoretical framing made several assumptions.

Firstly, it assumed that participants' responses in surveys and interviews accurately reflect their experiences. For example, it was assumed that learners were able to accurately self-report perspective transformation based on the LAS, as well as any associated learning activities, life events, and demographics. It also assumed that facilitator's recollections of their perspectives of their own and students' experiences were authentic and representative to the best of their recollection. Despite independent verification not being possible, qualitative research also considers the power of narratives, its rich description, and ability to convey personal perspective, as a strength (Merriam & Tisdell, 2015).

Secondly, based on previous research (King, 2009), it was assumed that a significant proportion of participants would have experienced transformation from their education and, similarly, a significant proportion would not have experienced any transformation. All experiences were considered without prejudice as valid and equally worth of investigation to uncover themes and inform the study's findings.

Thirdly, the study is conducted across an entire institution where disciplinary differences exist within respective programs regarding learning outcomes and learning and teaching approaches. The extent to which providing transformative learning opportunities is prioritised or disciplinarily relevant may differ across faculties and programs. However, the University of Sydney's 2032 Strategy aims to provide a student-focused education that is

transformational and meets the needs of employers and learners by equipping graduates with a sense of civic responsibility and dynamic lifelong learning (University of Sydney, 2025). This study assumes that transformative is aligned with this strategy at an institutional level despite innate disciplinary differences.

Lastly, interviews and qualitative analysis require a co-construction of meaning which necessarily influences a study's findings (Yow, 1997). These processes were inherently impacted by participants' recall, as well as the timing, feel, and circumstances of the interview (McLeod, 2016). While the researcher's proximity was considered beneficial to understanding and interpreting participants' contributions, the researcher's positionality and potential interview bias was also considered in more detail in the study's methodology.

1.9 Structure of the dissertation

Chapter 1 has outlined a concise introduction of the study's basis. Chapter 2 provides a literature review that succinctly locates the study and addresses the theoretical basis for investigation. Chapter 3 explores the methodology employed and identifies the study's participants. Chapter 4 presents and discusses the qualitative results of the student surveys and uncovers the factors associated with a transformative experience. Chapter 5 addresses the context for the units of study investigated and discusses facilitators' qualitative perspectives on both their own and learners' experiences during their units of study. Chapter 6 subsequently analyses and discusses student interview data on their experiences of transformative learning and uncovers similarities and differences from the deviant case sample. Chapter 7 addresses the tensions uncovered throughout the qualitative phases of the study and discusses their impact at an institutional level. Chapter 8 synthesises a summary of the findings from the research project and their implications for practice, while Chapter 9 concludes the study. Appendices provide details of the student survey, Coordinator interview, and student interview questions and protocols.

Chapter 2 - Literature review

2.1 Introduction

Transformative learning has drawn significant attention in the field of higher education since its inception by Jack Mezirow over three decades ago. This review will explore the key concepts and principles of transformative learning theory, discuss the factors associated with a transformative experience, and outline the implications for educators constructing transformative learning environments for their learners.

The underlying intention of this chapter is not to provide an exhaustive discussion, but to synthesise the key areas most relevant to the study and its Australian higher education setting. This conciseness also provides space for rich and authentic narratives to be provided in the qualitative chapters whilst integrating and discussing further literature most proximally to the data for relevance and insight.

The chapter will sequentially explore the evolution of transformation learning, factors that promote it, how the concept interacts with higher education, the role of educators in facilitating these experiences, instruments available to measure the construct, the student survey and interview mechanism, the facilitator interview instrument, and finally, the theory's critiques.

2.2 Evolution of transformative learning

Transformative learning is a recursive process that enables adult learners to transform problematic frames of reference into ones that are more open, inclusive, discriminating, and adaptable (Mezirow, 1991). These new or improved frames of reference are superior – they are more likely to lead to beliefs that will prove more true in guiding one's actions and lead to better understanding of the meaning of one's experience (Mezirow, 2000). This perspective transformation process is triggered by an experience that is inconsistent with the learner's current understanding of the world and of themselves (Mezirow, 1978b). These externally imposed dilemmas (usually termed 'disorienting dilemmas') cannot simply be solved by acquiring more information – they require critical awareness in taking on board others' perspectives. This process enables one to move beyond the cyclical consequences of repeating their own unexamined history, assumptions, view of self, and worldview (Mezirow, 1978b). Usually, such a dilemma will effect change by creating pressure that may initially results in feelings such as guilt or shame regarding previous viewpoints and conduct. More contemporary literature has questioned whether Mezirow's approach is over-rational (Fleming 2018), and whether guilt and shame may reflect social pressure and identity threat, rather than healthy transformation (DeSapio, 2017). However, when appropriately supported, the resulting change is usually experienced positively.

Perspective transformation, the outcome of the transformative learning process, can be difficult to detect and quantify (Meerts-Brandtsma et al., 2020). It can be a sudden lightbulb moment, or a slow incremental process that unfolds over years (Mezirow, 1990). It can alter both lower-order *meaning schemes* that govern how one views the world, and higher-order *frames of reference* that structure the assumptions that shape cognition, perception, and

feeling (Mezirow, 2000, 2003). Perspective transformation is a permanent change in the learners' frames of reference, which may also lead to changes in behaviour and action. As a personal process, it is influenced by each learner's formational background and approach to learning (Nichols & Dewerse, 2010). Critical judgement allows a learner to engage in abstraction and consider epistemic issues (Mezirow, 2000). This generally occurs in adolescence as one makes a transition from a self-oriented to a socialised mind that can focus on others, creating a state that can be transformed (Kegan, 2000; Taylor, 2000).

Transformative learning originated in Mezirow's (1978a) study of women returning to work or postsecondary education after an extended absence. He concluded that these women had experienced a process of "personal transformation" and denoted 10 steps based on his observations (Mezirow 1978b). As such, transformative learning theory is based on a constructivist philosophy and situated within human communication, where prior interpretations are revised or replaced based on one's experiences and guide their future actions (Mezirow, 1996). Mezirow's development and revision of concepts such as frames of reference, meaning schemes, meaning perspectives, habits of mind, disorienting dilemmas, and critical self-reflection, were heavily influenced by and evolved with the views and works of notable authors (Kitchenham, 2008). This includes Dewey's (1939) experiential education and social context, Kuhn's (1962) paradigms, Freire's (1970) conscientization, Habermas's (1985) instrumental and communicative learning, Kegan's (1982, 2000) adult development theory, Kolb's (1984) experiential learning, and Cranton's (1994) adult education writings. The following discussion will highlight that the theory's foundations are consistent with the underpinnings of the chosen methodology for this study.

A key aspect of transformative learning theory is the concept of communicative learning. Communicative learning involves the process of critically assessing the underlying assumptions that support norms, rather than instrumental learning, which is concerned with task-oriented problem solving (Mezirow, 2000). In other words, it is the difference between a course being transformative in changing *how* one knows, rather than a course informing *what* one knows (Kegan, 2000). Therefore, transformative learning theory emphasises the process of a learner critically reflecting on the context of their lived experiences and dialectical discourse, leading them to construct personalised meaning (Mezirow, 2003). This perspective transformation and meaning making enables one to live according to authentically constructed values, rather than one blindly relying upon values absorbed through socialisation (Mezirow, 1991; Kegan, 2000). This ideally leads to long-lasting, meaningful change that permeates consistently into many domains of life, including work, studies, and relationships. Mezirow (1978b) believes that providing potentialities for such transformation is the greatest priority, and cardinal goal, of adult education. In contrast to communicative learning, instrumental learning tends to be the focus of hard sciences, where students learn how to perform a task (Vogelsang, 1993). The absence of value-laden topics in instrumental learning is less likely to stimulate transformative learning. Furthermore, Wilson (1998) argues that task-oriented learning in social sciences may be more emancipatory in nature due to the topics being more likely to address areas of personal significance to students. However, few studies have investigated experiential and critically self-reflective learning across both social

and hard sciences, and indeed across all areas of tertiary study, to elicit similarities and differences experienced by these cohorts. This illustrates the significance of this study and its potential contribution to the field by examining the under-investigated context of large scale Australian higher education institutions.

The generative field of transformative learning has evolved alongside a variety of supportive and tangential adult education theories. This double-edged process has led to a simultaneous broadening of applications and understandings, whilst also blurring boundaries and transmuting concepts. Transformative learning's unique development and history have resulted in the term taking on several meanings (Walker, 2018). Demonstrating this, Taylor (2008) identified at least seven concepts: transformative learning is psychoanalytic, psychodevelopmental, socioemancipatory, neurobiological, race-centric, cultural-spiritual, and positional. Similarly, Stevens-Long et al. (2012) denoted four approaches with which transformative learning intersects theoretically. This includes, firstly, a cognitive-rational approach, where meaning perspectives are changed through critical reflection, consistent with Cranton (2006) and Mezirow (1991). Secondly, a depth psychology approach, consistent with Jungian individuation through one's internal dialogue with the subconscious (Dirkx, 2000). Thirdly, a structural developmental approach, consistent with Kegan's (1982, 1994) adult development changes through the life span. And fourthly, a social emancipatory approach, consistent with Brookfield's (1995) conception of education developing a critical consciousness for social justice and change. Resultingly, transformative learning is at the same time: an outcome of perspective transformation; a learning process; and an event, or series of events, in the learning experience fostering the desired outcome (Stevens-Long et al., 2012). Similarly, disorienting dilemmas, or trigger events, are intertwined with, or parallel to, related concepts such as productive dissonance (Brookfield, 1995) and threshold concepts (Meyer & Land, 2006). This necessarily implies that transformative learning is a complex, varied concept that is investigated by researchers with potentially fractured and inconsistent applications (Walker, 2018). Indeed, Bullen & Roberts (2021) have critiqued that transformative learning studies are susceptible to regarding any change in a learner's thinking as transformative. This also leaves the literature exposed to the simplistic consideration of a transformative learning experience, or not, as a binary construction. As such, it has been argued that scholars must exercise caution and provide justification regarding which learning they consider to be transformative (Hoggan, 2016).

The literature also extends to contemporary post-Mezirowan debates and where decolonial, feminist, and socio-critical critiques of transformative learning are raised. Decolonial literature argues that despite transformative learning's inclusion of cultural diversity, it often overlooks the coloniality of knowledge (Shahjahan, 2025). That is, colonial time assumptions, such as academic calendars and rigid schedules in Western institutions, underpin the assumptions influencing knowledge production, restricting the power of transformative learning (Robinson, et al, 2023). These authors suggest that Mezirow's transformative learning is embedded Eurocentric practices, is thereby limited in its applicability in other contexts and cultures and should move toward embracing justice-oriented practices. From a feminist perspective, despite being conceived from women's

transition to employment after hiatus, transformative learning research is typically under researched regarding women-specific experiences, as well as issues of race, class and gender (Irving & English, 2011). It is argued that these issues have been obscured by neoliberal priorities of access and equity, thus depoliticising transformative learning from its grounding in emancipation (Cornwall et al., 2007). A return of the literature to a social justice perspective is called for, consistent with authors such as Dirkx (1998). Contemporary socio-critical literature argues that transformative learning is still too often framed as an individual, rational, and apolitical revision of meaning for learners (Hoggan & Hoggan-Kloubert, 2022). Indeed, it is posited that transformative learning in higher education should be professionalised and anchored in activism and social purpose for structural change (Boylan et al., 2023).

This study therefore aims to address a significant gap in the literature regarding transformative learning in Australian higher education contexts whilst understanding and appreciating its complex nature and inherent criticisms.

2.3 Factors promoting transformative learning

Mezirow (2006) stated that two foremost elements promoting transformation learning are critical self-reflection and critical dialectical discourse. Engaging in these processes allows a learner to assess problems, evaluate judgements, and investigate the truth value of alternatives (Kitchenham, 2008; King & Kitchener, 1994). However, it is also contended that many higher education programs lack appropriate student engagement, group discourse, or reflection (McKeown, 2009). Therefore, the role of the educator in constructing and facilitating appropriate learning environments for transformative learning to be fostered will be subsequently discussed in later in the chapter.

Critical reflection, or critical self-reflection, is the “critical assessment of the sources, nature, and consequences of our habits of mind” (Mezirow, 2006, p. 28). It can lead to transformative learning in two ways: a simple transformation of *one* meaning scheme based on content or process reflection, or a more powerful transformation of a *set* of meaning schemes based on premise reflection (Mezirow, 1995). In addition to self-critiquing assumptions, critically reflecting on others’ assumptions is fundamental to collaborative problem recognition and solving (Mezirow, 1997). These methods are crucial in assisting a learner’s adaptation to change and, resultingly, critical reflection has been deemed the central tenet of transformative learning (Brookfield, 2000). Therefore, units of study containing critical self-reflection learning tasks or assessments is one of the selection criteria for recruitment into this study.

Critical dialectical discourse is dialogue that offers conflicting interpretations and aims to critically examine the evidence and arguments behind these differing views (Mezirow, 1997). Arriving at a more dependable understanding, or synthesis of understandings, is supported by examining a greater number of interpretations of the belief in question. While this process can happen independently, conducting this analysis in concert with others also allows a strengthened, common understanding to be formed by actively examining a multitude of others’ related experiences (Mezirow, 2003). This perspective taking process necessitates an

interpersonal dimension where one's communication is adapted based on others' positionality and feedback. This discourse with other affected individuals can also further develop a learner's reflective judgment and sensitivity to, and tolerance of, others, and highlights the importance of participating in discourse with others and reaching mutual agreement. As such, units of study that operationalised these concepts through critical dialectical discourse learning activities or assessments and project-based group work were also considered as selection criteria for recruitment into this study.

Transformative experiences are not only fostered through discursive activities but can also be evoked through meaning making from intense shared experiential activities (King, 1999; Taylor, 2000). Learning activities of this nature can induce a shared catalyst for group members where the experience becomes personalised and more meaningful to participants. These group experiences can also provide a supportive and reciprocal environment for learners to confront difficult issues that may have otherwise been resisted (Dirkx, 1998). These notions build upon Kolb's (1984) seminal theory, and more recently, Kolb (2014) has posited that experiential learning can lead to a lifelong pathway of self-actualisation due to the process of internalisation of experience from critical reflection. Therefore, to access students closest to the nexus of experience and disciplinary expertise where knowledge is being applied and integrated, the selection criteria for recruitment of units of study into this research project included problem-based learning design and experiential learning design.

Taylor (1998) asserted that transformative learning is not just a rational process and incorporates affective dimensions. Mezirow (2003) also asserted that emotional intelligence, through factors such as self-awareness, motivation, empathy and social deftness, has a strong association with and assists critical reflection and participation in critical dialectical discourse. Emotions are central to construction of knowledge (Harris, 2015). Critically examining one's values and beliefs involves a pedagogy of discomfort that can evoke unpleasant emotions (Boler, 1999). Feelings such as anger, confusion and anxiety are commonly experienced during transformative learning (Taylor, 1997). Feelings are often the trigger for reflection, and these must be validated and processed before critical reflection upon them can begin (Taylor, 1998). Grund et al. (2024) found that negative emotions were predominantly experienced during the stage of novel experiences, or disorienting dilemmas, including confusion, frustration, stress, and doubt. Correspondingly, they found that positive emotions such as gratitude, connectedness, wonder, and compassion were experienced during stages of social exchange and shift in meaning. As such, interviews with both Coordinators and students focused on the emotions evoked during their unit of study experiences.

Learning experiences where information is likely to be disorienting can be created, but this can't be guaranteed and depends largely upon the learner's circumstances and approach (Meerts-Brandtsma & Sibthorp, 2021). Critical reflection has also been found to correspond with students taking a deep approach to learning (Leung & Kember, 2003). Deep approaches to learning involve searching for meaning, personalising knowledge, seeing relationships between parts and integrating them into a whole, and interest and enjoyment (Biggs, 1987). Using this approach, students reflect upon a concept, absorbing it into personal knowledge, thus entangling it in experience and related ideas. Contrastingly, surface learning involves

seeing a task as a demand to be met, where tasks are unrelated and relies on memorisation and reproduction. Students taking this approach to learning acquire knowledge without reflecting on it or exploring its meaningful application, and resultingly, it often has no connection to personal experience or meaning and is unable to be transferred between contexts. However, learning conceptual knowledge should not automatically be classified as surface learning, as it can be deep if richly interconnected and embedded within webs of association, and is also dependent upon the teaching methods and perceived learning environment, (Dolmans et al., 2016). The alignment of the learning environment with the motivation of a learner is therefore crucial to perspective transformation (Wang et al., 2021). Students' motivations, learning approaches, assumptions and expectations, and their alignment with teaching methods and intentions, were therefore investigated in this study as they can reveal much about a learner's likelihood of experiencing perspective transformation.

There are many factors that may contribute to students potentially undergoing a transformative experience in higher education. Learning environments that leverage critical reflective, critical dialectical discourse, project-based group work, problem-based learning design and experiential learning design are likely to provide fertile ground for these experiences. In addition, studies that include the role of emotions, the facilitator of the learning environment, and student learning approaches are likely to further our understanding of transformative learning. As such, this study has incorporated these factors to make a meaningful to contribute to the literature.

2.4 Reflection and student capacity for transformation

A fundamental skill in adult learning is the capacity to critically reflect on the assumptions underlying what is communicated to us and informs our thoughts, feelings and actions (Kreber, 2012). Engaging in critical reflection can make learnings in adulthood more profound (Mezirow, 1991), as well as enhancing the professional and life opportunities available (Brookfield, 1995, 2000). Essential in critical reflection is surfacing and revising assumptions that are accepted to be in one's interest but actually serve opposite interests in the long term. Critical theory links this form of critical reflection to social action and change (Freire, 1970). Fostering critical reflection in higher education relies confronting students with the unexpected, unfamiliar and surprising, thus revealing and calling into question potentially troublesome presuppositions (Kreber, 2012). Critical friends have also been identified as important in stimulating critical reflection and explains much of the importance of both educators and peers in groupwork projects (Brookfield, 2000).

According to Taylor (1998), there are four necessary personal capacities that must exist or be developed in order to engage fully in critical reflection. Firstly, a self-awareness to recognise and articulate internal conflicts and emotional shifts. Secondly, an openness to alternative perspective and suspend habitual judgement, consistent with Boyd and Meyer's (1998) receptivity to new ways of knowing. Thirdly, a willingness to engage in critical self-reflection and interrogate one's own meaning schemes (Mezirow, 1991). And finally, emotional resilience whilst navigating any discomfort experienced during the disequilibrium of transformation (Cranton, 2000). Indeed, many learners withdraw from critical reflection

when affective intensity exceeds their capacity to cope appropriately. These views are generally supported by contemporary literature. Illeris (2014) supports these concepts of identity and transformation, but furthers them by including all aspects of cognitive, emotional and social factors and situatedness in totality. Baumgartner (2019) similarly contends that critical reflection remains a core capacity for transformation and that openness to alternative viewpoints through dialogue indeed fosters expansion of perspectives. Critical reflection is especially effective when embedded in participative, experiential learning activities and critical dialectical discourse activities (Kokkos, 2022).

Critical self-reflection is not passive and requires active, deliberate effort (Rogers, 2001). This necessitates open-mindedness and responsibility on behalf of the learner to engage consciously in reflection (Boud & Walker, 1993). The educator must also recognise the importance of preparation to create the preconditions for reflection and identify, understand, and minimise any barriers or inhibitors to reflection with the educational environment. Reflective processes are most successful when individual and environmental factors provide an appropriate balance of challenge and support (Daudelin & Seibert, 1999). It is therefore incumbent upon adult educators to nurture and develop learner's personal capacities for critical reflection through appropriate pedagogy and learning environment.

The review above highlights that critical reflection is a key predictor of transformative learning. Indeed, as Rogers (2001) posited, higher education is perhaps offered no greater tool to enact lasting and effective change in their students than through reflection. Through this resiliency and resourcefulness, not only can students promote their personal capacity for dynamic challenges in their life, but they may also be empowered to participate in collective action to address societal problems. Transformative learning therefore relies crucially on institutions developing and supporting students to engage in the necessary precondition of reflection through their practices and curricula.

2.5 Educators in transformative learning

The educator plays a vital role in transformative learning by constructing the educational environment and being an active facilitator of critical reflection and dialectical discourse (Mezirow, 1991). While sudden learning moments may occur, the educator's role in transformative learning also includes continuously stimulating gradual change over time by providing suitable challenges and thought provocation (Brock, 2010). Fostering continual learning for students can be seen as congruent to the unfinished self-learning process that an educator undergoes throughout their professional teaching career (Sjølie et al., 2019). This encouragement of students to assess and revise the assumptions they hold of themselves can move them toward conscious knowledge of self (Meerts-Brandtsma et al., 2020). Even after a learner restructures their reality and realises the need for action, the perseverance to implement such change may require temporary assistance from their peers and educators (Mezirow, 1978b).

The facilitation of transformative learning occurs at the intersection of teacher and learner "within the context of an educational helping relationship" (Robertson, 1996, p. 50). For institutions to improve the level of service provided to learners, this helping relationship

requires continuous support through considered and genuine discourse. Indeed, a consultative relationship amongst educators provides a secure environment for professional collaboration and exploration, beyond the learner, into the dynamic and self-reflective sphere of the teachers' practice (Sjølie et al., 2019). Building upon principles of communicative action (Habermas, 1996), this practice entails people collaborating to achieve mutual and broadened understanding of each other's perspectives to reach unforced consensus to inform future action (Kemmis & McTaggart, 2005). This definition of 'space' transcends the physical to include all aspects that contribute to nurturing the professional learning of teachers and includes social, affective, and discursive components (Sjølie et al., 2019). The concept of space in higher education also now transcends into postdigital spaces that intertwine multiple material and digital elements (Carvalho & Lamb, 2023). Educators' practice and how they leverage spaces to foster transformative learning through critical discourse, critical dialectical discourse and other learning activities is a fertile area for exploration.

Whilst transformative learning of students is the focus of this study, transformative development of teaching practices may also occur when educators collaborate regarding their teaching and their students' learning (Sjølie et al., 2019). This type of professional learning practice can be seen to share many principles with collaborative professional inquiry, given its shared problem identification and subsequent inquiry into others, and one's own, practice (Kennedy, 2014). There is significant alignment here with the transformative learning principles of the emancipatory educator (Mezirow, 1991) and the aim of this study to engage in the broader elevation of students' interests.

While ownership of the individual transformative learning process is with the respective student, the educator assumes responsibility for the conditions within which that takes place (Wang et al., 2021). This includes providing empathy and support while sustaining suitable challenge to encourage reflection upon assumptions. It also involves fostering a safe and collaborative environment between students that encourages risk-taking and exploration of differing opinions (Taylor, 1998) whilst delicately ensuring no individual view is perceived as superior to another (Cranton, 1994). The facilitator should also be adept at building trust, employ strategies that encourage affective processing, promote critical reflection, and be willing to experience change themselves (Neuman, 1996). These factors comprise just a subset of the educational and relationship building techniques that a facilitator may employ to support students to feel heard and supported to provide a fertile environment for transformative learning to occur (Murdoch et al., 2020). This study therefore explored these aspects for both Coordinator and student perspectives to ascertain how they were perceived to impact the transformative learning experiences of students. Section 2.7 will explore the student data collection methods employed while Section 2.8 will discuss data collection methods used to explore facilitators perspectives.

2.6 Transformative learning in higher education

Mezirow (1997) argued that the role of modern higher education is to produce a workforce that is adaptable to the changing nature of employment, can exercise critical judgement, and engage in collaborative decision making. This involves actively engaging learners with their

thoughts and feelings, extracting meaning, and developing their assumptions about themselves and the world. Indeed, it has been more recently posited that it is hard to consider students ready for the future of work if this has not been an outcome of their education (Nichols et al., 2020). Therefore, transformative learning experiences play a crucial role in the function of higher education.

As a representative case study for Australian higher education institutions, the University of Sydney had over 72,000 student enrolments in 2020, making it the second largest tertiary institution in Australia (Department of Education, Skills and Employment, 2022). Enrolments at the University of Sydney are spread across numerous academic organisational groups, with the vast majority stemming from Society & Culture, Health, Natural & Physical Sciences, and Management & Commerce. Nearly half (44%) of all enrolled students at the University were international students, rising to 55% in postgraduate courses, making it the largest international postgraduate cohort in the country. Over 78% of the 190,000 international students in Australia were studying traditional bachelor and master programs by coursework – a significant market for tertiary institutions. By far the most dominant country of origin for international students in Australia is China, followed by India, and then other South-East, Southern, and Central Asian countries. These international learners bring a range of different cultural backgrounds, personal experiences, learning styles and personality traits, in addition to the diverse nature of domestic Australian students. However, it has been noted that international education systems inevitably differ, and some tend toward teacher-centred learning where student participation and critical reflection are lessened, elevating the incidence of rote learning, memorisation, and unquestioned authority (Kumi-Yeboah, 2012). Transformative learning is a culturally situated process and critical self-reflection plays a vital role in the process (Mezirow, 2000). Subsequently, the call for research into factors that promote transformative learning is particularly salient for international adult learners (Taylor, 2008). Therefore, the University of Sydney is an ideal context to investigate a representative and meaningful case study.

At a broad level, Mezirow's (1991) conception of perspective transformation has provided an effective framework to investigate transformative learning experiences of tertiary students, both domestic and international, across many previous studies (Kumi-Yeboah & James, 2014). In these studies, qualitative research has been dominant (Kember, 2008) and has traditionally utilised case studies, practitioner research and narrative inquiry (Merriam & Kim, 2012). However, methodologies have expanded over time and have become increasingly sophisticated by utilising longitudinal studies, action research, video interviews, and even participants' writing, as viable sources of data (Romano, 2018). Multiple instruments are available to measure transformative learning. The Transformative Learning Survey (TLS) (Stuckey et al., 2013) focuses predominantly on major life events rather than educational experiences, and the reliability and validity of its subsequent revisions have not been adequately addressed (Walker, 2018). The Transformative Learning Environments Survey (TLES) was subsequently developed by Walker (2018) and does include student's perception of the learning environments, though it focuses on student satisfaction rather than transformative learning outcomes (Stuckey et al., 2022). Furthermore, the instrument has not

yet been widely used, and additional research is required to assess its overlap and complement with tools such as the TLS to potentially synthesise them. The Transformative Outcomes and Processes Scale (TROPOS) developed by (Cox, 2017, 2021) helpfully including measures of receptiveness and attitude toward uncertainty. However, the tool still requires further validation in different populations, cultures and settings (Kwon et al., 2021). As such, the LAS (King, 2009) remains the most frequently and widely applied instrument to measure transformative learning in higher education settings and will be addressed in detail in the following section. Whilst the literature can be seen to be over reliant on retrospective interviews and secondary sources (Taylor & Cranton, 2012), it also calls for investigations in novel populations to better understand and further refine these tools whilst contributing meaningfully to the field (Romano, 2018).

Within an Australian context, research into transformative learning in higher education has tended to focus on specific curriculum areas rather than including broader populations. For example: Mills et al. (2021) investigated nursing and midwifery students undertaking a First Peoples cultural safety in health course; Bullen & Roberts (2019) analysed the learning experiences of students in Australian Indigenous Studies; Bay & Macfarlane (2011) investigated undergraduate social work students; Christie et al. (2015) analysed the experiences of pre-service teachers; and Sidiropoulos (2022) investigated students in sustainability education. Consequently, there is a significant gap in the literature in generalised settings that investigate across faculties or degree levels. Therefore, studies that investigate transformative learning at major Australian higher education institutions across all faculties and at multiple levels of study could contribute meaningfully to the literature.

2.7 The Learning Activities Survey (LAS)

Mezirow (1997, p. 6) asserted that “communicative learning involves understanding purposes, values, beliefs, and feelings and is less amenable to empirical tests”. Research into transformative learning has thus been consistently rooted in rational-cognitive constructivism, creating a direct understanding from those who experienced it and revised their assumptions as a result. The most popular tool to capture these learner-constructed meanings is the widely used self-report LAS (Stuckey et al., 2013).

Originally published in 1998, King’s (2009) LAS was further revised after a decade of research and has continued to dominate the literature. It was developed to allow researchers and educators to identify if a learner has undergone perspective transformation and, if so, what factors and learning activities have contributed. The LAS’s theoretical underpinnings include the seminal works of Mezirow (1978a, 1978b, 1990, 1994) as well as Cranton (1994) and Brookfield (1986, 1995) where critical reflection and critical discourse are crucial mechanisms to transform a learner’s awareness. Further detail on the LAS is discussed in the methodology chapter, and a copy of the LAS used in this study is detailed in Appendix 1.

The LAS has been applied using quantitative-only approaches that rely solely on the survey, as well as mixed-methods studies that incorporate follow-up interviews with learners. Many novel and bespoke contexts have been studied with small, bounded samples including study abroad programs (Strange & Gibson, 2017), theological education (Nichols & Dewerse,

2010), outdoor adventure education (Meerts-Brandsma et al., 2020), adolescent semester schools (Meerts-Brandsma & Sibthorp, 2021) and business school undergraduates (Brock, 2010). However, the literature is predominantly based in the United States and its generalisability for major Australian institutions is unknown. Similarly, while the transformative learning literature has continued to grow, Taylor (2015) argued that the impact in systematically informing educational practice has been limited. A broad approach at the University of Sydney with greater generalisability aims to bridge some of that gap for Australian institutions.

There are a several transformative learning studies of particular relevance to the current investigation. Kumi-Yeboah and James (2014) explored the experiences of Asian international students at an America institution using the LAS with mixed methods. Similarly, Tran (2007) explored Chinese and Vietnamese students in an Australian setting, though this narrow population was only investigated using qualitative methods. The current study is also proximal to the study abroad transformative learning literature due to the significant international student cohort involved. However, the study abroad literature is dominated by qualitative approaches and authors are now calling for application from the broader scholarship of transformative learning to resolve this gap (Stone et al., 2017). Furthermore, the aforementioned studies did not investigate broadly across disciplines or with sizable cohorts. Nichols et al. (2020) did use the LAS across seven disciplines, but only within the context of online vocational education in New Zealand. Kitchenham (2008) in his notable review of the transformative learning literature commended the growing robustness and applicability of the theory, stating that its influence across adult learning practices will continue to grow as applications are further extended into novel contexts.

The LAS can therefore be seen as a robust tool for investigation of transformative learning experiences in higher education. This study has been positioned to overcome the limitations of previous studies for Australian tertiary educators and contribute meaningfully to the field by providing a more comprehensive LAS investigation of transformative learning.

2.8 Apte's Questions for Reflection

Mezirow's (2000) perspective transformation process focuses on the learner's perspective, as does much of the transformative learning literature. It has been observed that few studies explore the ways in which educators facilitate transformative learning (Taylor, 1997, 2000; Apte, 2003). In addressing this gap in the literature and opportunity for future research, Apte (2009) developed a framework for assessing transformative learning from the facilitator's perspective through the Questions for Reflection. The underlying motivation was to provide an instrument that could reveal what actions educators' take that are more likely to result in a transformative experience for students. The tool was also developed based on Australian facilitation experiences and doctoral dissertation, placing it proximally to this study.

The Questions for Reflection ask the facilitator to explore four quadrants of practice from both the facilitators and learner's perspective. Reflections are elicited regarding the facilitator's interactions with learners and learning groups, their personal views on the learning processes, and how the program has been designed, furthering knowledge of the

potentially transformative aspects of the learning environment. The resulting reflections rely on subjective realities, based on potentially accurate or inaccurate remembrances and impressions, which may or may not align with participant’s versions.

Table 2 - Apte’s Framework for Practice: Questions for Reflection

Quadrant	Description
1	Confirming and interrupting current frames of reference
2	Working with triggers for transformative learning
3	Acknowledging a time of retreat or dormancy
4	Developing the new perspective

Source: Apte, 2009, p. 172

Moving beyond solely learner-focused methods allows the exploration of the complex and dynamic interactions and relationships between educator and learners. Teachers are the facilitators of transformative learning, those who guide the construction of a learner’s own personal knowledge, based on the establishment of trust, care, and a helping relationship (Robertson, 1996). The dynamics of this helping relationship are complex and involve nuanced ethical and efficacy considerations (Corey et al., 1998). Robertson (1996) also asserted the necessity of a ‘systemocentric’ approach that acknowledges the critical, dynamic, and complex interactions between learner and teacher, and their intertwined but respectively constructed realities. Including the Coordinator’s voice in this study helps to deepen the knowledge of the inner experience of the teacher, as well as the surrounding systems that impact the learner’s experience, strengthening the understanding between the university, its educators, and its students. Correspondingly, understanding the intended learning design and assessment structure, as well as the educator’s viewpoint on both the intended and typical elicited learning journeys in each unit of study, will assist a holistic understanding of student’s experiences. Helping to democratise education in this way can create a common space for dialogue and sharing of practice, akin to that used in pre-service teacher education (Zeichner et al., 2015).

Given the lack of research into the practices of facilitating transformative learning experiences (Taylor, 1998), Apte’s (2009) Questions for Reflection comprise the basis for the Coordinator interviews in this study. It should be noted that educators were not examined directly in this study through observation. Instead, they were investigated through their recounted perspectives of their facilitation of learning and through students’ interpretation of their educator’s role in their learning experiences.

Chapter 3 - Methodology

3.1 Research strategy and design

This study's research questions were designed to investigate the factors associated with students' transformative learning experiences across the University and how students perceived these experiences. The research questions were explored using a sequential explanatory mixed methods study designed to explain and interpret the relationship between the relevant factors (Creswell, 2009). Complementing both quantitative and qualitative strengths allowed triangulation of results and improved the study's accuracy (Neuman, 2014). Investigating the primary variable of transformative learning allowed the possible effects of dependent variables to be determined regarding both those who did and did not have transformative experiences. Case study investigations also allowed the phenomena to be investigated closest to its natural context (Robson, 1993). Given that the dependent variable of transformative learning is socially constructed, follow up interviews with facilitators and learners permitted an authentic account of their feelings to be documented, allowing the researcher to grasp any subtleties and complexities (Neuman, 2014).

The first research question was explored by surveying participants in the quantitative phase using the instrument of the LAS. The LAS provided an initial assessment of which participants did and did not have a transformative learning experience, and what factors were associated with their respective experiences (King, 2009). The LAS is a robust and widely applied tool in transformative learning studies that has gone through rigorous review by an expert panel and has undergone many iterative cycles of refinement (King, 2009; Romano, 2018). The LAS was developed and based specifically upon Mezirow's (1978a, 1978b) evolving theory of transformative learning. Surveys, such as the LAS, that are highly structured allow the researcher to apply simple, efficient, and objective data collection methods (Neuman, 2014). The LAS also served as a tool to identify participants willing to be involved in a semi-structured follow-up interview to address the second and third research questions. The single interviewer method enabled the researcher to maintain a consistent conceptual interpretation across the qualitative phase of the study (Neuman, 2014).

This study investigated courses from across the University of Sydney, both at the undergraduate and postgraduate level, and as such, crossed the institutional boundaries of faculties and schools. This broad and representative view of learning at the institution further assisted the third research question's understanding of the differences and similarities of learning experienced by students at large.

3.2 Participants and sampling

Participants for the study's survey were drawn from units of study that had characteristics identified in the literature that were known to facilitate transformative learning experiences. This purposive sampling was intentionally designed to highlight positive practices within the institution and position the study to encourage learning and teaching practices that can guide act as exemplars for future action, rather than take a critical or negative lens. These will be

briefly discussed below before addressing the unit of study selection criteria, quantitative phase participants, and qualitative phase participants.

Mezirow (2003) argued that in adult education, transformative learning is primarily driven by critical self-reflection and critical dialectal discourse, where educators encourage actively facilitate mutual reasoned agreement among students, encourage democratic citizenship, and foster examination of one's assumptions. Specifically, he stated that transformative learning requires "education that fosters critically reflective thought, imaginative problem posing, and discourse is learner-centered, participatory, and interactive, and it involves group deliberation and group problem solving" (Mezirow, 1997, p. 10). Therefore, group projects and case studies are associated with transformative education where students can potentially collectively engage in critical assessment of new knowledge in action research projects and engage with concepts in the context of their own lives. Supportively, Taylor's (1998) view is that the three key themes of transformative learning are individual experience, critical reflection, and rational discourse. Transformative learning can be fostered by encouraging the learner to critically reflect on their experience in the context of dialogue with oneself and others, through learner-centred teaching, and using practices that promote an awareness of context (Taylor, 2015).

Each of the factors discussed above have been identified by the literature, and discussed in the literature review, as promoting transformative learning. In the context of the University of Sydney, courses that contain a multitude of these learning activities and assessments are likely to be fertile environments for fostering transformative learning. Therefore, units containing three or more of the following criteria were invited to participate:

- Critical self-reflection learning tasks or assessments
- Critical-dialectal discourse learning activities
- Project-based group work
- Problem-based learning design
- Experiential learning design

In total, Coordinators and students from 15 units of study were recruited into the survey, and they are discussed in detail in the following section on recruitment. Whilst no specific population or sample size in either the quantitative or qualitative phases were necessary to run the study, larger units of study were prioritised to enhance the generalisability of the study and ensure the most representative view of learning across the University was captured.

After this study received ethics approval, the Coordinators of the selected units of study were invited by email to participate in the study. The Coordinator from each unit of study was asked to participate in an optional interview to provide context for their learning environment and facilitation. They were also asked to allow an optional recruitment pitch from the researcher to the students at the end of the session, either by recorded video or live in class. The Coordinator's participation in the interview or allowance of a recruitment pitch was not necessary for inclusion in the study, though all Coordinators agreed to and conducted the interview.

In terms of quantitative phase of the study, the students from the 15 units of study constituted fully known populations, and as such, quantitative sampling was not necessary, and all 3,840 enrolled students in these units of study in the given sessions were invited to participate. Once the student surveys had been disseminated, 284 of them were completed successfully.

The qualitative phase of the study commenced by identifying a deviant case sample of students who did and did not experience transformative learning for follow-up interviews. Deviant case samples allow greater insight into socially constructed phenomena at the most local contextual level (Neuman, 2014). Many previous studies have only investigated conditions conducive to transformative learning, and therefore, have not explored the experiences of those without perspective transformation (Tran, 2010; Kumi-Yeboah, 2012), forgoing an important cohort of students. This also ensured participants were identified, interviewed, and probed based on their relevance to the phenomena of interest – transformative learning – rather than their representativeness of the population (Flick, 1998). The study leveraged a single follow-up online interview as it has the highest response rate and also mitigates issues of sample retention (Neuman, 2014). Walker (2018) noted that transformative learning studies typically use 3-12 participants for the qualitative phase. All 92 survey respondents who indicated that they would be willing to participate in an interview were invited, and 35 of these participated in an interview.

3.3 Recruitment

The table below demonstrates the selection criteria identified by the literature to foster transformative learning fulfilled by each unit of study involved in the study.

Table 3 - Selection Criteria by Unit of Study

	Critical self-reflection learning tasks or assessments	Critical-dialectal discourse learning activities	Project-based group work	Problem-based learning design	Experiential learning design
Unit1	✓	✓			✓
Unit2	✓		✓	✓	
Unit3	✓	✓			✓
Unit4	✓	✓		✓	
Unit5	✓		✓	✓	
Unit6	✓	✓	✓		
Unit7	✓	✓	✓		
Unit8	✓		✓	✓	✓
Unit9	✓		✓	✓	✓
Unit10	✓	✓	✓	✓	
Unit11	✓	✓		✓	
Unit12	✓	✓	✓		✓
Unit13	✓		✓	✓	✓
Unit14	✓		✓	✓	✓
Unit15	✓	✓	✓	✓	
<i>Total</i>	15	9	11	10	7

All fifteen units of study in this research project contained critical self-reflection learning tasks or assessments. This includes tasks such as weekly critical reflections, post-groupwork reflections, and self-evaluations. Project-based groupwork, where students collaborate to analyse and solve problems through various methods (Kolmos, 1996), was present in eleven units of study. Examples include interdisciplinary group case studies, group projects with industry partners, and group technical design reports. Problem-based learning design, where authentic problems can stimulate critical reflection and collaborative meaning making (Taylor & Cranton, 2012), was present in ten units of study. Examples include design prototyping to address real-world social problems and problem-based assignments addressing current health laws. Critical dialectical discourse learning activities, such as assessed in-class student discussions and performance evaluation and discussion, was present in nine units of study. Experiential learning design, where knowledge is gained through first-hand participation and reflection (Kolb, 1984), was present in seven units of study. Examples include live musical performances, field trips to participate in various activities, and industry internships. This demonstrates a broad and frequent representation of the factors identified to promote transformative learning, suitable for a representative case study of Australian higher education.

3.4 Data collection

The LAS leveraged a literature-informed index of perspective transformation, called the PT-Index, which classified learners into one of three mutually exclusive, exhaustive categories (King, 2009). If a learner experienced perspective transformation related to their education, they were classified with an index of 3 (PT3). If they experienced perspective transformation related to something outside of their education, they were classified with an index of 2 (PT2). If they did not experience any perspective transformation, the index assigned was 1 (PT1). The survey is simple and easily scored by both participants and researchers and used multiple items to strengthen the accuracy of the classification of students' experiences (King, 2009).

Item 1 of the LAS related to Mezirow's (1991) ten phases and asked participants whether corresponding statements matched their educational experience. Item 2 asked participants directly whether their point of view had changed; Item 4 allowed participants to select categorically what factors and activities led to this change, whilst Items 3 and 5 addressed this qualitatively through open text responses. The final items collected demographic and academic information that further illuminated how students experienced learning.

Demographic factors included age, gender, marital status, nationality, prior education, length of study, and major. The academic variables included the learning activities, people, and life changes experienced during participants' study. This allowed the relationship between these factors and transformative learning to be measured and recognised, as well as revealing how cohorts variably experienced the learning offered to them (Taylor, 2008).

The LAS was originally conceived as a paper-based survey (King, 2009). For the purposes of this study, the LAS was reconstructed in an online digital form in Qualtrics and emailed to participants with individually unique links. Flows were inserted into the digital survey to

automatically guide students to the correct sections based on their survey responses. The coding for these flows matched the LAS text version provided in Appendix 1.

The survey's validity is enhanced by replicating an existing measurement that is adaptable to suit local contexts (Neuman, 2014). It has also been suitably adapted and applied previously at the University of Sydney Business School (Northwood, 2021). Measurement validity of the survey is ensured through its iterative development and refinement process, while content validity stems from a complementary and comprehensive question set that fully addresses the investigated concept (Neuman, 2014). Cyclical and successive member checks were conducted across multiple studies in the formative adaptation of the LAS, and in combination with using follow-up interviews, assures high internal validity (King, 2009).

It should be noted that Mezirow's (1978a) conception of transformative learning originated with a study of women who were returning to either postsecondary education or to the workforce after a prolonged absence. Similarly, the Learning Activities Survey (King, 2009) was developed in America where the concept of 'colleges' were important to the learning environment and predispositions of students. Both of these contexts vary significantly to the general modern University experience in Australia. Therefore, not all factors in the survey have the same power or relevance when translated into different environments, and similarly, while some factors may not appear to reveal much within a study, they can give useful information about the context itself. For example, collecting marital status and age in an Australian context may not reveal much between a generally young single adults in each of the units of study investigated, at the broader level, they illuminate that the study takes place in a particular time, culture, and setting that may differ significantly to other studies. These factors were therefore included in the study but may not have necessitated further analysis beyond descriptive statistics.

Qualitative approaches are crucial to understanding individual experiences in transformative learning (Taylor, 2000). This study's qualitative phase leveraged King's (2009) LAS follow-up interview questions and Apte's (2009) Questions for Reflection. Three contextual questions were also added to the Coordinator interview to establish background information and the design of the learning environments for each of the varying units of study. Interviews allowed deep examinations of how participants experienced both educational and non-educational factors in relation to their learning, as well as how they attached meaning to their experiences (Creswell & Poth, 2016). The purpose of the interviews was to allow the researcher to engage with the participant's perspective and be able to respond to individual circumstances and the participant's emerging worldview (Merriam, 1998). The semi-structured nature of the interview permitted probing and further explanation of learners' conceptions to confirm and clarify their responses most proximal to their context (Merriam & Tisdell, 2015). Broad questions allowed the interviewer to engage with lines of enquiry likely to have led to rich contributions (Merriam & Tisdell, 2015). Using enhanced phrasing also assisted avoiding stigmatisation of any given experience (Neuman, 2014), which was appropriate given the deviant case sample employed. Given the individualised nature of transformative learning and adult education, interviews were suitable for this purpose, despite the operationalisation of concepts being less clear in qualitative studies (Merriam & Tisdell,

2015). Indeed, the constructivist research paradigm employed intended to provide an authentic account of participants' perspectives, rather than to achieve complete equivalence or replicability (Neuman, 2014). Internal validity was assured by the proximity of the participant and researcher, without the interjection of supplementary instruments (Merriam & Tisdell, 2015). The 30 to 45-minute online interviews were audio recorded and transcribed in accordance with acceptable qualitative principles (Janesick, 2011). Therefore, the triangulated data collected in interview was most appropriate to explore students' perceptions of their experiences.

3.5 Data analysis

Data cleaning was initially conducted to identify and remedy any anomalies or minor errors in the quantitative data collected, for example, missing check boxes or entries. Descriptive statistics of quantitative questionnaire data have been provided, and frequencies of independent variables have helped characterise associations with the investigated concept of transformative learning through the lens of perspective transformation. The intent of the quantitative data analysis was to provide simple descriptive statistics and frequencies that provided a platform for the qualitative data analyses. All participants were classified into a PT1, PT2 or PT3 category based on their survey responses, consistent with applications demonstrated by King (2009), which revealed a deviant case sample for interview.

The sequential qualitative analysis phase followed a six-phase thematic approach (Braun & Clarke, 2006). Immersion in the interview transcripts took place initially, followed by recursion through the last five steps. That is, producing initial codes, collating potential themes, reviewing those themes, further defining and labelling themes, and writing up. This was a time-consuming and iterative procedure that led to an evolution and reconstruction of themes throughout the process (Braun & Clarke, 2020). Consistent with the study's constructivist epistemology and ontology, latent coding was used to identify underlying assumptions and meanings. Not all themes generated were utilised in the analyses as themes were prioritised based on their relevance to the research questions. Interpretive work was required by the researcher, and as such, the researcher's positionality is appropriately considered below. Rich description is appropriate in qualitative research to intimately capture feelings and perspective (Neuman, 2014), and therefore, reliability should be assessed in terms of the authenticity and believability of the data collected. This approach allows the reader to make their own judgements regarding consistency and transferability of the findings (Lincoln & Guba, 1985).

3.5.1 PT-Index confirmation and reclassification process

To assist the PT-Index classification process, the LAS provided a mechanism to initially filter students between PT1 and PT3 based on their yes or no response to Item 2, 'Since you began this unit of study, do you believe there was a time when you realised that your values, beliefs, opinions, and expectations had changed?'. However, this self-report data point from participants was not conclusive nor necessarily correct. Further analysis was required by the researcher to determine the final classification. This section describes the process of either confirming the baseline classification or reclassifying the student with a shift from the

baseline to a different finalised classification. The data from this section is analysed and further discussed in the following quantitative chapter.

There were 284 survey respondents and there were two initial classification groups based on the Item 2 responses. 118 respondents said ‘no’ to Item 2 and were tentatively classified as PT1, and correspondingly, 166 respondents said ‘yes’ to Item 2 and were tentatively classified as PT3. The confirmation process for each of these groups differed, as the LAS treats each group with a different flow through the survey.

Given the flow of the LAS, Item 2 ‘no’ respondents did not participate in Items 3, 4 or 5, and were sent directly to Item 6 and then the demographics in Item 7 and beyond. Therefore, there were no further data points beyond the Item 1 checkboxes that the researcher could use to scrutinise this initial classification. While this is a feature of King’s (2009) LAS design, it is a limiting factor of this study in accurately assigning a PT-Index to participants who say ‘no’ to Item 2. While this may present less of an issue in small scale studies, the issue becomes more pronounced at scale when there are many respondents saying ‘no’ to Item 2. As such, this study recommends that in future versions of the LAS all survey respondents should proceed to the open-text Item 3 ‘Briefly describe what happened’. After this, the ‘no’ responders to Item 2 can then be redirected to Item 6. This would allow for greater understanding of every respondent’s experience and allow the researcher to determine PT-Index with a greater level of detail and certainty. In the absence of this level of detail, initial PT1 classifications were assessed based on their responses to Item 1 only.

The confirmation process for respondents who said ‘yes’ to Item 2 and were classified tentatively as PT3 did not solely rely on scrutinising the Item 1 responses, as there were additional data points for these respondents. Whereas those who said ‘no’ to Item 2 were then directed to Item 6, those who said ‘yes’ to Item 2 were directed to Items 3, 4 and 5 first. The Item 3 and Item 5 free text entry boxes often contained rich first-hand accounts of the respondent’s experience and provided a helpful level of detail in many instances that strongly evidenced this classification. However, these responses could contain minimal text such as ‘none’, ‘n/a’, ‘.’, or ‘blank’ that were unhelpful in the classification process. Furthermore, Item 4 had three potential sub-parts containing text boxes and further options for free text under ‘other’. Whilst all Items 1, 3, 4 and 5 were available and potentially leveraged in scrutinising the initial PT3 classification based on the Item 2 response, most often the judgement was determined by the free text responses to Item 3 ‘Briefly describe what happened’ and Item 5 ‘Thinking back to when you first realised that your views or perspectives had changed, what did being a student in this unit of study have to do with the experience of change?’.

3.6 Ethics & researcher’s positionality

When practitioners attempt to address local problems and locate them within the broader social discourse, the traditionally separate worlds of research and practice intersect (Groundwater-Smith & Mockler, 2007). Freire (1970) argued that it would be naïve for one to deny their own subjectivity and bias. Qualitative research also has the specific issue of interpretative validity as the researcher tries to communicate subjective meanings arising

from interviews (Maxwell, 1992). While Burke (2015) argued that this reinterpretation is never devoid of such bias, care should be taken to let patterns emerge from the data organically (Groenewald, 2008). It was therefore consistent that this study did not contain any hypotheses about what should have occurred and instead aimed to authentically recall participants versions of what they perceived and remembered to have occurred. Furthermore, from the participant perspective, confidentiality and anonymity were prioritised by utilising numerical codes and pseudonyms, allowing detailed transcripts to be ethically presented (Lincoln & Guba, 1985). Survey responses are coded L1 to L284, interview responses S01 to S35, and Unit Coordinator interview responses UC01 to UC15.

Foremost, the researcher identifies as having an ontological position that a cardinal goal of higher education institutions is to enable learners to contribute meaningfully to society by enabling personal transformation and fostering social action. This is consistent with Mezirow's (1991, 2000) view that transformative learning is a socially embedded processes that enable transformation of the learner, enabling greater participation in thoughtful and responsible social interactions. This view is also consistent with critical and transformative education paradigms that conceptualise learning as socially situated and emancipatory (Brookfield, 2005). Indeed, this ontology aligns the research with social constructivist educational research where dominant assumptions are challenged, and learners are empowered to generate socially responsible action (Kincheloe & McLaren, 2011). This ontological stance informs the interpretive lens applied throughout the research.

Subsequently, the findings of this study have been presented carefully and provisionally, with consideration of how the researcher and the research process interacted (Probst & Berenson, 2014). As an experienced educator with a strong conceptual-change student-centred approach to learning and teaching (Trigwell & Prosser, 2004), the researcher brought a lens of meaning-making into the interviews to enhance the probes utilised. While these questions and probes were employed to elicit participants' experiences and any meaning attached, the researcher consciously aimed to minimise any subjectification whilst still providing a supportive environment for reflection. The researcher was also situated closely to the study's participants due to being enrolled in a fourth University of Sydney degree and having been a critically reflective teacher at the university for nearly a decade (Brookfield, 1986). Thus, interconnecting spheres of researcher, educator, and student are present in this research (Monereo & Liesa, 2020). It was intended that the study be communicated with a language of care that is honest, accessible, and free from any elite or oppressive terms (Denzin et al., 2008), whilst leveraging appropriate nomenclature and pedagogy where appropriate. Ultimately, quality is guided by evidence, purpose, and outcome (Groundwater-Smith & Mockler, 2007), and the emancipatory approach of this study aimed to contribute to the improvement of conditions for its most important stakeholder – students. It is also therefore consistent that maximal space has been provided in this dissertation to give voice to the 50 interviewees to authentically illuminate the experiences of students and their facilitators of learning.

3.7 Budget, costs and incentives

This study received funding from the Sydney School of Education and Social Work's Raymond L Debus Scholarship. As approved, the funding was partially used to provide incentives to encourage participation in both the survey and interview phases of the project. As such, \$3000 of JB Hi-Fi digital gift cards were distributed by random draw to participants via email after all data collection of both the survey and interview phases had been completed. 20 x \$100 gift cards were distributed to survey participants, and 10 x \$100 gift cards were distributed to interview participants. While it was possible to receive a random draw in both phases, no student received two gift cards.

No other costs were incurred, given that the survey and interview mechanisms of Qualtrics and Zoom were free to use and did not require travel, printing, or equipment for the researchers or the participants.

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Chapter 4 - Quantitative results & discussion

This study followed a sequential explanatory mixed methods approach as this allowed the relationship between transformative learning and its associated factors to be explained and interpreted iteratively (Creswell, 2009). As such, the results have been separated into their three parts and will be addressed in turn. Firstly, this chapter presents the quantitative results of the student surveys. The results from qualitative phases from Coordinator and student perspectives will each be addressed in subsequent chapters.

This chapter first discusses the frequency of survey responses, followed by demographics, and the PT-Index classifications assigned to survey respondents. Stages of perspective transformation are then discussed, followed by the free text responses, the three different factors contributing to change, and finally, reflectiveness.

4.1 Survey responses

The LAS was distributed via personalised email link to 3840 students. In total, 284 completed survey responses were received via Qualtrics, representing a 7.4% response rate overall. A further 174 partial or incomplete responses were not finalised in Qualtrics and were therefore removed from the data set and not included in the 284 completed responses. The breakdown of complete responses by unit of study is detailed in the table below.

Table 4 - Survey Responses by Unit of Study

	Total	Enrolments	Response Rate
	<i>n</i>	<i>N</i>	%
Unit1	5	28	17.9%
Unit2	39	484	8.1%
Unit3	3	31	9.7%
Unit4	8	51	15.7%
Unit5	8	98	8.2%
Unit6	19	186	10.2%
Unit7	36	850	4.2%
Unit8	5	52	9.6%
Unit9	12	203	5.9%
Unit10	77	1017	7.6%
Unit11	18	179	10.1%
Unit12	6	268	2.2%
Unit13	4	44	9.1%
Unit14	11	47	23.4%
Unit15	33	302	10.9%
<i>Total</i>	<i>284</i>	<i>3840</i>	<i>7.4%</i>

The overall response rate for the study was of 7.4%, though the response rates were variable across the 15 units of study. Six units of study had a response rate above 10%, and 12 of the units of study had a response rate above the average. It is noteworthy that the smallest response rate of 2.2% was for unit of study exclusively for study abroad and exchange students, and it is therefore likely that most students may have returned to their home countries by the time the study was conducted. The next three smallest response rates were all

respectively compulsory/core units of study for those students, which is likely to have had an impact upon those cohorts' willingness to respond to an extracurricular survey. There were nine units of study with fewer than 200 enrolments each, and there were 81 responses from these units from 716 enrolments. This response rate of 11.3% may indicate a greater accessibility of data for smaller units of study. Indeed, the five smallest units of study had 31 responses from 201 enrolments with a response rate of 15.4%, whereas the three largest units of study had 152 responses from 2351 enrolments, demonstrating a response rate of 6.5%.

4.2 Survey demographics

The demographics of survey respondents were also collected to illuminate the context in which the students are experiencing their higher education journey. Unlike Mezirow's (1978a) study of women returning to work or postsecondary education after an extended absence, the participants in this study were predominantly very young adults between 18-23 years of age (79.2%), single (73.6%), had a high school education (70.8%), and female (69.4%). A full breakdown of the demographic information for survey respondents is detailed in the table below.

Table 5 - Demographics of Survey Participants

	<i>n</i>	<i>%</i>
Gender		
Female	197	69.4%
Male	74	26.1%
Non-binary	2	0.7%
Prefer not to say	11	3.9%
Age		
18-19	65	22.9%
20-21	105	37.0%
22-23	55	19.4%
24-25	21	7.4%
26-27	15	5.3%
28-29	10	3.5%
30-34	7	2.5%
35-40	5	1.8%
40+	1	0.4%
Marital status		
Single	209	73.6%
Partner	50	17.6%
Married	12	4.2%
Prefer not to say	13	4.6%
Highest Prior Education		
High school	201	70.8%
Bachelor's degree	61	21.5%
Graduate certificate/diploma	11	3.9%
Master's degree	7	2.5%
Other	4	1.4%

Note. n = 284

The demographic information presented above is an aggregate of all 15 units of study, whereas the individual demographics within each unit of study or other aggregation method necessarily varies. For example, the overall average age for the entire study was 22.0 years. However, the average age of the 54 students enrolled in three undergraduate 1000-level subjects was 19.8 years, and contrastingly, the average age of the 59 students enrolled in the three postgraduate units of study at 5000, 6000 and 9000 level was 26.5 years. Six units of study had an average age below 21 years, and three units of study, all postgraduate, had an average age over 26 years. Similarly, gender varied by unit of study. While males represented only 26.1% of the study's respondents, they accounted for 50% of the students in an Engineering subject and 54.5% in a Science unit of study. Contrastingly, males accounted for 0% of respondents in the Design and Music units of study, and only 5.6% of a Humanities unit of study. Regarding highest prior education, 50 of the 61 existing Bachelor degree holders and all 7 Masters degree holders were within the three postgraduate units at 5000-, 6000- and 9000- level, indicating that the rest of the units of study contained most of the lower-level qualifications. Indeed, the survey respondents for six undergraduate units of study were high school graduates only. Regarding marital status, nine of the study's twelve married respondents came from two postgraduate units of study. While including marital status as a demographic may be seen as a trivial or unrelated data point, combined with age, it does serve to demonstrate the context and potential support environments within which students are experiencing their tertiary education in this study, which may vary greatly from studies in other contexts.

The survey had an open-text box for students to respond regarding their nationality. Noting that Australian citizens can hold dual citizenship, and that it is inherently a multicultural nation, the data point of 'nationality' was chosen over 'citizenship' or 'cultural background' to allow for each respondent to interpret the question differently and respond with their preferred answer. This open text resulted in an array of responses, to which only minor possible cleaning was performed to consolidate responses for clarity and consistency. Wherever possible, data was left in its original state to display the participant's true response with minimal intervention. In many instances, the responses show mixed nationalities, or regions of countries, and these are displayed as originally as possible to display the participants' truest responses. Similarly, it is potentially unclear whether participants are denoting cultural heritage, citizenship or other various factors, and no judgement is being made in this respect by the researcher.

Table 6 - Nationalities of Survey Participants

	<i>n</i>	<i>%</i>
Australian	123	43.3%
Chinese	75	26.4%
Indian	9	3.2%
United States of America	7	2.5%
Indonesian	6	2.1%
Chinese Australian	5	1.8%
Singaporean	5	1.8%
Hong Kong	4	1.4%

Vietnamese Australian	4	1.4%
Filipino	3	1.1%
Vietnamese	3	1.1%
Bangladeshi	2	0.7%
Italian	2	0.7%
Korean	2	0.7%
Malaysian	2	0.7%
Mozambican	2	0.7%
New Zealander	2	0.7%
Taiwanese	2	0.7%
Vietnamese Chinese	2	0.7%
Algerian	1	0.4%
Australian English	1	0.4%
Australian Finnish	1	0.4%
Australian First Nations	1	0.4%
Australian French	1	0.4%
Australian German	1	0.4%
Australian Hong Kong	1	0.4%
Australian Italian	1	0.4%
Australian New Zealander	1	0.4%
British	1	0.4%
Cambodian	1	0.4%
Chinese New Zealander	1	0.4%
Egyptian	1	0.4%
German	1	0.4%
Greek	1	0.4%
Japanese	1	0.4%
Lebanese	1	0.4%
Pakistani	1	0.4%
Peruvian	1	0.4%
Scottish	1	0.4%
Scottish Australian	1	0.4%
South African	1	0.4%
South Korean	1	0.4%
Prefer not to say	1	0.4%

Note. n = 284

The demographic data on nationalities shows a high degree of variety, not just in numerical terms, but in the range of nationalities that were reported. While 43.3% of respondents identified as ‘Australian’, this data point should be taken with caution. The study makes no assumptions regarding ‘Australian’ respondents, and it cannot be assumed that these respondents do not hold other citizenships or have other kinds of cultural backgrounds or heritages. Similarly, the study does not infer any link between the nationality reported and ‘domestic’ or ‘international’ student enrolment status. Given the self-report mechanism used in this study, and the inherent complexity involved in this factor, this data point will not be used beyond highlighting the range of responses at aggregate level.

4.3 Survey PT-Index classification

Each of the 284 completed survey responses were reviewed by the researcher and classified into one of three categories. Firstly, 120 (42.3%) participants were assessed with a PT-Index of 1 (PT1), indicating that they had not experienced perspective transformation during the unit of study. Secondly, six (2.1%) participants were assigned with a PT-Index of 2 (PT2), meaning they did experience perspective transformation, but it was not directly related to their educational experience in the relevant unit of study. Thirdly, 158 (55.6%) participants were designated a PT-Index of 3 (PT3), meaning that they had experienced perspective transformation as a result of their educational experience in their respective unit of study. This classification system and deviant case grouping underpins much of the subsequent analysis to follow throughout this chapter.

Table 7 - Survey PT-Index Classification by Unit of Study

	PT-Index 1		PT-Index 2		PT-Index 3	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Unit1	0	0%	1	20%	4	80%
Unit2	12	30.8%	1	2.6%	26	66.7%
Unit3	1	33.3%	0	0.0%	2	66.7%
Unit4	3	37.5%	0	0.0%	5	62.5%
Unit5	3	37.5%	0	0.0%	5	62.5%
Unit6	7	36.8%	0	0.0%	12	63.2%
Unit7	12	33.3%	1	2.8%	23	63.9%
Unit8	2	40.0%	0	0.0%	3	60.0%
Unit9	7	58.3%	0	0.0%	5	41.7%
Unit10	45	58.4%	1	1.3%	31	40.3%
Unit11	4	22.2%	0	0.0%	14	77.8%
Unit12	3	50.0%	1	16.7%	2	33.3%
Unit13	3	75.0%	0	0.0%	1	25.0%
Unit14	4	36.4%	0	0.0%	7	63.6%
Unit15	14	42.4%	1	3.0%	18	54.5%
<i>Total</i>	120	42.3%	6	2.1%	158	55.6%

Across this study, 55.6% of students were deemed to have experienced perspective transformation. This is noteworthy proportion of the respondents given that proximal theories suggest that not all adults would be capable of such transformation. Kegan (1994) estimated that the proportion of adult participants in his longitudinal studies that reached the stage of the ‘self-authoring mind’ was between half to two-thirds. Indeed, Mezirow (1997) himself stated that students tend to reject ideas that do not fit their frames of reference or preconceptions of the world, labelling them as nonsense, irrelevant or mistaken. A cohort of 55.6% of 284 respondents experiencing perspective transformation is at the midpoint of comparably sized studies such as 44.8% of 256 respondents (Brock, 2010) and 66.8% of 208 respondents (King, 2000).

Notably, the three units of study with the highest PT3 percentages are the exchange unit followed by two first year units of study: Unit1 80% (n=4), Unit11 77.8% (n=14), and Unit3 66.7% (n=2). Similarly, the second and third lowest PT3 percentages relate to capstone

projects: Unit9 41.7% (n=5) and Unit10 40.3% (n=31). This data indicates that first year and exchange units were most likely to lead to perspective transformation, whereas capstone units at the end of a degree were least likely to lead to perspective transformation. This result indicates that units of study most different to previous experiences, or where learners' minds are most open to new experiences, may have the highest propensity to provide transformative learning experiences. It suggests that students encountering learning experiences akin to their previous studies may not cross the threshold of cognitive dissonance required to experience the perspective transformation process. This aligns Mezirow's (1990) assertion that cognitive disequilibrium is a necessity for perspective transformation, and that lower-level dissonance leads to increased competence rather than a shift in worldview (Kiely, 2005).

It is emphasised that the statistics represented in the table above display the finalised PT-Index classification of survey respondents determined by the researcher, not those originally self-reported by participants. The classification process is covered in the methodology chapter, while the sections below will discuss the general themes and common data points that were revealed and leveraged by the researcher in that process. Selected data that was deemed most proximal to the research questions will be discussed below, though all available data points from the LAS for each respondent was considered by the researcher when classifying and confirming their PT-Index.

4.3.1 Confirmation as PT1

There were 118 respondents who said 'no' to Item 2 of the LAS and were tentatively classified as PT1. Their responses to Item 1 checkboxes 'Thinking about your educational experiences in this unit of study, select any statements that may apply' were then used to scrutinise this classification. Generally, in Item 1, selecting 'd - I still agree with previous beliefs' or 'm - Do not identify with any of the above' was grounds to remain classified as PT1, as this indicated that the respondent had not changed their mind or taken on a permanent shift in mindset. Of the 120 finalised PT1 classifications, 108 originally said 'no' to Item 2.

4.3.2 Reclassified from PT1 to PT3

There were 10 participants who originally selected 'no' to Item 2, but in Item 1 also selected '1 - Permanently adopted new way of acting', and all of these were reclassified as PT3. These respondents indicated that they had taken on a permanent change, and there was generally a high correlation with statements h, i, j and k, demonstrating that these respondents had made deep progress through Mezirow's (1991) phases of perspective transformation. In future studies, gathering Item 3 data for these respondents would increase the level of confidence that the researcher has in this reclassification process.

4.3.3 Confirmation as PT3

Initially, 166 respondents said 'yes' to Item 2 and were tentatively classified as PT3. These initial PT3 classifications in many instances indicated a deep progression through the Item 1 phases of perspective transformation. In addition, there was illuminating detail from the three potential subparts of Item 4 that could be used to give further granularity and evidence the open text responses. Resultingly, upon investigation of each these 166 individual survey

responses across all data points, 148 respondents who said ‘yes’ to Item 2 of these were confirmed as PT3, and therefore, there were 18 respondents who were reclassified otherwise. These 18 cases are further detailed below.

4.3.4 Reclassified from PT3 to PT1

There were 12 respondents who said ‘yes’ to Item 2 and tentatively classified as PT3 who were eventually reclassified as PT1. These respondents’ free text answers were often short and basic, such as ‘good’, and accompanied by few and shallow Item 1 phases selected. In Item 1, these 12 participants had no instances of selecting statements c, f, g, h, j, k or l. Furthermore, there was only 1 selection of statement i, and two selections of statements d and e. Of the possible 132 selections of the 10 statements c to l, there was a total of 5 selections. This demonstrates a very limited progression through the phases of perspective transformation and was the main reason for this group of 12 respondents being moved to PT1. The Item 3 and 5 responses for this group were often extremely brief, vague, or irrelevant to perspective transformation, and was further evidence in confirming the reclassification. These free text responses are discussed below in Section 4.5. This finding is consistent with Bullen & Roberts (2021) study where they stated: “From the available data, it is very difficult to determine the persistence of these transformative learning experiences, beyond early manifestations of discomfort, reflection and perhaps an articulation of seeing things in new ways, but with little to no ‘enactment’ of the purported changes” (p. 174). Indeed, as that study noted, while these participants may have presented with a potential avenue to a transformative experience, if there is little extension beyond this to behavioural changes that are noticeable or measurable by others, then it must be determined that they have not passed the litmus test of transformative learning by integrating this experience into their way of interacting with the world.

4.3.5 Reclassified from PT3 to PT2

Finally, 6 ‘yes’ to Item 2 respondents were reclassified as PT2 as the researcher deemed that these students had experienced perspective transformation, but based on their survey responses and free text entries, it was deemed not to be due to their educational experience in their respective unit of study. Indeed, this was sometimes explicitly stated by the respondent in their Item 3 and 5 free text responses. While there few overall Item 1 selections from this group, there were two selections of statement ‘m - I do not identify with any of the statements above’ showing that these experiences fell outside of the typical perspective transformation progression. Furthermore, there was also a selection each of statement e, h, j and k, showing a somewhat deeper progression through phases of perspective transformation, despite none of the earlier or later statements being selected in each response, apart from one statement a. This suggests an atypical perspective transformation process for these PT2 respondents when compared with their PT3 counterparts.

4.4 Item 1 responses - Stages of perspective transformation

All 284 survey respondents were required to complete Item 1 and indicate which statements they identified with based on their educational experiences in their unit of study. The table below shows the frequency of each statement by PT-Index. In the table, the percentages

indicate the proportion of students within each PT-Index, or the total population, who responded to each statement. It should be noted that the statements are listed in shorthand for the purposes of display. The full statements can be found in Appendix 1.

Table 8 - Phases of Perspective Transformation Experienced by PT-Index

	PT-Index 1		PT-Index 2		PT-Index 3		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1a - Questioned the way I normally act	29	24.2	1	16.7	85	53.8	115	40.5
1b - Questioned my idea of social roles	35	29.2	0	0.0	102	64.6	137	48.2
1c - No longer agree with previous beliefs	6	5.0	0	0	39	24.7	45	15.8
1d - Or, I still agree with previous beliefs	34	28.3	0	0	57	36.1	91	32.0
1e - Realised others also questioned beliefs	18	15.0	1	16.7	50	31.6	69	24.3
1f - Thought about acting differently	25	20.8	0	0	70	44.3	95	33.5
1g - Felt uncomfortable with previous beliefs	4	3.3	0	0	26	16.5	30	10.6
1h - Tried out new roles	32	26.7	1	16.7	77	48.7	110	38.7
1i - Tried to temporarily act differently	18	15.0	0	0	65	41.1	83	29.2
1j - Gathered info to adopt acting differently	15	12.5	1	16.7	62	39.2	78	27.5
1k - Think about feedback to new behaviour	17	14.2	1	16.7	92	58.2	110	38.7
1l - Permanently adopted new way of acting	0	0.0	0	0	42	26.6	42	14.8
1m - Do not identify with any of the above	31	25.8	2	33.3	4	2.5	37	13.0
Total	264	16.9	7	9.0	771	37.5	1042	28.2

Note. PT-Index 1 N = 120, PT-Index 2 N = 6, PT-Index 3 N = 158, Total N = 284

Overall, the 158 PT3 students selected a total of 771 Item 1 statements from a possible 2054, indicating a 37.5% response rate or an average of 4.9 statements selected. The 120 PT1 students selected a total of 264 Item 1 statements from a possible 1560, indicated a 16.9% response rate or an average of 2.2 statements selected. This data highlight that PT3 students had a far greater engagement with the perspective transformation process than the PT1 students, evidencing their appropriate categorisations and mirroring Mezirow's (1991) perspective transformation process. It was also possible to say 'yes' to all statements, even though statement d was an 'or' statement and statement m was a 'none of the above statement'. This was consistent with King's (2009) LAS design and allows for a full breadth of possible experiences across several factors to be accounted for, even if some internal consistency or logic was potentially voided. This also allows scope for a respondent to potentially respond regarding multiple views on their beliefs of actions that may require different statements to be selected based on these differing aspects.

The PT1 cohort had a far lower statement selection rate than the PT3 group to every statement in Item 1 except for 'm – do not identify with any of the above', which was selected at a rate ten times higher, 25.8% for PT1 compared to 2.5% for PT3. This highlights that this group overall had a much shallower experience of the perspective transformation process than their PT3 peers, consistent with the theoretical underpinnings (Mezirow, 1978b, 1991; King, 2009). While there was a modest proportion of PT1 students that questioned their ideas of social roles (29.2%) or the way they normally act (24.2%) in statements b and a respectively, many respondents also still agreed with their previous beliefs (28.3%) in statement d. There was a modest willingness from the PT1 group to try out new roles (26.7%)

in statement h, and lower percentages of the cohort progressing to statements i, j and k, none of the cohort progressed to permanently adopt new ways of acting in statement l. This data reflects the previous findings that the perspective transformation process is not a strict progression, and engaging with the process cannot guarantee a transformative learning experience (Mezirow, 1991; Taylor, 1998). It also highlights Hoggan's (2016) critique of the theory that a binary construction of transformative learning may be reductive, requiring careful justification from researchers as to what has been considered transformative. Throughout the phases of perspective transformation, it was common for the PT3 cohort to select a statement at double, or more, than the rate of the PT1 cohort, demonstrating stronger engagement with the process. It is notable that very few PT1 students felt uncomfortable with their previous actions, views or expectations (3.3%) in statement g. This data reflects previous findings that the impact of disorienting information depends upon individual learners' circumstances and learning approaches (Meerts-Brandtsma & Sibthorp, 2021). It further emphasises Mezirow's (1991) assertion that discomfort must be experienced to prompt critical reflection, and similarly, that transformative learning involves a struggle to effortfully overcome this (Murdoch et al., 2020).

The PT2 cohort was comprised of only 6 respondents, so there is little data on Item 1 to shed light on their experience. It is noteworthy that only 7 statement selections were made by this cohort on Item 1 from a possible 91, which represents a 9.0% response rate or an average of 1.2 statements per student selected. Compared to the PT1 rate of 16.9% and PT3 rate of 37.5%, this further highlights the anomalous experience of PT2 students.

The PT3 cohort had the highest response rate to all statements in Item 1 except for statement m. It is noteworthy that 53.8% of PT3 students questioned their actions in statement a, and 64.6% questioned their ideas of social roles in statement b. This demonstrates that this cohort was actively considering their ideas and actions because of their educational experience at a far greater rate than the PT1 cohort at 24.2% and 29.2% respectively. Importantly, 24.7% of PT3 students no longer agreed with their previous beliefs or role expectations in statement c, and 26.6% permanently adopted new ways of acting in statement l. This compares to 5.0% and 0% respectively for the PT1 cohort. Not only did the PT3 students appear to engage with these statements at a much higher rate than their PT1 and PT2 peers in the first half of the list, but they were frequently progressing into the second half of the statement list which pertain to action-taking. For example, 48.7% of PT3 students tried out new roles (statement h), 41.1% tried acting differently (statement i), and 58.2% thought about feedback to their new behaviour (statement k). The frequency of the PT3 cohort realising that others are also questioning their beliefs (statement e) (31.6%) was more than double the rate of PT1 students (15.0%). This data indicates that a greater social awareness or social support system is being experienced by PT3 students, assisting their transformative learning journey. This result is consistent with Taylor's (1998) finding that transformative learning is group situated and clearly aligns with Mezirow's (1991) fourth phase of the perspective transformation process where discontent is shared, realising that others are negotiating similar changes. While the PT3 response rate to statements c and g may seem low from a percentage perspective at 24.7% and 16.5%, these rates are nearly five times higher than the PT1 cohort at 5.0% and

3.3%. Similarly, the PT3 cohort identified with statement k at 58.2% which was over four times higher than the PT1 cohort at 14.2%. Overall, the PT3 cohort engaged significantly more frequently with all stages of the perspective transformation process than the PT1 and PT2 cohorts. These results provide strong evidence to support Mezirow's (1991) perspective transformation phases as highlighting a student's pathway to experiencing transformative learning. Importantly, this data contributes meaningfully to overcoming limitations of Bullen & Robert's (2021) scoping review that found limited findings addressing the later stages of perspective transformation. It demonstrates that the selection criteria identifying potentially transformative learning environments is appropriate for Australian higher education environments and provides a pathway for educators aiming to foster such learning for students.

4.5 Item 3 and Item 5 Responses - Free text

There were 166 respondents that said 'yes' to Item 2 and proceeded to Item 3. Of these respondents, there were 12 PT1, 6 PT2 and 148 PT3 students. Mezirow (1978b) asserted that the catalyst for a learner's perspective transformation process is an experience that is inconsistent with their existing understanding of themselves and the world. After saying 'yes' that they believe their values, beliefs, opinions and expectations had changed in Item 2, respondents were asked to briefly describe what happened in Item 3, and then in Item 5 explain what being in the unit of study had to do with the change they experienced. These two open text responses will be analysed together as they are complementary and together most effectively shed light upon the students' experiences. This section is non-exhaustive and aims to give examples and highlight trends within each PT-Index group's Item 3 and Item 5 responses.

4.5.1 PT1 free text responses

The 12 PT1 students generally provided brief and vague responses to Item 3. There were two instances of "good" (L181, L275) and one instance of "." (L247) which did not provide any helpful illumination of these respondents' experiences. These three respondents also only selected one or two Item 1 statements, limited to statements a and b, highlighting their limited progression through the perspective transformation process. There were slightly longer responses from some students who respectively responded, "Just religious based interactions" (L284), "starting to think about" (L169) and "Encountering inevitable differences" (L212), which in combination with only one Item 1 statement identified each, similarly showed a limited perspective transformation experience and confirmed their PT1 status. However, there were some longer responses from PT1 students that could be seen as relatively vague or cryptic, such as "Life is as smaller than we thought but also stronger than we thought" (L140) and "I will always think about what my role is and what I should do" (L276), though these were both associated with only one Item 1 statement, both statement b in these cases. These cases highlight that the PT1 students who responded to Item 3 do not seem to have had an educational experience that has transformed their view of themselves or the world in any meaningful way that they were able to communicate.

The Item 5 responses from PT1 students primarily suggested that these students were thinking about content learned, or a process followed, during their unit of study experience. However, it was not clear through either Item 3 or Item 5 how this had led to any tangible change or revision of mental models for the students. The following responses highlight this content- or process-oriented focus in Item 5: “do the iterations of product according to the changes” (L275), “Start thinking about the path for your career planning” (L169) and “Health issues could be influenced by many reasons” (L140). These responses are consistent with the idea that tertiary education broadly suffers from the “dichotomy of richness of information and poverty of understanding” (Glisczinski, 2007, p. 318) and often importance is placed upon the completion of tasks, rather than participating in critically reflective dialogue that is more likely to foster transformative learning (Taylor, 2008).

There were some preliminary notions of a social support system or context being established by some students with comments such as “Everyone supportive around me” (L284), “Ask professor’s help” (L111) and “Mutual help and assistance” (L212). However, these brief comments were not expanded upon, and combined with their other survey responses, it was unclear that these social connections were able to assist the students to realise perspective transformation.

4.5.2 PT2 free text responses

The 6 PT2 students had varied responses to Items 3 and 5, but a strong theme involved was cultural differences. One student specifically commented in Item 3 that “It was not part of the educational component of the unit of study, hence why I said I didn't agree with the statements before” (L5) and then provided an extensive response that described their non-educational but transformative experience during an exchange unit of study. In Item 5, they specifically mentioned their new context developing “key intercultural and cross-cultural skills” (L5). This theme was present with other students saying “being in an environment with people from different ethnicities and cultures made me change the perspective from which I see life and allowed me to have a better way to approach a problem” (L106) and “It was a new experience seeing people from different parts of Australia and even international, their values are different to mine” (L100). These responses collectively suggest that cultural exposure and differences can be a key catalyst for non-educational perspective transformation. Similarly, one student explained that it was their move overseas to Australia that “Getting out of parents' protection, moving to a new country and learning how to do almost anything by myself” (L264) was the catalyst for their perspective transformation.

In Item 5, when asked what their change had to do with their unit of study experience, there were two themes present. Firstly, and a contributing factor to their PT2 classifications, two students said “Nothing” (L100) and “Not very much” (L219), indicating that it was indeed non-educational factors from their relevant unit of study impacting their transformation. The second theme was the social context and support provided by the unit of study that assisted the change process. One student indicated that “support from my tutor” (L106) was the link to their transformation, whilst another said, “The unit enabled me to connect to many other fellow students, and I feel connected” (L264). These instances highlight that learning is a

social phenomenon, and even if the transformative experience is not related to the unit of study itself, the social context provided by the unit of study may be the catalyst or provide the necessary support to realise non-educational-based changes.

4.5.3 PT3 free text responses

There were 148 PT3 students that responded to the open text responses in Item 3 and 5. Three major themes were present in the responses to these two items which highlighted these students' perspective transformations: an open-mindedness and incorporation of others' perspectives; a revision of prior assumptions or biases; and development of self-reflexiveness and arrival at a new understanding of self.

Firstly, exposure to others' perspectives allowed learners to appreciate and be open to a multitude of perspective. Unit of study experiences with other students led to learners "Being more aware of others and varying experiences that influence other's points of view" (L22) and allowed them to "Explore a problem from multiple perspectives" (L32). One student expanded that they usually "tend to dismiss other people's judgement quickly, especially if the judgement contradicts my beliefs, however, after the unit I have realised that sometimes there are no one right answer, in other words an answer may not be black or white but rather shade of grey" (L67). These examples highlight PT3 students encountering others' perspectives, disrupting their ways of thinking, providing alternative viewpoints, and creating a catalyst for self-examination and revision (Apte, 2003).

The role of critical discourse in learning activities in allowing space to discuss alternatives was present, consistent with the literature (Mezirow, 1991). For example: "I think with the activities did we do in the class, it shaped me as a person to think from a different perspective" (L210), "I developed a different understanding of sex and gender ... [the class] gave a space to discuss" (L132), and "Being in a close confined environment with other students opened my mind about the impact of others' attitudes and beliefs into yours" (L1). One student expanded specifically to say: "Understanding the broader depths of society and the struggles that others face and how their upbringing, environment, social status, etc, affect them all in different ways, I sought to become more empathetic and understanding" (L97). This data is consistent with shared stories in the transformative learning process reducing distance with others and fostering empathy (Sjølie et al., 2019).

Diversity was a key factor in exposing students to others' perspectives: "Working with a diverse group taught me how important it was to make everyone's experiences feel included" (L248) and "Having the opportunity to work with different disciplines and people with diverse backgrounds allowed me to break from the usual echo chamber ... without the forced exposure to different perspectives ... I would not have really been able to consider the sheer multitude of different cognisance" (L81). One student expanded: "Being a student in this unit of study exposed me to diverse perspectives and critical thinking exercises, which challenged my preconceived notions and broadened my understanding – Engaging with new concepts, participating in discussions, and reflecting on different viewpoints facilitated this shift in my views." (L76). This data reflects students demonstrating a curiosity in, and appreciating a

togetherness with, their learning community, which can lead to transformative learning experiences (Grund et al., 2024).

Secondly, PT3 students demonstrated that they became aware of preconceptions during their unit of study experience and were able to revise them. For example: “I had negative biases towards groupwork, especially working with people from other cultural backgrounds, however I had a positive experience which overturned my preconceptions” (L37), “I did sit back and reflect on things that I may have had prejudice on and try to view things with a more open-minded, objective approach to avoid improper judgment” (L60); and “Being a student of [Unit7] helps me to rethink about my beliefs and I started to question my culture and beliefs” (L86). Speaking to multiple transformative learning aspects of group work, reflection, and overcoming biases, one student commented: “As a student I was assigned to a diverse group for our group assignments, and it gave me time to reflect on my biases and how I might overcome them” (L107). This data reflects students engaging with critical assessments of their assumptions and biases, consistent with Mezirow’s (1991) stage three of perspective transformation.

Thirdly, students who experience perspective transformation commented in their open text responses about an increase in their self-reflexiveness and a resulting new understanding of self. For example: “the self-reflections gave me a mirror to analyse myself which I have not really done before in that much detail looking at my strengths and weaknesses” (L282), “A couple of the class activities that I reflected on in my writings made me realise that I needed to enhance my cultural awareness” (L44), and “I had gained a deeper understanding of myself and my goals and aspirations in the future, it was a decent class that sort of changes the way you think with reflecting on management and psychology” (L6). This data corroborates finding that transformative learning is fostered through critical self-reflection activities (Brookfield, 2000). Students further commented on how this increase in self-reflexiveness impacted their future ability to collaborate with others: “[Unit7] places a heavy emphasis on how to interact with others ... the course helped me frame [criticism from others] in a constructive manner rather than taking it as a personal attack” (L8) and “The experience underscored that while I may not be able to control or change others, I can certainly work on improving myself, this insight has been instrumental in shaping my approach to challenges and collaborations, enhancing my adaptability and self-awareness in both academic and professional settings” (L21). These instances aptly highlight the final stage of Mezirow’s (1991) perspective transformation process where learners’ new approaches are integrated into a whole that impacts future behaviour and actions.

4.6 Item 4 responses - Factors contributing to change

Before addressing the responses to Item 4, it is important to revisit which respondents completed this portion of the survey. In total, there were 284 survey respondents, with 120 PT1, 6 PT2, and 158 PT3. However, due to re-classification of their PT-Indexes after their surveys were reviewed in full, 12 students who answered ‘yes’ to Item 2 were classified as PT1 and therefore completed Item 4 despite not being classified by the researcher as experiencing transformation. Similarly, there were 10 students who answered ‘no’ to Item 2

and therefore did not complete Items 3-5, but were reclassified as PT3, so these students do not have Item 4 responses to display. This mismatch between students' and the researcher's judgements raises Hoggan's (2016) critique that the binary nature of transformative learning can be problematic, requiring a considered demonstration of what has been deemed as transformative, which Section 4.3 has previously provided.

The number of students saying 'yes' to Item 2 is shown in the table below based on PT-Index.

Table 9 - Item 2 - Experienced a change during the unit of study

	PT-Index 1		PT-Index 2		PT-Index 3	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
'Yes' responses	12	10%	6	100%	148	93.7%

Note. PT-Index 1 *n* = 120, PT-Index 2 *n* = 6, PT-Index 3 *n* = 158, Total *n* = 284

After indicating that they had experienced a change to their values, beliefs, opinions, and expectations in Item 2, respondents were then asked whether a person, a class assignment, or a significant change in their life had influenced the change. If they said yes to any one of these options, labelled below Item 4a, 4b and 4c respectively, respondents were invited to select non-exhaustively which factors within each subset they believe influenced their change. The responses to Item 4 in the following subsections will use percentages that reflect the number of responses relative to the number of students who said 'yes' to Item 2 and therefore completed Item 4. That is, 12 PT1, 6 PT2 and 148 PT3.

4.6.1 People influencing the change

The table below displays the number of students from each PT-Index that indicated that a person influenced their change and which people and type of interaction they had.

Table 10 - Item 4a - Person influencing the change

	PT-Index 1		PT-Index 2		PT-Index 3	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Was it a person who influenced the change?	6	50.0%	4	66.7%	73	49.3%
Your teammates' support	4	33.3%	2	33.3%	34	23.0%
Your teacher's support	3	25.0%	2	33.3%	38	25.7%
A challenge from your teammate	2	16.7%	1	16.7%	29	19.6%
A challenge from your teacher	0	0.0%	1	16.7%	19	12.8%
Another student's support or challenge	0	0.0%	1	16.7%	12	8.1%
Other:	1	8.3%	1	16.7%	13	8.8%

Note. PT-Index 1 *n* = 12, PT-Index 2 *n* = 6, PT-Index 3 *n* = 148

Half of the 12 PT1 students who participated in Item 4 said in Item 4a that a person influenced their change. Despite being classified as not experiencing perspective transformation, teammates played a strong role in their unit of study experience, from both a support (33%) and challenge (16.7%) perspective. Teachers' support (25%) was also a factor, but their challenge (0%) was not cited as a factor. The 'other' in this case was the student's project sponsor in a collaborative unit. Although these students were not deemed as

experiencing transformative learning, it highlights the role of peers in the socially constructed learning process (Mezirow, 2000).

Of the six PT2 students completing Item 4, four (66.7%) of them indicated that a person influenced their change. These students identified a wide range of people involved in their change, with both teammates and teachers featuring equally by providing influential support (33.3%) and challenge (16.7%). Even though these students' perspective transformation was due to non-educational factors, for some students the social support systems of the unit of study were influential factors in realising their change. This lends evidence to the idea that students' personal and educational lives are not siloed, they overlap and interact with each other to enable perspective transformation. This correspondence with Bigg's (1989) multifaceted conception of learning that encompasses interacting spheres of prior context, motivation, social interactivity, and learner activity, and extends it to non-educational learning contexts.

The PT3 cohort of 148 students demonstrate some notable findings in relation to people influencing their change. Firstly, teacher's support (25.7%) was the most frequently identified factor influencing a student's perspective transformation. Coupled with a teachers' challenge (12.8%), this demonstrates the importance of the role teachers in higher education in fostering transformative experiences. This data aligns with seminal works in the literature regarding the vital role of the educator (Mezirow, 1978b, 1991), education as a helping relationship (Robertson, 1996), and the role of the educator in bringing the perspective transformation into awareness (Mezirow, 2006).

Other students in the learning context were also extremely important for PT3 students. Teammates' support (23.0%) was the second most frequently identified factor, and when combined with teammates' challenge (19.6%) demonstrates the significant impact of a students' team upon their educational experience and their role in the perspective transformation process. Previous findings have established that differing views within students' learning groups can disrupt frames of reference (Apte, 2009), that group-based reflection fosters perspective transformation, and that intense shared experiential activities help provoke meaning making (King, 2009). This study's result suggests that there might be a role for greater consideration given by educators to team formation processes to most effectively provide potentially transformative learning opportunities. Overall, the frequency that various people in students' learning contexts were cited lends evidence to the notion that transformative learning is a socially constructed phenomenon and does not occur in isolation, but indeed with the support of others (Mezirow, 2000). For educators, harnessing the power of these social processes is key to effective transformative learning design.

4.6.2 Class assignments influencing the change

The table below displays by PT-Index how many students completing Item 4 indicated that a class assignment influenced their change.

Table 11 - Item 4b - Class assignment influencing the change

	PT-Index 1		PT-Index 2		PT-Index 3	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Was it part of a class assignment that influenced the change?	9	75.0%	1	16.7%	115	77.7%
Group projects	7	58.3%	1	16.7%	77	52.0%
Class activities	3	25.0%	1	16.7%	57	38.5%
Assigned readings	4	33.3%	0	0.0%	32	21.6%
Verbally discussing your concerns	3	25.0%	0	0.0%	35	23.6%
Writing about your concerns	2	16.7%	0	0.0%	18	12.2%
Deep, concentrated thought	4	33.3%	0	0.0%	39	26.4%
Non-traditional course structure	0	0.0%	0	0.0%	24	16.2%
Personal reflection	3	25.0%	0	0.0%	59	39.9%
Self-evaluation	1	8.3%	0	0.0%	30	20.3%
Other:	0	0.0%	0	0.0%	7	4.7%

Note. PT-Index 1 n = 12, PT-Index 2 n = 6, PT-Index 3 n = 148

The PT1 cohort indicated that class assignments (75%) were the most frequent factor that influenced their unit of study experience, rather than people (50%) or life changes (41.7%). Within class assignments, group projects (58.3%) were the most frequently cited factor. This data provides evidence for Taylor's (1998) claim that group dialogue in hands-on learning activities is a powerful factor in the transformative learning process and also extends this influence into learning where perspective transformation is not achieved. Four of these 9 students selected assigned readings (33.3%) and deep concentrated thought (33.3%) as a factor, showing that individual activities were the second most frequently cited subfactors for this cohort. PT1 students' focus on these individual tasks, rather than the other shared activities such as class activities or verbal discussion, indicates a greater task-orientation or surface level approach to learning may be employed (Biggs, 1989), preventing their engagement with the perspective transformation process.

Only one PT2 student indicated that class assignments influenced their change, citing both group projects and class activities. This result demonstrates that while people (66.7%) and life changes (83.3%) are frequently cited as being influential in non-educational perspective transformation, class assignments (16.7%) are far less so, which is consistent overall with this PT-Index classification.

An overwhelming majority of PT3 cohort that completed Item 4 indicated that class assignments (77.7%) influenced their perspective transformation. This result is consistent overall with PT3 classification being perspective transformation based on their educational experience in their unit of study. Within class assignments, the PT3 cohort indicated that group projects (52.0%) most frequent factor in the perspective transformation process. Personal reflection (39.9%) was second most frequently cited, with class activities (38.5%) third most frequent. Deep concentrated thought (26.4%), verbal discussion of concerns (23.6%) and assigned readings (21.6%) all featured modestly across the cohort's influential factors, demonstrating that a range of experiences took place for various students. Notably, self-evaluation components (20.3%) were cited by over a fifth of students, which in

combination with personal reflections (39.9%) highlights the usefulness of these self-reflexive activities. Unlike the PT1 and PT2 cohorts, the PT3 cohort did cite non-traditional course structure (16.2%) as a factor influencing their change, though at a relatively low frequency. These findings mirrors seminal literature that indicates educators can most effectively facilitate transformative learning in their units of study through group projects (Taylor, 1998; King, 1999), require personal reflections from students regarding their learning experience to foster critical self-reflection (Mezirow, 1997; Brookfield, 2000), and support these with critical discourse class activities that fosters both teammates and teachers' support (Mezirow, 1997, 2000). It clearly demonstrates that the literature's recommendations for curriculum design are appropriate for Australian higher education settings, renewing the call for a focus on these transformative learning enablers at these institutions.

4.6.3 Life changes influencing the change

The following table denotes how many students completing Item 4 selected that a significant change in their life influenced the change they experienced.

Table 12 - Item 4c - Life change influencing the change

	PT-Index 1		PT-Index 2		PT-Index 3	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Was it a significant change in your life that influenced the change?	5	41.7%	5	83.3%	38	25.7%
Marriage	1	8.3%	1	16.7%	2	1.4%
Birth/adoption of a child	1	8.3%	1	16.7%	2	1.4%
Divorce/separation	1	8.3%	1	16.7%	1	0.7%
Death of a loved one	0	0.0%	1	16.7%	5	3.4%
Moving location	0	0.0%	3	50.0%	13	8.8%
Change or loss of job	2	16.7%	2	33.3%	6	4.1%
Seeking a new job	2	16.7%	3	50.0%	13	8.8%
Other:	1	8.3%	1	16.7%	16	10.8%

Note. PT-Index 1 n = 12, PT-Index 2 n = 6, PT-Index 3 n = 148

Five (41.7%) PT1 students indicated that a life change impacted their perceived perspective transformation. Change of loss of job (16.7%) and seeking a new job (16.7%) was the most frequently cited factor, though these only had two selections each. A range of other factors were selected once only, and two factors weren't selected.

In the PT2 cohort, five (83.3%) of the six students indicated that a significant life change influenced their non-educational perspective transformation. This result demonstrates that life changes are the strongest area of influence for non-educational perspective transformation in this study. Moving location and seeking a new job were selected by half of all PT2 students, with job change or loss (33.3%) the next most frequently cited factor. These factors all indicate major life upheaval events occurred for these students, and the Item 4a results indicate that support from people in their learning environment may have been influential in these times. It has previously been found that foreign education experiences can provide fertile means for self-identity re-examination (Gonzalez, 2004). Given the significant

international cohort involved, these factors may be further impacting these non-educational transformative learning experiences for international students.

Of the 148 PT3 students that completed Item 4, 38 (25.7%) indicated that a significant life change influenced their education-based perspective transformation. Similar to the PT2 cohort, moving location (8.8%) and seeking a new job (8.8%) were the two most commonly identified factors in their perspective transformation process. Again, mirroring the PT2 cohort, change or loss of job was the next most frequently cited (4.1%). However, the death of a loved one (3.4%) also featured for the PT3 cohort. Although these changes were experienced in their personal lives, the results of these PT3 students demonstrate that these changes can ricochet into their educational settings and influence the perspective transformation experienced there. These ‘life crises’ closely reflect those in Mezirow’s (1978a) original study on women’s re-entry programs that conceived the perspective transformation process, including concepts of alienation, reframing, initiative, and reconstruction. This data aligns with this seminal work in indicating that significant life changes ready a learner for educational perspective transformation, altering their view of themselves or the world in a way that allows a different self to emerge through education. It should be noted that while the ‘Other’ (10.8%) category seemed to feature significantly, there was little consistency across the free text responses: three were blank, three referenced mental health issues, two were about returning to higher education, and the rest were varied. These ‘other’ responses do serve to highlight the array of personal life contexts that students may experience and that there is no limit to what may influence their perspective transformation process. Overall, this data reflects King’s (2009) assertion that life changes work in concert with a learner’s personal circumstances and learning opportunities, where a learner is exploring new answers to reconcile disequilibrium in systems that a no longer sufficient, and provides a rich environment to potentially experience transformative learning.

4.7 Item 6 responses - Reflectiveness

Two items on the LAS targeted the student’s view on their own reflectiveness. Item 6a asked the participant if they would characterise themselves as one who usually thinks back over their previous decisions or past behaviour. Item 6b asked whether they would say that they frequently reflect upon the meaning of your studies for themselves personally. The results to these two questions are displayed in the tables below.

Table 13 - Item 6a - Usually think back over previous decisions or past behaviour

	PT-Index 1		PT-Index 2		PT-Index 3		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Yes	107	89.2%	6	100.0%	143	90.5%	256	90.1%
No	13	10.8%	0	0.0%	15	9.5%	28	9.9%
<i>Total</i>	120		6		158		284	

Table 14 - Item 6b - Frequently reflect upon the meaning of studies

	PT-Index 1		PT-Index 2		PT-Index 3		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Yes	98	81.7%	5	83.3%	130	82.3%	233	82.0%
No	22	18.3%	1	16.7%	28	17.7%	51	18.0%
<i>Total</i>	120		6		158		284	

The proportion of students saying ‘yes’ to both Item 6a and Item 6b is very high at above 80% across all groupings. On both Items, the proportion of PT3 students saying ‘yes’ is only marginally above that of the PT1 group, that is, 90.5% PT3 to 89.2% on Item 6a, and 82.3% PT3 to 81.7% PT1 on Item 6b. The proportion of PT2 saying ‘yes’ is also high at 100% for Item 6a and 83.3% for Item 6b. This indicates that most students, regardless of their PT-Index, consider themselves reflective and claim to frequently reflect upon the personal meaning of their studies. Furthermore, in all cases, a lower proportion of students said ‘yes’ to Item 6b than in Item 6a. This demonstrates that while students may consider themselves reflective generally, they may be applying this reflexiveness less frequently to their studies than other aspects of their life.

This data raises a potential disconnect between students perceived self-reflexiveness and the level of critical self-reflection required in the transformative learning process. Mezirow (2006) defined the necessary critical reflection for perspective transformation as entailing “critical assessment of the sources, nature, and consequences of our habits of mind” (p. 28). For example, if students are simply ‘thinking back’ over their past actions, it may be difficult to achieve more than simple content or process reflection, rather reaching into more meaningful premise reflection, without explicit formal guidance on this process throughout their studies. Furthermore, incorporation of others’ perspective and critical reflection upon others’ assumptions is also an important factor in perspective transformation (Mezirow, 1997), and it is unknown whether students’ definitions of their reflectivity encompass these aspects. Building upon Kitchenham’s (2008) finding that becoming more reflective is a time consuming and continual process, this data indicates that there is value for educators in dedicating time to enhancing critical reflection skills in their curricula to ensure learners are equipped with the necessary skills to engage appropriately in critical reflection.

Chapter 5 – Coordinator qualitative results & discussion

The Unit of Study Coordinators (UCs or Coordinators) of all 15 units of study in this research project were interviewed to ascertain their views on their facilitation of learning and provide context to the educational environment in which the students' learning took place.

Leveraging Apte's (2009) Questions for Reflection, these interviews explored the Coordinators' subjective views in a comprehensive and contextualised way that allowed the participants to relay and reflect on stories from their educational practice. This allowed them to successively explore impressions of both student learning and their own facilitation across four quadrants. The Coordinator Interview questions are listed in full in Appendix 2. Whilst the four quadrants for reflection were moved through sequentially, not all questions were asked in each interview, allowing the researcher to probe areas of interest relevant to the research questions and react to the interviewee's educational context.

This chapter explores the interviews in narrative form to best address the second and third research questions which seek to investigate transformative learning experiences and ascertain any similarities or differences. The study investigates experiences across the University of Sydney, rather than at a unit of study level, and therefore, this chapter focuses on weaving together all Coordinators' responses while simultaneously addressing the results and discussion. The contextual setup of the units of study has been addressed foremostly, followed by each of the four quadrants for reflection: Confirming and interrupting current frames of reference; Working with triggers for transformative learning; Acknowledging a time of retreat or dormancy; and Developing the new perspective.

5.0 Contextual setup

This study investigated 15 units of study from across the University of Sydney, representing units across both undergraduate and postgraduate programs, and included every faculty in the University. Given the range of programs, contexts, and learning and teaching approaches, it was important to understand the context in which the units of study operated and student responses were generated. Therefore, each Coordinator interview commenced with three questions aiming to establish the learning context of their unit of study and to establish what further probes may be important for the Coordinator interviews as well as student interviews:

1. Can you tell me briefly about the learning design of this unit of study?
2. What did you expect students to learn in this unit of study?
3. What was the typical learning journey for students?

These broad questions aimed to elicit the academic's unique approach to the setup of the unit of study. The table below indicates the unit number, where the UC number corresponds, how many surveys, interviews and enrolments were in each, what type of unit it was, and whether it was at undergraduate (UG) or postgraduate (PG) level. Furthermore, Industry and community placement units are referred to as ICPU units.

Table 15 - Units of Study Investigated

	Surveys	Interviews	Enrolments	Type of Unit	Level	Area
Unit1	5	2	28	Outbound internship	UG+PG	Exchange
Unit2	39	6	484	Core 1st year	PG	Design
Unit3	3	2	31	Open elective	UG	Music
Unit4	8	1	51	Open elective	PG	Law
Unit5	8	2	98	Open elective	UG	Design
Unit6	19	1	186	Core 2nd year	UG	Aboriginal Ed.
Unit7	36	4	850	Core 2nd year	UG	Leadership
Unit8	5	1	52	Capstone project unit	UG	Engineering
Unit9	12	0	203	Capstone project unit	PG	Engineering
Unit10	77	8	1017	Capstone project unit	UG	Interdisciplinary
Unit11	18	0	179	Core 1st year	UG	Gender Studies
Unit12	6	1	268	Inbound elective	UG	Exchange
Unit13	4	2	44	ICPU	UG	Interdisciplinary
Unit14	11	2	47	ICPU	UG	Interdisciplinary
Unit15	33	3	302	Core 1st year	UG	Health
<i>Total</i>	<i>284</i>	<i>35</i>	<i>3840</i>			

The units of study were a mix of unit types across both UG and PG that encompassed every Faculty in the University of Sydney. Only two units of study did not have any student interviewees. To further reveal the contextual setup of each unit of study, the learning design will be briefly discussed separately before moving into the combined analysis and discussion in turn.

5.0.1 Unit1

This unit of study combined students from undergraduate and postgraduate programs in an outbound exchange program. The students travelled overseas with their Coordinator to complete a guided work experience across a range of individually organised workplaces. This included pre-placement online modules and a pre-departure session, a mid-placement catchup with the Coordinator, reflective exercises, an interview with their workplace supervisor, and post-departure debrief and reflections.

When asked what they expected students to learn, the Coordinator stated that it was typically the first exposure a student had to their chosen industry, adding:

I also expected that there would be a lot of personal growth and development by virtue of the fact that they are away from home. For a lot of them, it was the first time overseas. For a lot of them, it was the first time not living with their parents. So, I definitely expected some range of soft skills to be developed. I wasn't always sure what that was going to look like for an individual, but that there would be some development of collaboration skills, resiliency, adaptability, things like that. (UC01)

This highlights that the unit of study involved much outside of the typical unit of study experience, and broadened significantly into the personal, work, and social spheres of students' lives. Expanding upon what a typical learning journey may look like, the Coordinator stated:

A big part of the learning journey for them was to form a learning community ... that was a big part because they lived together in [travel destination deidentified] in the same building ... And then I think that culture shock was a big piece of it ... a lot of them were on a really high high, being in [travel destination deidentified], being really excited, and then starting their placements which wasn't always what they expected. (UC01).

Embedded in this design was the opportunity for a range of disorienting dilemmas, among a cohort of peers similarly experiencing a range of disruptions to their normal lives. The five survey respondents from this unit of study were classified as one PT2 and four PT3, indicating a highly transformative experience.

5.0.2 Unit2

This introductory core unit of study was described as presenting a Design toolkit and end to end design thinking process for students to leverage throughout their studies. Students follow the Double Diamond process model to a “brief for a major project which the students then apply those skills to” (UC02). The Coordinator also described a very diverse and often novice cohort who lack design work experience or skills:

We have, I think, a big range in skill sets that people are arriving with. They're not the sort of the traditional master student, which may have been the case, say 10 years ago, where people are coming back in from industry to reskill. These are often first time, like almost first degree, so, newcomers, and certainly often the first time studying in Australia as well. So, not necessarily a Design background. Not necessarily English as the first language and could have come from anywhere. So, we're hoping to give them a very basic understanding of what design thinking is and then how it can be applied to a simple problem-solving task. (UC02)

As such, the unit of study is largely an orienting exercise aiming to give students “an understanding of the design thinking process and some of those Design methods which will help with problem solving” (UC02). To do this, Universal Design for Learning (UDL) principles are applied as “we're really aiming at educating for a global graduate, and there is no one size fits all” (UC02).

For the project, a common brief is provided to students which is then reframed into their area of interest to be more appropriate for their skillset whilst leveraging a common beginning point and set of tools. All six interviewees from this unit of study were categorised as PT3.

5.0.3 Unit3

This unit of study was described as an improvisational music course where students “show up and play” (UC03). Without necessarily having improvised before, or being anything more than a novice musician, groups of students are tasked with prompts, and then allowed to play:

They have to basically just improvise a shortish piece, and in order to do that, they fairly quickly realise that they have to listen to each other. I've found it's a very social thing. It's sort of like listening to each other to hear what each other has to offer, to

not play over each other, to work out how they can complement each other in their playing, through listening, working out when to not play, and sort of developing sensitivity around beginnings and endings of these improvisations as well. So, there's usually no indication of when it's going to end, so they have to kind of discern, I guess, what feels appropriate as an ending. (UCO3)

The classes involved students with diverse musical backgrounds playing various instruments with no grouping or sorting, leading to novel and atypical instrumental arrangements. In essence the unit seeks to provide musical experiences with dealing with challenges, experimenting with ways to solve problems, connecting with others that have differing approaches to or ideas of conceptualising music, and broadening what students are comfortable with. Disorienting and reorienting students through music is an essential exercise in this unit.

When probed on the typical learning journey for students, the Coordinator expanded:

Generally, by the end of the semester, they were a lot more confident in playing, if they were lacking that confidence to begin with, and they're a lot more open to each other's musical approaches. Most importantly, I suppose, they didn't jump into the pieces of music with a preconceived idea of how it should sound. They're a little bit more receptive, musically, to different possibilities, and kind of embracing what each other were offering. Yeah, a lot of them did comment on just feeling liberated or feeling, like one of the students, said she felt reinvigorated after the classes. (UCO3)

Both interviewees from this unit of study were categorised at PT3, though as discussed in Section 6.6.3, one of these students experienced their perspective transformation within the interview itself.

5.0.4 Unit4

As an elective Law unit of study, the learning process was described as follows:

It prompts them to think, not just about the content, but their process of discovery, and focusing in on the different opinions that are presented in the literature. Which is so important, because you're not just regurgitating one opinion, you're actually finding tensions between different scholars. And that's the key thing, I think, in any academic work, you have to find those tensions and resolve them. (UC04)

The unit of study focuses on arming students with knowledge to tackle difficult issues within the profession. The Coordinator described their use of powerful examples from the field and the impacts it has: “That shocks students, I think, but I want them to have that shock of this recognition, in the sense that “I recognise what's right and wrong, this doesn't gel with what I think is right” and that prompts the reality check” (UC04).

In further describing the typical learning journeys of students within the unit of study, their use of these disorienting dilemmas was described as a “sensitive introduction of truth, which can be quite shocking, and I tend to like the scandalous truths, the ones that are loaded with this idea of uncovering, or denuding, the secrets of a particular area, I've always thought that

has an inherent power to shake people into interest, and almost into intellectual action” (UC04). This intentional agitation and provocation into students’ taking their own personalised stance on difficult issues aims to equip students “to feel authorised to speak more” (UC04), adding “that’s what I hope to do, I think that typically does happen, but it is not expressed equally across the cohort” (UC04). The one student interviewed from this unit of study was categorised at PT3.

5.0.5 Unit5

This Design elective takes on a more philosophical stance and is critical unit of study that seeks to question typical practices within the given industry and society generally. It provides a conceptual framework for students to critique practice and re-focus it towards “human relationships and systemic issues, rather than capitalist production or profit-based efforts” (UC05). The learning activities were described as including:

A fair bit of concepts and theory, theoretical concepts to drive discussion and drive their activities in class, and that conceptual component which was mostly delivered through lectures, was then paired with methods and class-based hands-on activity to get students to practice, to exercise the theory that has just been presented, and applied to a project they would be developing throughout the semester. (UC05)

The group projects focused on applying these concepts week by week to the development of an output for end of semester presentation. The intention of this intersection of critical theory and group practice was to lead to a reappraisal of what the profession is and how its cyclical impact shapes, and is in turn shaped by, society: “And just this insight, this new mindset, if that’s the only thing that students get out of this of this semester, that’s a beautiful thing” (UC05).

The Coordinator described the learning journey and this deconstruction of preconceived ideas of the profession in the following way:

Design is not quite what they thought it was, it actually has a much larger responsibility in society, and they are part of the problem, so just acknowledging that and becoming aware of that, of being part of the problem, was sort of confronting at the beginning. And then, once that becomes more assimilated as, “Oh, yeah, we are part of the problem, but we’re also part of the solution at the same time”, right? So, there was this emerging empowerment that was very popular on the students’ side, that they now felt not only that they could be part of the solution, but they demonstrate this new kind of enthusiasm about putting that into practice right now and trying to apply to everything they would be coming across during the day. (UC05)

This very intentional act of providing an alternate frame of reference, inviting students to see through it, and act through it with the support of their group throughout a semester-long project, lead students to “very eagerly apply that newfound responsibility” (UC05), but sometimes “going completely to the opposite side of the spectrum and now you’re going to be very critical and try to destroy everything” (UC05). There was, therefore, need for support from the Coordinator of “getting that balance going throughout the semester” (UC05) and

that it was “a matter of reframing and recalibrating them in society to a certain degree” (UC05). This can be seen as a very intentional re-integration back into society for students, now armed with new and alternate frames of reference. There were two student interviews from this unit of study comprising one PT1 and one PT3 classification.

5.0.6 Unit6

This core second year unit of study seeks to empower students through exposure to Aboriginal knowledges and practices that can lead to deeper perspectives and a greater appreciation for Aboriginal history, culture, and contemporary issues. The Coordinator elaborated:

This is an important unit of study, and I expect and anticipate that students gain deeper understanding of Aboriginal culture, Aboriginal perspectives, and Aboriginal history and develop the respect for Aboriginal perspectives, and Aboriginal people, and Aboriginal communities. And also, they learn to critically analyse the impact of colonisation, the historical and the contemporary issues and Aboriginal communities, but also to analyse the resources they're using. (UC06)

Students coming in to the unit of study are often not well informed on the topic:

Historically, Indigenous histories, cultures, were denied to most students, so we have obviously a mixture of students who have no idea on what Indigenous or Aboriginal perspectives, Aboriginal knowledges, Aboriginal cultures, Aboriginal histories and languages are about. (UC06)

The Coordinator noted that “some people have never met an Aboriginal person before, so they meet Aboriginal lecturers, Aboriginal guest lecturers, Aboriginal academics, and they participate in cultural activities, and they also reflect on their learning through journals and group discussions, as well” (UC06). This use of exposure and exploration through projects and tutorial discussion lead to a typical learning journey that equipped students with the foundational knowledge required for continued future development, so “they can embed Aboriginal cultures, histories, perspectives in their learning” (UC06). The single interviewee from this unit was categorised as PT3.

5.0.7 Unit7

As a core second year unit of study, this Leadership course focused on developing students’ interpersonal skills to drive success in the global workplace. It strongly leveraged self-reflective practice to enhance teamwork, communication, and cultural competencies. It used a flipped classroom model gives students’ agency in an asynchronous space first. As such, interactive embedded videos, reflection and pre-work was conducted prior to the in-class experience. The Coordinator explained:

It's designed in such a way that then students are able to come to the 2-hour workshop where they can consolidate their learning, and that 2-hour workshop is really designed around what we call experiential activities, to really put a lot of what they're learning theoretically, conceptually, into practice in the class. (UC07).

As a very large unit of study with 850 students in the cohort, the Coordinator's expectations of students varied:

So, you've got that exceptional lot that really engaged with that. And then you've got the disengaged students who are there really is transactional, it's like, 'Okay, where's my deadline? I'm going to do a big crash course of reflections at the end, just for the sake of completing an assessment'. So, there is a big, I would say, majority of students really engage transactionally, 'What do I have to do to pass the unit?' and doing things at the last minute and then submitting. Whereas you might have an exceptional cohort who's like, 'Actually, I want to draw value out of it' ... So, large majority transactional, you've got the exceptional that really go for it, and then you've just got those in the middle who are like, 'Okay, plodding along, do my best'. (UC07)

Given this challenge, the unit design tried to increase students' engagement with themselves and prompt them think about their possible futures, developing self-learning skills that could be carried with students ongoingly. This self-reflective, personalised learning journey, while powerful and engaging for some, was described as a challenge for other students:

They get annoyed that we don't give them answers like "one plus one equals two". So, there's that very circulatory student who in this semester said, "Oh, why, why are we always talking in circles?". Welcome to the nature of reflection, we're not here to give you an answer, this is actually the journey of growth and learning. (UC07)

Four students were interviewed from this unit of study: one PT1 and three PT3.

5.0.8 Unit8

This undergraduate capstone Engineering project unit has a focus on students applying their skills to clinician-based real-world challenges. Student teams choose from a range of projects that suit their interest and skillset and try to design an optimal solution that meets all industry standards and regulations.

The Coordinator described bridging the gap between university and industry, allowing students to "get an exposure to the industry by taking them for an industry visit and bringing the guest lectures from the industry, to let them know how exactly the industry looks" (UC08). The expectation upon students is to have "the team leadership, team working quality, leadership quality, and time management - it's a mix of soft as well as the hard skills the industries are expecting from a professional" (UC08).

The typical learning journey involves interacting with stakeholders, clinicians and academics, and getting regular feedback on their projects, before presenting their design ideas to a wider audience at the end of semester. Essentially, the unit of study acted as a final exposure to industry before graduation, readying students for the profession. The sole student interviewed from the unit of study was classified as PT3.

5.0.9 Unit9

As a postgraduate Engineering capstone project unit of study, the aim is for students to be able to apply learnings from other units of study to “as close to a real-world project for them to work on” (UC09).

The unit of study partners with an external stakeholder for student teams to deliver value and “give them the confidence in applying and using the tools they've been taught in the other units to learn how to communicate professionally with a real external sponsor” (UC09). It is generally the first occasion students in the degree have worked with an industry sponsor and therefore novel in its collaborative group project design.

The unit of study covers some content to guide students through a highly structured setting including a project kick-off, reverse brief to check understanding, project charter, project plan, space to execute, then presentation and deliverables to the sponsor.

The learning environment is seen as introducing students to the uncertainty, dynamism, and stress of running a professional project. It also contains weekly self-reflective tasks for students to self-evaluate their practice and contributions. The final portfolio assessment tasks students with showcasing their capstone project for future employers, readying them for the profession and their future careers.

No students from this unit of study participated in an interview.

5.0.10 Unit10

This compulsory interdisciplinary capstone project unit of study was the largest in this research study. It aims to bring students together in teams to “encourage students to think collaboratively about interdisciplinarity as a skillset, intellectual, and also practical skillset, that they can utilise not only in their studies here at Sydney, but also in their lives outside of the institution” (UC10).

The Coordinator described the challenges inherent in the delivery of such a unit of study: “how do you design a unit that is mandatory, incorporates every single discipline in the faculty ... and also needs to cater for students from a whole range of socio-cultural, ethnic, linguistic backgrounds?” (UC10).

In terms of the learning activities, the student teams are enabled with “a heavy emphasis on workshops, guest lecturers, all these additional case studies spaces” (UC10) to address a team project that leverages their specific disciplinary skills from their diversely equipped members. It challenges students to think not only “what [the institution] can offer the students, but what they can offer to the institution, and also beyond the institution” (UC10).

This unit of study had the largest number of enrolments in the project and also had the highest number of interviewees. The eight interviewees contained two PT1 and six PT3 classifications.

5.0.11 Unit11

This unit of study is a first-year Gender Studies core unit of a major that is also a highly popular elective for students outside the major, even in the latter years of their degrees. The unit aims to introduce students to “some ways of thinking about different experiences of gender and the way that gender shapes social interactions or is it part of social interactions, and we definitely see gender as not cut off from other kinds of social forces” (UC11).

Students are initially tasked with situating themselves and understanding their positionality given that “we have students coming from such different walks of life: some people who are living and breathing this kind of analysis in their personal political lives, and others who have never thought of this stuff before, and every week is like “Whoa! Whoa! Whoa! Whoa!”” (UC11). Topics such as intersectionality and traditional and contemporary theoretical concepts follow, and this grounding in theory leads into “some tricky hot topics at the moment that are going to be the kinds of things that they'll talk about with friends and families” (UC11).

In terms of the typical learning journey, the Coordinator remarked “this is not a unit of study that's on any kind of pathway that's going to give anyone a clearly identifiable job, right? So, people are doing this because they think it will be interesting to them in some way” (UC11), noting that the diverse cohort of first years, electives, exchange students, and international students often have different motivations and reactions to the unit of study. While the unit had a high survey response rate above 10%, no students accepted the invitation for an interview.

5.0.12 Unit12

This elective Education unit of study is primarily targeted at inbound study abroad students. It focused on exposing students to historical Australian sociological issues through experience. The Coordinator described the learning design as:

A design based on experiential learning, that the idea is that you introduce students to a phenomenon, a topic, a theme, you introduce it in class, they do a bit of reading about it, and then they go out and experience the phenomena themselves, after that we come back, and we reflect on it, not so much in the theoretical classes, but they reflect on it in their assignments that they submit. (UC12)

The unit of study comprises of theoretical classes followed by a range of field trips and practical workshops for students to immerse themselves in the phenomena. These experiences are then located within the greater sociopolitical context in Australia. The Coordinator stated:

You give them the stimulus, then they go out, and they form a part of it, and then they really reflect on it, and actually inform you of how it's galvanised their opinion of this issue, or it's changed their idea of what the issue is. That can only be done by experiencing it. (UC12)

The typical learning journey was described as one where students have firstly immersed themselves in Australian culture and tried to understand societal issues from an Australian

perspective. Secondly, this prompts to reflect “on their own cultural background and the role that it plays in their society” (UC12). This self-reflection aims to engage students with locating themselves and their beliefs on societal issues and being able to communicate that in a style unique and effective for each individual.

Given that most exchange students would have returned to their home countries by the time of interview, only one student was able to be interviewed, and was classified at PT1.

5.0.13 Unit13

As an industry and community project (ICPU) unit of study, the Coordinator described the unit as “being designed with industries and University of Sydney, where we are trying to work on real life problems” (UC13). Students were tasked with applying their expertise with students with differing disciplinary skills to a group project. The intent was to have “students to leverage their disciplinary understanding, as well as have another understanding about what other disciplines and perspectives can bring into a project, so this all aimed at bringing a very holistic solution” (UC13).

The learning design involved activity-based workshops in student teams to build interpersonal and teamworking skills while working toward project solutions. The Coordinator expanded:

One of the core objectives or the learning outcomes is to have interdisciplinary effectiveness ... it's not just about working with other disciplines, but also knowing what their disciplines can do, and cannot do, the limitations of their disciplines, and being open to working with other disciplines and other domains. The reason why we want to do this is because once the students graduate ... they are very likely to encounter, not just to people from their same disciplines, but, more importantly, they'll be working with people from other disciplines and other schools of thought. So, they have to be open to collaboration with them ... and being more open to interdisciplinarity. UC13

The typical learning journey was described as students originally assuming they would be applying their disciplinary skills, only to realise their transferable skills were more valuable:

For example, they might have used how to critically analyse a problem, which is something which is common for every disciplinary course, they will be using the skills they have learned from that to work in this particular project. So, they might not have any direct impact, but there's lot of indirect impact, and they will also understand that it was quite exciting. They would be first a bit reluctant to work with other disciplines, but over the journey of 12 weeks, they would start to see what other disciplines can bring to this project, and when they see the final output, they would see this wouldn't have been achieved if they had not worked with [students from other Faculties]. So, there's a bit of more like a storytelling art, where a character starts from one point, and there's a midpoint, and there's the end point. It's very much similar to storytelling you will see in movies. So, that's what I would say a typical journey in ICPU projects. (UC13)

Two students from this unit of study participated in the interview process and were each classified as PT1 and PT3 respectively.

5.0.14 Unit14

This industry and community project (ICPU) unit of study was conducted with an industry stakeholder who “defines a real industry problem that affects them directly, and the students are put into groups where they try and solve that problem” (UC14). These students were “put into groups based on their interdisciplinarity and therefore providing insights that maybe that company didn't think of because they don't normally take interdisciplinary approaches” (UC14). Beyond this interdisciplinarity, the Coordinator described that students were typically expected to learn skills that would equip them for their professional roles and dealing with difficult workplace issues and people:

Stakeholder management's the most important thing to me, but of course, working in teams, diverse teams, and solving problems for people who don't always give you the information that you want, and transforming that into saying, “Well, that is part of the learning experience, that your stakeholders not perfect, because they never will be”. (UC14)

The typical learning journey was described as one following a typical arc across all student teams. The facilitator explained their view of the learning experience:

It was about a total sort of exasperation of not knowing what to expect, to slowly learning to how to be involved with a team, having issues with communication ... overcoming those barriers, then getting used to the stakeholder and what they want ... and then by week 8 or 9, almost everybody saying, “Yeah, we've got this” and that's a pretty special time. (UC14)

The two interviewees from this unit of study were both classified as PT3.

5.0.15 Unit15

This first-year first-semester unit of study primarily focused on developing professionalism skills for students in certain areas of Health. The Coordinator had a specific approach to the unit of study's delivery: “In terms of the philosophy and the pedagogy, I'm very strongly influenced by Kift's transition pedagogy, by UDL, by general first year education, and first year experience research” (UC15).

The learning and assessment regime was described as geared toward enabling students for successful service careers. Skills such as time management, communication, teamwork and metacognition are explicitly targeted, as well as incorporating First Nation's perspectives. The Coordinator noted that a unit of predominantly school-leavers has its challenges:

So, on one hand, their journey is about learning to be a university student, learning to learn at university, and how higher education is different to previous experiences with education. But of course, they're also not all that interested in learning that. Their primary motives to gain the experience and the expertise they need in order to be successful in their careers. So, there's a reasonable amount of tricking them into

learning skills that will help them at university but will also set them up for success in their careers. So, the journey is about becoming a [professional]. The hidden curriculum journey is about applying skills to be successful at university as well.
(UC15)

In terms of providing an alternate frame of reference for students, the Coordinator described a very intentional approach. They expanded:

Learning to be metacognitive and reflective is really important, but it is a challenge ... particularly with school leavers, they don't have a lot of life experience. It's a challenge to teach them and get them to understand the importance of reflection and metacognition. So, the journey is about sparking their interest and that initial mindset where they're interested in Health but broadening their perspectives ... and then developing that through specific examples. (UC15)

Three students from this unit conducted interviews and all three were classified as PT3.

5.1 First Quadrant – Confirming and interrupting current frames of reference

The first quadrant of Questions for Reflection seeks to understand how the frames of reference of the Coordinator and the students have interacted with each other (Apte, 2009). It aims to uncover which frames of reference align, which offer contrasting perspectives, and how these differences may challenge students, provoke discomfort, or lead to conflict. This chapter aims to report facilitators' perspectives as authentically as possible, with minimal interpretation by the researcher.

5.1.1 Students' expectations

Coordinators' descriptions across the 15 units of study showed that students' expectations shared many commonalities, despite their varying disciplines and pedagogical approaches. Students generally expected to gain employability skills, industry exposure, soft skills, and interdisciplinarity. Where students expected to gain technical skills, this was generally not in line with the Coordinators' expectations and needed to be dispelled. Consistent among the cohorts was that there were, firstly, variable expectations among the diverse students, and secondly, expectations that needed to be corrected or aligned with the unit of study intentions.

Employability and exposure to industry was especially evident in student expectations across exchange, ICPU and capstone units of study: "I think for a lot of them employability is a big focus, and I think for a lot of them a big part of the reason that they enrolled in the unit was to have it on their CV" (UC01). While it was noted that this expectation was not uniform across the individual cohorts, a future-looking theme was evident, with student questions commonly probing the Coordinator, "What do I practically do to lead myself into a viable career path? What do I do practically to become more competitive as a leader? What does that look like?" (UC07).

This questioning was not limited to student-Coordinator interactions and was reported as occurring between student cohorts across years: "They say, "I heard this unit from my

seniors, this unit, it's got a lot of work, but it's a more industry relevant unit, this unit gives you more exposure'" (UC08). The industry-related units with real-world group projects carried this weight of expectation from students:

They do know that this is a going to be a real project, and that that's the criteria, the benchmark, we're trying to achieve, that this is as real as possible, and therefore I think they have high anticipation that this is going to be fun and exciting. (UC09)

Grounding these units of study in real-world experiences related to future careers and increasing employability skills flowed through into students' expectations. This not only gave students the impetus to engage but personalised the experience in ways most relevant for them. Contrastingly, students who carried expectations of developing their technical disciplinary skills in these units of study often needed to be corrected by the Coordinator to adjust their approach to more effectively match the learning design employed by the educator. Expectation management to alleviate this tension was a common practice across the unit of study: "students do come in with a preconception of what Design is, so I can definitely say that, often it is something that's related to [technical skills] ... however, that's the first thing we try and dispel at the first lecture" (UC02).

While UC02 managed this expectation at the outset, another Coordinator let this expectation management occur more organically throughout the unit of study, remarking:

They would believe that they would be using a lot of their disciplinary thoughts to achieve a solution to this project, but in reality, it's a part of the puzzle. The puzzle works on how you could work with other disciplines, how you are able to achieve a middle ground when you're driving and arriving at a solution. So, often the image, as a preconceived notion, gets broken down at the midway of the project. (UC13)

Those preconceptions and ideas were noted by one Coordinator to be shaped by "previous family experiences, but more particularly, how university looks in the media" (UC15). This matches Apte's (2009) view that one's expectations often mirror those of significant people to the holder. This tension was especially evident in the unit of study regarding Aboriginal education:

When they arrive, since they haven't met an Aboriginal person, they haven't covered Aboriginal perspectives and contexts before, in a historical sense. Even the contemporary histories, forget about the pre-contact knowledges. What the students, also their expectation is, that they broaden their understanding, and at the same time challenge their preconceived notions and ideas about Aboriginal people, culture, and history, and in terms like, questioning and challenging the media representations, and the textbook representations of Aboriginal people within the curriculum, as well. (UC06)

This technical or disciplinary skill application tension also manifested in one Coordinator's view of students not having a holistic understanding of their profession:

They've already arrived with the mindset of "we want to make good things in the world". That was a clear expectation. They didn't have, or at least not very clearly expressed, that understanding that they are part of the problem as well, they're not only the problem solvers, they're actually potentially problem creators. And that was something that I tried to actively counteract, that perception that they were there to solve problems in society, and again create this awareness that in doing so, they may actually create certain problems. (UC05)

This breaking down of narrow expectations was conducted explicitly by some Coordinators where "we talk about our own personal biases and positionality in what we do and how we understand the world, and then how that relates to what we design" (UC02). Similarly in Music, there was a need to move back to basics to allow students to move forward together, "if you put those very rigid concepts and structures of music aside, and actually just listen to sound as a material, that can actually start to sculpt your music from sound itself, and from listening" (UC03).

This manifested differently for one Coordinator where variable expectations and technical skills in the student cohort intentionally led to a variable assessments approach where "you're supposed to create bespoke topics and interests within the assignments – they're designed that way" (UC04). Overall, the Coordinators had different methods for managing the variability in expectations in their cohorts, but they did this in intentional ways they thought best suited their students and learning environment.

The Coordinators' approach mirrors Apte's (2009) assertions that students' frames of reference can be invisible to them until challenged by educators or the learning environment, including curricula, learning activities, and peers. Often, these students have not yet considered the prospect of needing to change. Uncovering these habits of mind and "trying to lead them to push beyond that to form new mental models that are going to be more helpful for them in their careers" (UC15) is the one of the fundamental steps in facilitating a transformative learning experience in higher education. Indeed, it echoes Mezirow's (1997) assertion that the function of higher education is to produce a workforce that is adaptable and critically reflective and emphasises the role of transformative learning in this process.

5.1.2 Information that students had never contemplated

Coordinators of these units of study had designed learning journeys where students would be engaging students with information that they had not previously contemplated. This tended not to simply be information, but exposure to different ways of thinking, or alternate ways of viewing previously contemplated information.

On exchange, students were aware that they would experience something different. The Coordinator remarked that students often expected to experience a 'culture shock', without fully understanding what that meant in practice. When presented with potential difficult scenarios that might occur in their workplaces, the students "were definitely surprised by that, and perhaps it made them a little bit anxious to think that there was going to be these

conversations perhaps, around politics or controversial issues that are culturally different from Australia” (UC01).

Similarly, another Coordinator observed that gap between theory and actuality that their inexperienced master’s student brought with them, given many of them have never worked before. They explained: “they really have no idea of how to talk professionally and to actually meet professionals who are acting as their sponsor” (UC09).

When speaking about the Leadership unit of study, the Coordinator elaborated on this disconnect, stating that a lot of students “think that now I just need to get all these technical skills to be a better leader, as opposed to that deep contemplation of what it means to lead” (UC07). This highlights the perception of students using a surface approach to learning that focuses on increased competence without critical assessment of knowledge (Biggs, 1987). They further explained that this detachment was evident not just in relation to students leading others, but also regarding leading oneself – a very novel concept for many students in the unity of study.

In Aboriginal education, while some students were aware of fundamental content, many students “have never considered the depth, the complexity, or multi-layered complexity of Indigenous history, Aboriginal peoples, the 250 different nations, and the ongoing impact of colonisation, and even stolen generations” (UC06). This highlights the challenge facilitators face in terms of students’ differing prior contexts but also presents the opportunity for transformative learning through the use of alternative perspectives, engaging these knowledge gaps through the spheres of social interactivity and learning activity (Biggs, 1989).

While some students may have discipline or content knowledge, it was often the tangential skills that Coordinators said were missing or not yet contemplated. While Music students may have many skills related to ‘listening’, listening as a creative means was something they may not have considered before, including the use of environmental or non-traditional instrumental sounds. This technique presents old information in a new way, “bringing in the outside world into their listening sphere, so that they're actually responding to the world as well as person next to them” (UC03).

In the team project-based units of study, this often came down to teamworking skills: “that's something people normally don't foresee, when they come into this project, they are more focused on the discipline and the problem as such, but not on the team dynamics” (UC13). This concept was further extended not just to the immediate student team, but future professional teamworking environments, where students themselves will be a stakeholder in a very diverse environment. The rigidity of disciplinary approaches led one Coordinator to remark that “they probably never thought of themselves as part of a team ... where the stakeholders aren't all chemists” (UC14).

Many Coordinators also assumed that their students had limited prior knowledge. This was variably phrased as “not assuming that people know what I'm talking about, and doing that bit of extra explanatory work” (UC11), acknowledging the “difference between the book

knowledge and the applicability of that knowledge, it's a huge gulf sometimes" (UC09), and students' previous curriculum having "just one view of the world, or mono-knowledge system" (UC06). However, this gap was not seen as a problem, but an opportunity to provide suitable fundamentals to then provide an equitable basis for the cohort to examine together.

This lack of prior knowledge was also extended into assuming students' lack of critical thinking ability or more nuanced awareness of their professions or practices. In Design units of study, it was assumed that "the majority of the students had never had the opportunity to be critical about [Design practice]" (UC05) and "that students were arriving with very little understanding of what Design and the design thinking process are" (UC02). With a large cohort, one capstone Coordinator assumed that they would be introducing and challenging students with reflecting on "the methodological shortcomings of any given discipline" (UC10), something they noted to be difficult at scale.

Broadening students' skillsets to work effectively with those with different professional backgrounds was conveyed as something that students weren't expecting in these units. However, the Coordinators asserted this would serve them well for their future career. The Leadership facilitator lamented, "a lot of students don't see the value of this until they actually go into the workplace" (UC07). They observed that when students are able to see the value and make the connections between their beliefs and their behaviours, "they step into the whole new world, Aladdin, they're going, 'where am I?'" (UC07).

Realising that the world is not black and white, it is complicated, and students must reconcile conflicting information ongoingly, was seen joyfully, "I love that for them, that they really have to start being nimble in their thinking and making weighted decisions" (UC09). Considering where students are, their experiences that have confirmed their assumptions and habits, and presenting information that can be disrupting was a cornerstone of many of these units of study.

5.1.3 Gripping narratives and shared spaces

The magnetising force of gripping narratives has the potential to claim students' attention with very high intensity (Gergen & Kaye, 1992). Across these units of study, this primarily took the form of sharing personal anecdotes or powerful experiences, or physically through a shared space in a more tangible format.

Introducing guest speakers into the learning space or leveraging facilitators' own experiences was seen as key to engaging students according to one Coordinator, "As soon as you get an actual clinician who can talk about their experiences, or an actual patient who can talk about their experiences, then they are 100% grabbed" (UC15). In this unit, a wheelchair user who could engage with both the professional and client side of the industry was the highlight of semester, which students reportedly spoke about for weeks. The first-year Health Coordinator said students responded very well to guest lecturers who brought their personalised lived experiences, including one who specialises in "productive tension and conflict in group work settings" (UC10). This technique of drawing together working professionals, educators, and students into a common space mirrors that leveraged in teacher education to strengthen

collaboration and foster communicative learning (Zeichner et al., 2015). It also echoes authentic learning, where realistic activities engage cognitive processes akin to the professional setting (Choo, 2007).

In Aboriginal education, this technique of engagement was further amplified by those who suffered through tragedies and were physically present to engage with students and share their emotional journeys. In this unit of study, guest speakers from Kinchela Boys Home, “come and talk about their history, they are obviously in tears, it captures their emotions as well” (UC06).

Coordinators revealed that these lived experiences don’t necessarily need to come just from the facilitators. Introducing and discussing these topics thoughtfully can lead to further personal engagement where students start to share and engage in collegiality and peer to-peer learning, fostering critical discourse fundamental in the perspective transformation process (Mezirow, 1991). Establishing a safe space to shared led “some students tell their own personal stories about trying to navigate bureaucracies that privilege a binary, which the other students were really respectful of and engaged with” (UC11), and resulted in fruitful discussion from multiple perspectives and experiences. The use of narratives involving death or loss, or inclusion or exclusion, mirrors Apte’s (2003) findings, who noted that careful facilitation is required in these instances.

This engagement can also be achieved by embedding theory and practice in gripping case studies with stories that are memorable, creating a shared experience of someone else’s lived experience, reducing distance and fostering empathy (Sjølie et al., 2019). The Law Coordinator recounted how case studies telling stories of the vulnerable and the way they overcome tragedy allows students to create a narrative of their knowledge. The facilitator explained one seminal case study of an elderly lady who underwent surgery without appropriate consent considerations:

She was rendered effectively blind, but she was successful in being compensated to the tune of a few million dollars for the loss. That story resonates with a lot of students. They all remember it. They all remember the rule. (UC04)

This use of gripping narrative was demonstrated not only through verbal stories but also manifested in physical forms and shared tangible spaces. In Design, this occurred during the use of prototypes, where previously students “had their ideas, but they hadn't seen it take form” (UC02), referencing the use of play and construction.

The concept of using physical spaces to create engaging narratives flowed through to field trips and engaging with stakeholders which was highly valuable to students (UC08). The sharing of spaces and projects across cohorts also created a sense of sharing stories and journeys, even between undergraduates and postgraduates (UC02). This method was also leveraged to raise the standard expected from incoming students, “we kind of shocked them a little bit into expectation setting and I think it raises the bar” (UC09) regarding project quality and professionalism expectations. The development of these positive learning spaces that

foster playfulness and equity mirror factors identified as crucial in the ‘postdigital’ world (Lamb & Carvalho, 2024).

Contrastingly in Music, rather than ‘filling’ the space, the opposite was found to be effective. The act of “leaving space ... goes hand in hand with listening, leaving musical space, being aware of physical space, it links into ideas of being patient” (UC03). The shared experience of listening, exercising patience, increasing awareness of space and others were used to create each student’s personal narrative regarding these concepts.

The techniques leveraged by facilitators in this section demonstrate powerful examples of the intentional use of story and space to interrupt and foster critical re-examination of students’ frames of reference, crucial in the perspective transformation process (Taylor, 2000).

5.2 Second Quadrant – Working with triggers for transformative learning

Triggers for transformative learning can be created when participants are encouraged to examine discrepancies between their own and others’ ways of seeing, thinking, feeling and acting (Mezirow, 1991). The role of the educator in this process is that of the provocateur, creating an environment that allows students to question how they currently perceive the world (Apte, 2009). This can be done by assisting learners to recognise their assumptions, consider their consequences, and revise them accordingly. This section discusses how Coordinators reflected on their efforts to support this process of challenge and the emotions elicited for both them and the students during the process.

5.2.1 Challenging assumptions, strategic ambiguity and contemporary issues

Coordinators in this study were very intentional in creating environments where students would be together experiencing “something new or challenging, challenging what they might be comfortable with” (UC03). This idea is akin creating conditions for Meyer and Land’s (2005) notion of threshold concepts or liminality, where students can cross through gateways into a transformed state to utilise previously inaccessible ways of thinking. Challenging students with novel ideas, tasks and scenarios, things that are different or more complex than previously experienced, was also explicitly assumed by Coordinators as necessary for learning and development (UC01). For other facilitators, confronting students with these experiences was seen as preparing students for their careers, so that “when they go to the industry, they should not feel a shocking environment” (UC08).

In many cases, these environments of ambiguity were being facilitated with students who brought many different inherent assumptions with them. As one Coordinator aptly noted, “many students have never actually questioned certain things, but what they have not questioned might have varied, depending on their background” (UC05). Most Coordinators in this study also noted the large international student cohorts they were teaching (UC02, UC04, UC05, UC07, UC09, UC10, UC11, UC12, UC13, UC15). These diversities were also likely to result in differences in value systems, as posited by one Coordinator (UC05), and raises the prospect of transformative learning through questioning and dismantling of cultural assumptions (Jones & Walker, 2019).

Beyond cultural diversity, the differences in disciplinary values and communication skills also resulted in class tensions. In Music, this was observed “when you get two people that are really fixed in their ideas of how things should be, or what they're comfortable with, and there's a slight lack of willingness to let that go” (UC03). In an ICPU, it was identified that the group projects can lead to fruitful ideation among students, but at other times, “they can be reluctant ... and sometimes students get bogged down because their ideas are not being accepted” (UC13). These examples highlight Apte’s (2009) notion that encountering others in the learning group with differing perspectives can disrupt one’s frame of reference, raise the possibility of alternate perspectives, and act as a trigger point for a disorienting dilemma. To further this, these students were also in environments where the students around them were also likely to be questioning their assumptions and grappling with similar issues, potentially creating environment for strategic mass disorientation.

Coordinators further expanded on how they purposefully challenged students’ habits of mind at scale by fostering and embracing ambiguity. This curated uncertainty was designed to be at odds with students’ preconception of the world being ‘black and white’ or there being a clear ‘right or wrong’ answer. This was exemplified by the Exchange Coordinator who explained students’ naïve entry point to the exchange unit of study:

I think they go into it with the frame of reference that students often have, that there is a right way and a wrong way ... and then they are put into a very complex and ambiguous situation, it's a real-life working situation ... They're being put in a situation where there is no manual, you have to work it out, and you are working with expectations of people that you don't know very well ... So, doing the right thing is not always obvious. You have to negotiate what is the right thing in that scenario and what that looks like. (UC01)

This intentional and ‘real life’ scenario challenges students by placing them outside of their comfort zone. As one Coordinator remarked, “the ambiguity kills them, they've done case studies before, everything has a right answer up until this point” (UC09). This state of strategic ambiguity, where difficulty and anxiety are common, echoes that of liminality where the unknown and affective environments create a praxis of uncertainty, unknowing, or stuck places, that can lead to powerful transformation (Meyer & Land, 2005).

While trying to navigate a ‘whirlwind of opinions’, the Law Coordinator saw their role as helping students “feel centred [and equip them with] instruments of rationality ... to ground their whatever view they then adopt” (UC04). A capstone Coordinator posited that it would be “be naïve at best, disingenuous at worst” (UC10) to assume there is one way to go about something. This facilitator also extended this same criticality expected of students to themselves, as well their teaching team, regarding their own methods of instruction, to ensure this notion of criticality and questioning was central to their learning environment.

Coordinators’ intentional efforts to disorient was lastly achieved by leveraging contemporary issues proximal to their young cohorts. The Education Coordinator directly stated that “it's important that the issues and themes and ideas that you talk about are contemporary ones”

(UC12), expanding that these issues can be doorways to reflect on other adjacent or more personal issues. In Aboriginal education, it was important to include “case studies of the contemporary issues, like what's happening in Australia today” (UC06). The Gender Studies Coordinator highlighted that it was a very intentional decision to think about “what's important, what's canonical, what voices I'm including, and what's topical” (UC11), including taking feedback from students on what was missing.

This data in this section highlights Coordinators' efforts to disorient that were based on a set of clearly envisaged and carefully curated possible learning journeys for their students that catered for diversity. An intentional learning environment was created to provide strategic ambiguity combined with relatable, accessible interfaces for students to traverse to reach their future selves, mirroring the notion of liminality (Meyer & Land, 2005). Indeed, it lends credence to Lather's (1998) idea of leveraging a ‘a praxis of not being so sure’ where tolerations of discrepancies and uncertainties can lead to new beginnings for a learning. This process mirrors the results in this section and the idea of creating moments of productive dissonance for students (Brookfield, 2000) and creating the conditions for experiencing transformative learning.

5.2.2 Eliciting students' emotions: curiosity and anxiety

The process of perspective transformation is one often marked by early feelings of guilt or shame as one examines their contradictory frames of reference (Mezirow, 1991). Our understanding of emotions elicited throughout the transformative learning process has been expanded to include confusion, frustration, stress and doubt when encountering novel experiences, and gratitude, wonder and compassion during latter stages of social exchange and shift in meaning (Grund et al., 2024). In working with their triggers for transformative learning, Coordinators spoke of two main emotions that were elicited among their cohorts: curiosity, and anxiety.

Curiosity was discussed as being predominantly elicited through the unknown. This was usually through particular theories or practices that were engaging, or through stakeholders who students were motivated to be involved with. Curiosity was seen by the Music Coordinator as critical for learning (UC03), with the Gender Studies Coordinator stating that curiosity was “one of my core things that I believe can drive learning, and also that I think is a gift to have as a person in the world” (UC11).

Particular theories or applications of theory were widely noted to result in points of engagement with students' curiosity. In Gender Studies, performativity and trans issues were two concepts where there was “a lot of very active grappling” (UC11) from students, where difficult topics “seems to evoke a kind of intellectual curiosity” (UC11). In Leadership, when introducing topics such as interoceptive awareness to students, “Some really grasp and go, ‘Wow, okay, this is a tool for me’” (UC07), where students then felt a greater sense of agency over their own bodies and emotions. In one of the project-based units, learning new approaches and techniques “really kicks in the curiosity for them to know about it” (UC13). However, this was also noted to be a double-edged sword where students could “completely

shut it down” (UC13) if they didn’t like it, or if there was too much work involved in learning.

Students were also curious about other people or stakeholders. An ICPU Coordinator reflected how “every time the partners come, and they talk about the things they do in research, it really evokes a big curiosity among them” (UC13). Another ICPU Coordinator also reflected that “sometimes we get stakeholders that student really want to work with, and you know that because they get sold out within a few days” (UC14). This was also extended where groups had the chance to share their projects with each other, “having that opportunity to show what they'd done, as well as to see what the rest of the cohort had, I think that was a good point, too, of curiosity” (UC02).

These instances of inciting students’ curiosity show the many ways in which Coordinators were creating learning environments that appealed to students and intellectually stimulated them. It echoes the findings of (Nogueiras et al., 2018) that students experiencing transformative learning describe supportive and engaging feelings initially, which is then followed by a process of destabilisation.

Anxiety was a common emotion elicited in the learning environment. Coordinators discussed that often this was in relation to typical higher education tensions, that is, “ordinary anxieties of study” (UC04) and being simply being “eligible to complete the unit” (UC10). Student anxiety regarding assessments was common (UC07, UC11, UC13, UC14, UC15), However, Coordinators reflected that much of students’ anxiety was linked to new experiences and content that were intentionally designed aspects of the units of study. These emotions mirrored ‘upsetting emotions’ during the destabilising phase described by (Nogueiras et al., 2018).

On exchange, both curiosity and anxiety were linked to the state of the unknown on their work placements, not just professionally, but also culturally, and practically in terms of living arrangements and being away from home (UC01). In Aboriginal education, students had anxieties related to the sensitivities and inherent complexity of their content and learning activities. The facilitator said that “they're anxious about the fact if they are talking about all these things, how are Aboriginal people going to react?” (UC06). They added that providing reassurance to students was necessary: “it's all right to make mistakes, we're not going to be upset about you about it, because we want you to try” (UC06).

In Design, students’ anxieties became apparent as they became aware of this greater complexity and uncertainty:

That was a source of anxiety, because what became quite apparent is that there's no perfect solution. That's a shock of reality to most of the students ... By trying to solve one problem, you're actually compromising another group of people, and then how to prioritise those things, and is often a conversation, is often very contextual, and is often evolving, very dynamic. (UC05)

These instances highlight, firstly, an environment where students are intellectually engaged in their environment, and secondly, one where they are anxious regarding assessment, uncertainty, and dynamics. The results highlight the emotions of students observed by Coordinators are consistent with an environment for transformative learning to possibly occur. That is: students are encountering uncertainty and views inconsistent with their own, often with negative feelings (Mezirow, 1978b); students are engaging, rather than avoiding, with a curiosity to learn more (Taylor, 1998); and students are engaging with their thoughts and feelings, which is required to make meaning (Mezirow, 1997).

5.2.3 Facilitators' emotions: curiosity, anxiety and surprise

While students are experiencing their own sets of emotions among uncertainty, challenge and potential transformation, facilitators were also undergoing their own emotional journeys. Facilitating potentially transformative environments was identified as eliciting their curiosity, anxiety and surprise, similar emotions to those experienced by their students.

Coordinators' curiosity was predominantly about students' journeys and whether their learning design will have the intended impact. As one Coordinator fittingly stated, "I'm just facilitating these experiences, but I'm not dictating what's going to happen" (UC03). On exchange, the Coordinator was curious whether the skills they wanted students to develop within the unit of study's timeframe, especially regarding more complex skills like resilience (UC01). In one unit of study, that curiosity was directed toward whether all students were equally developing the necessary skills, as "leadership is one of the qualities I'm feeling that not everyone is getting" (UC08). For other Coordinators, the curiosity was directed to the changes they had made and whether they were "going to make a difference to the learning of the students" (UC02). In music, this curiosity involved remaining open to students' wisdom and connecting their experiences to "my own experiences of opening up as a musician and having new experiences improvising with groups and the challenges that I've had" (UC03). One potential derailment to this experience that Coordinators worried about was group dynamics and how these tensions would play out (UC01, UC02). Overall, this curiosity was largely directed toward empathising with the student journey, caring about their development, and trying to best assist with that process and the innate uncertainties.

Anxieties expressed by Coordinators related largely to the physical and intellectual safety of students in the learning environment, as well as the administrative burden or setup of the unit, particularly in large units of study.

Providing an intellectually safe and collegiate environment was a source of anxiety: "you have to make sure that everyone is feeling secure in the learning environment" (UC04). This safety was not only between student peers, but between the students and facilitators:

Making space for dialogue to happen way that I could be criticised by the content I was putting forward, in a way that could be constructive, and likewise, the students would feel comfortable enough to challenge what I was saying, and challenge what each other was saying. (UC05)

Coordinators were aware that some of their content may be difficult for students. In Aboriginal education, UC06 explained how discussing intergenerational trauma, epistemic violence, linguicide and genocide can create anxiety. To allay these fears, they openly discuss responsibilities, and UC06 passes on a personal message to students from Aunts and Elders:

I said, "look, I talked to my aunts and everyone ... the elders tell me, "it's okay, you go and tell them that they are not responsible for what happened in the past, but they're responsible for what's going to happen tomorrow and today". And obviously that anxiety, it calms down a bit, because the students know it, and they agree with me that I'm not blaming them, and they are not to carry the blame, but how they're accountable for tomorrow. UC06

Similarly, UC11 gave students the option of intentionally disengaging from the gendered violence week without penalty, understanding that students may have personal histories and not want to wrestle with the material in that moment of time. The Coordinator saw this as "informed self-care more than anything else" (UC11).

In other units of study, safety was prioritised from a physical perspective, particularly in the exchange unit of study (UC01). Given the large scale of UC10's capstone student cohort, they expanded on this differently: "Sydney does not have enough space, and yet we've got to house and make sure that everybody's well and safe" (UC10), adding that this practicality necessarily overrides pedagogical issues.

The second major anxiety for Coordinators was the burden of administering their units of study. For UC08, having a multitude of different projects for students was a challenge: "that pre-semester one month, that is a stress period for me to make sure that I'm getting the projects." (UC08). While some Coordinators felt snowed under with admin (UC12), others described the stress of "process changes, managing all that, managing a big team, managing a coordination team, all the comms - thanks for asking, I feel like I'm debriefing!" (UC07). For UC09, their anxiety was regarding keeping their team of tutors coordinated and consistent. This was consistent with UC15's view on the difficulty staying on top so many moving parts.

Coordinators' final anxiety was around what students will think of the unit of study experience. For one ICPU Coordinator, this was about student outcomes: "I want the students to get something out of it, I don't want to feel that they have wasted six months of their course" (UC13). The other ICPU Coordinator discussed a dilemma between marks and student ratings: "my anxieties are based around the fact that the University puts so much emphasis on the unit of study survey from the students" (UC14). This was discussed as creating a tension between student marks, genuine learning, and student ratings. Another project-based unit Coordinator had similar tensions regarding marks, stating that they understood the importance of marks to students and their anxiety came from questioning, "will the right team get the right deserving mark, because the projects are so variable?" (UC09). The anxiety for UC15 and the student experience was regarding their recent pedagogical changes:

I was anxious that the new design wasn't going to meet their needs, that students weren't going to be satisfied with the new style of teaching, the content I was delivering them. That all of the work that I put into curriculum redevelopment wasn't going to payoff. I think that I was definitely anxious that students weren't going to see the point. (UC15)

Coordinators surprise was also elicited during their facilitation of their units of study. This was mainly regarding student performance, including both positive and negative aspects. Coordinators were surprised at the level of support required by some their students, for example, in drafting basic emails to their workplace supervisors, “I was surprised that the level of independence that I assume from high performing students wasn't always there” (UC01). For UC02, the surprise came from “feeling that sometimes that nuance of the really conceptual ideas is not really getting through”, lamenting the general level of understanding in the cohort. In a capstone unit, these difficulties were tied to the variable nature of the unit:

I'm surprised by the difficulty in getting a message through to everyone consistently. It's like party whispers ... it's a highly complex space, right? The projects are all different, there's 34 teams, 220 students, and there's 5 facilitators, and there's me. It's a recipe for miscommunication and misunderstanding. (UC09)

On the positive side, other Coordinators were surprised by students excelling. For UC11, their surprise was at the recovery in vibrancy of the learning environment post-COVID, joyfully adding, “I loved how engaged this particular group was, it's usually engaged, but this was particularly chatty bunch”. Engagement levels were also reported as surprisingly high by UC07, and similarly, UC13 commented on the “the amount of excitement” generated by partnering with the external stakeholder, attributing it to their brand value. In Design, the Coordinator was surprised at the realism of student solutions: “that was a good surprise, the maturity with which many of them presented and assumed this responsibility of solving or trying to address those problems, that was very nice” (UC05). On exchange, the surprise came from the collegiality of student cohort and how a very unfamiliar and stressful situation “brought out the best in them as a group” (UC01). Along similar lines, a positive surprise came in the music unit of study from a student's unusual improvisation prompt:

She brought in this idea of struggle, and being unapologetic, and really fighting with each other in the music, or pushing, and it was so incredible, everyone just played so much more freely ... the fact that she gave the prompt surprised me. And then she started to say, “Oh, I didn't want to feel like we're always so polite ... I want to try something that's not polite”. So, it was, “Oh, yeah”. And that reflected back to me how maybe the students have this assumption. They have an assumption that I want them to be polite. But I don't, necessarily. I just want them to make good music, whatever that is. (UC02)

This discovery in the music class highlights how surprise can be a useful phenomenon by revealing what has been taken for granted and occurs when a presupposition has been violated (Bruner, 1986).

These instances highlight that facilitators themselves go through emotional journeys in creating fertile environments to facilitate transformative learning. Establishing these is often filled with uncertainty, a deep care for physical and intellectual safety, and often overwhelm at the level of administrative and emotional support needed. It highlights the need for educators that are critically reflective and take an active role in professional development to effectively facilitate these environments (Cranton, 1994). Facilitators emotions mirror those of students experiencing transformative learning, aligning with Cranton's (1996) notion of the facilitator as a co-learner who may also undergo transformation from their practice. Indeed, it highlights the potentiality for designing and delivering transformative learning experiences 'cutting both ways', providing scope for intentional teaching practices of self-reflection that are transformative for the educator (Valiente-Reidl et al., 2022).

5.3 Third Quadrant – Acknowledging a time for retreat and dormancy

As learners grapple with disorienting dilemmas and a potentially transformative learning experience, a determination to defend or retreat to one's assumptions can be evoked (Apte, 2009). Rather than eliciting curiosity or intrigue, these experiences may lead to feelings of confusion or anger, possibly directed at those aligned with the case for change, such as the facilitator or other students (Robertson, 1996). This section discusses Coordinators' views on times of retreat from the transformative experience, where anger or defensiveness may have been aroused, and more time needed for both students and Coordinators to process their learning experiences.

5.3.1 Students' doubts and avoidance

In their facilitations, Coordinators identified that some students doubted or avoided parts of the learning process itself. Generally, attendance at lectures or non-compulsory activities was an issue across multiple units of study (UC02, UC10, UC11). This prompted one Coordinator to think how the lecture can remain valuable and attended, while another Coordinator ensured attendance and peer accountability through a team-member rating mechanism (UC08). In Design, if students followed the suggested timeline of work, the learning was very manageable (UC02). However, issues arose when students didn't attend class or do the weekly tasks, then the scaffolding of the learning journey was lost, "then it all builds up, and then the assessments hit" (UC02). Similarly, in a project-based capstone, students' mentality changed in the second half of the Semester to becoming more pragmatic about simply finishing the unit successfully rather than solving problems maximally. This resulted in students "retreating a bit from the very strong impetus that they demonstrate in the beginning" (UC05). The issue of doubting the learning journey within the timeframe was also expressed on exchange:

I think they also had doubts around what they were going to learn from doing a placement ... I think they probably couldn't see the end game as well as I could, and that they doubted that in 6 weeks they would improve communication skills, or that they would actually become more adaptable. (UC01)

These doubts of the learning journey were exemplified in the first-year unit of study where students have “doubts about the value of what I'm trying to teach them, it keeps coming back to that” (UC15). The Coordinator expanded:

Students will say that what I'm teaching them is common sense, while still failing to do it well. And even if it is common sense, it's like hand washing, it's a really important thing to do as a health professional, but under stress or pressure, people still fail to do it. So, that's still kind of a barrier to get them to understand. (UC15)

The doubts about the learning journey were also extended to students doubting themselves within the journey and whether they were doing the right thing. In one of the ICPUs, students doubted themselves, what they brought to the table, and whether they were leveraging their disciplinary skills: “One of the doubts is, “am I really contributing to this project?”, so that's something they always think about” (UC13). In Music, the lack of clear guidelines about what should or shouldn't be said in class had a mixed reception among students, which “for some students is probably quite liberating, and others is probably quite terrifying” (UC03). This self-doubt may have led to a fear of articulating something with their peers, and this doubt was extended to the improvised performances themselves:

Some people said that they were afraid to play more experimentally because they thought their peers might want them to play in a more structured formal way. And I also have the inverse, where it's like, people felt like they had to play freely and they couldn't just play groove because there was some expectation, and I've just been reading that this week from them. And that's kind of interesting, both sides of that. (UC03)

These examples illustrate the concept of ‘dormancy’ as an “empty, ‘not-knowing’ time, when a participant is poised on the edge of the unknown” (Apte, 2009, p. 184). Despite these difficulties, this is an important time for facilitators to show courage and resist prematurely alleviating students from the necessary uncertainty and distress in this period of the process (Dirkx et al., 2002). As learners straddle the boundaries between old and new frames of reference, it is here that a facilitator is needed to engage students and support them to move into developing new perspectives (Mezirow, 1978b).

5.3.2 Students' anger and defensiveness

As students grapple with the possibility of either retreating to old habits, or moving forward to embrace new perspectives, it is a key time for facilitators to manage the risk of increased defensiveness (Apte, 2009). This is important not only in regard to transformative aspects of the learning journey, but the learning journey itself, so that students continue to engage in critical questioning.

While Coordinators observed many instances of anger and defensiveness from students, this was often regarding structural and administrative parts of the unit of study experience such as assessments, marks and feedback. For one Coordinator, these emotions were roused after students received their first assessment feedback and got in contact to clarify their grading and feedback (UC04). In a unit of study where students' marks within teams are weighted by

peer-evaluated relative performance factor, the Coordinator stated that “when their grades get decided, that's where I feel students can get bit defensive, they can express their disgruntlement” (UC13), noting that kindling emotions at this time this was a normal part of the process. In one unit, a student’s exchange with their tutor, based on their mark and feedback that they felt was not fair, was described as “angry and defensive and almost litigious, a really tense conversation” (UC11). These instances highlight that grades are a stressful and contentious part of the learning journey for students. It emphasises the role of the educator in building trusting interpersonal relationships and a learning environment that supports transformative learning (Grund et al., 2024).

There were some instances of students’ anger or defensiveness coming from the learning journey itself. On exchange, these emotions were roused when students were not feeling valued at their placements, where “there was a percentage of students that indicated that they felt they're working really hard, and no one's acknowledging that enough, they felt angry about that” (UC01). For other units of study, it was the content itself that elicited these emotions. In Aboriginal education, “the systemic racism and its impact on Aboriginal communities occasionally provokes people that they kind of find it unsettling ... the students need to obviously unlearn stereotypes, misconceptions about Aboriginal people, and to acknowledge the fact that we have racism in society” (UC06). Tackling these difficult but necessary issues directly in the content also led to a very careful and intentional approach in by one Coordinator to try to alleviate these feelings in advance:

I have learned how to pad, to try and disarm, or clarify in advance, things that I know can set people off ... For example, a concept like heteronormativity, making sure that I say like 10,000 different times, in 10,000 different ways, that what we're critiquing is not straight people, what we're critiquing is a social environment that sets up straightness as the only right way to be. ... And I learned that the hard way, right? So, there's a few things like that where I'm like, “okay, if people miss this tiny thing that I say they'll spend the whole rest of the lecture being pissed off”. So, I need to say it a bunch more times, or make it clear, or even tell a story about how that one time this person got really upset about this, because I thought I meant this, but I actually mean this. So, I think I might be heading some of that off.” (UC11)

These instances highlight Coordinators careful efforts to sustain students’ engagement and curiosity throughout the learning journey. Their attempts to listen to students and alleviate anger or defensiveness, ensuring students remained engaged and in tune with the affective dimensions of learning, is crucial to transformative learning (Murdoch et al., 2020). Indeed, where learners feel threatened or uncertain, they may return to their previous assumptions more strongly rather than revising them (Apte, 2009), highlighting the importance of the educator in engaging with students during time of anger or defensiveness to facilitate perspective transformation.

5.3.3 Coordinator’s anger and defensiveness

It was not only students who encountered negative emotions. Coordinators also reported many instances of their anger, defensiveness, or similar emotions, throughout their units of

study. Overall, Coordinators' frustrations were with the student cohort, and in most cases, desiring a higher level of open-mindedness, flexibility, resourcefulness, group or social cohesion, or understanding around marking or academic processes.

Coordinators reported frustration with student engagement. For UC07, despite their best efforts to creating an engaging learning environment, a small cohort of compulsorily enrolled students that they described as 'unreachables' impacted the overall engagement of the classroom and other students' experience, leading to Coordinator frustration. Another Coordinator described their anger coming in the form of sadness: "when you're putting 100% effort, if you can't find that enthusiasm in the students, you feel a bit sad" (UC08). In a capstone unit of study, it was the lack of student engagement with the stakeholder that was frustrating: "They don't send the freaking final report to the sponsor, they send it to us for marking, they don't send it, and that really hugely frustrates, and yes, angers me" (UC09). These times of retreat indicate that further misalignment between Coordinators' expectations and students' motivation or approach to learning may be occurring. If students are not taking deep approaches to learning crucial in the perspective transformation process (Wang et al., 2021), then that may be restricted from experiencing transformative learning.

For other Coordinators, their anger or defensiveness was around managing issues in the classroom. As one Coordinator aptly stated, "students say, occasionally, dumb and ignorant things in class" (UC15). They expanded:

The First Nations health thing is particularly likely to provoke thoughtless comments. That's part of learning, that's okay. One of the comments that I got in the USS was that someone felt attacked by all of the 'leftist propaganda'. Which, it doesn't make me fume, but it's like having something stuck in my teeth, I keep coming back to it as an issue, I just can't let it go. I'm not teaching leftist propaganda; I'm teaching how to be a good clinician. If that happens to be unaligned with your political priorities, maybe you need to reconsider your career. Look, I'm getting defensive now! <laughs> (UC15)

In Music, the facilitator's frustrations were around moderating the playing of instruments and talking in class, with the Coordinator having to say to students "can you please stop talking and listen?" or "can you please stop playing?" (UC03), adding that some students were perhaps oblivious to their own behaviour. Difficulties in managing group cohesion sometimes meant that the Coordinator had to be a mediator in group conflicts and "exercise my power differential at certain instances, and my systemic authoritative position, just to ensure that things would run" (UC05). Tying this back to reflecting on society and the course's aims, they reasoned to students that "sometimes you just have to comply as well for the greater benefit of the group" (UC05).

For other Coordinators, anger or defensiveness was experienced around students' marks. Where students tested the waters for whether their work would be re-graded, one Coordinator found it irritating, especially when students hadn't read their feedback (UC10). They expanded that their unit of study had various processes for marking moderation and fairness,

which students sometimes tried to circumvent, and that tutors on casual contracts had worked “worked very hard under tough circumstances” (UC10) to deliver the marking. For an ICPU, frustration was felt by the Coordinator at the disconnect between students’ and teachers’ understandings on marking rubrics, observing that “students often fail to read the instructions or the rubric that’s being designed” (UC13). When students are angry, that is “when we tend to go defensive” (UC13).

Many Coordinators did agree that they can sometimes be angry or defensive at times, though other Coordinators used different words and pivoted into other emotions such as frustration (UC07), sadness (UC08), annoyance (UC02), intense dislike (UC10), or irritation (UC10). As one Coordinator stated, in acknowledging occasional anger or defensiveness from their facilitation: “Yeah, I admit to it, because it’s a tough, tough gig” (UC09). Many Coordinators spoke of their empathy for the student experience, and their partnership with them, as one reflected, “I’m always trying to be a partner ... I feel compelled to be sensitive to students, as if the doctors should be sensitive to patients” (UC04).

These instances of Coordinators’ reactions serve to highlight that facilitating learning, including transformative learning, can often lead to a charged emotional environment. This is consistent with findings on the role of emotions throughout the transformative learning experience (Grund et al., 2024). It also indicates that facilitating learning of this kind can be taxing for the educator, demonstrating the challenge that facilitators of transformative learning are tasked with in trying support their students’ journeys.

5.3.4 Facing uncertainty with the courage to challenge

In seeking to support their students’ transformative experiences, Coordinators overwhelmingly reported that courage was necessary for students to deal with uncertainty or discomfort, or to challenge themselves or others in the unit of study.

In multiple units of study, it was the simple act of speaking in front of others that required courage. In Music, the Coordinator noted that some students only spoke when prompted, rather than actively volunteering to contribute, adding “I think in a way, playing music, and also talking about music, it makes you feel very vulnerable” (UC03). In a Law elective, this courage was needed for a video presentation assessment, where the Coordinator was acknowledging students’ nerves and trying to create a safe space for students to put their best foot forward: “I can feel that they are taking on, that they are firming up, their courage, but I’m helping them to conceptualise it with that idea, this is a professionalising assessment, it will help you do this, if you need to, in the real world” (UC04).

The Design Coordinator acknowledged that an intentional part of the learning process was pushing students. This included multiple forms of public speaking, but also occurred in other aspects:

We do ask them to go outside their comfort zone. We ask them to interview people, to talk to people who they’re designing for, which can be really confrontational for people who might not have even been able to express an opinion, or feel safe with expressing opinion, and we’re asking them to go and talk to people ... That is

confrontational, that's a big thing. But again, that's what we do as designers. If we can't talk to people and ask questions and listen, and then implement, we're not doing our job ... With the two presentations, we ask them to stand up in front of the class, it's a requirement of those assessments that every group member speaks. So, again, they're required to again be potentially uncomfortable ... Drawing, again, that's another point of discomfort, we're asking them to use a pen and a piece of paper, and ... those who are not comfortable, will not do the task as required. So, I think we're good at that. I think we actually have lots of things where we challenge our students. (UC02)

Similarly, in the inbound study abroad unit, the Coordinator intentionally built discomfort into the learning journey using carefully curated field trips. Addressing issues such as head trauma in contact sports, or animal cruelty in racing, allows students discuss and construct personal opinions on potentially controversial or problematic events in a supportive learning environment:

It's the idea of confronting something that you don't like ... I think to learn something you have to push students out of their comfort zone, without obviously without really upsetting someone. You've got to do that ... If you're talking about violence on a football field, which we do, and if we talk about brain damage and head trauma, they've got to actually see it in action. (UC12)

The courage needed in other units differed. On exchange, courage was needed to deal with the uncertainty and “figuring out what the best thing to do is in context and knowing that it's not necessarily going to be a perfect thing” (UC01). On a capstone unit, courage was needed when working with industry stakeholders who were very knowledgeable. Students needed to “work hard and make sure that they are having enough courage to discuss those ideas to the clinicians - that's a really appreciable kind of students’ attitude” (UC08). This data on the courage required from students mirrors Meyer and Land’s (2006) assertions that the educator plays a crucial role in building student’s confidence and assisting them to cope with appropriate challenge, guiding them to overcome ‘troublesome’ occasions to achieve transformation.

The second major area where students needed courage was in challenging both themselves and others. Firstly, on students challenging themselves, the Design Coordinator acknowledged that the learning journey required students to be “courageous enough to challenge, first and foremost, their own biases and acknowledge, ‘well, yeah, I was actually wrong, or I am privileged, or I have a particular point of view that is part of the problem’” (UC05). Further echoing critical-self assessment of habits of mind, the foundation of transformative learning (Mezirow, 2006), the idea was expanded by a first-year Coordinator:

A lot of what we're teaching about in general is about your biases, and the assumptions that you make, the deficiencies that you might have, or challenges that you need to overcome, to address, to be a good clinician. So, I think you need a lot of

intellectual and moral courage in order to self-assess sufficiently to really engage with this material. (UC15)

For interdisciplinary Coordinators, the idea of courage to challenge was extended to the students' own disciplines. For one Coordinator, courage is "when you're able to step back from the discipline that you cherish and go, "No, there are other ways of looking at this or thinking about this" (UC10). For another, along a similar vein, it takes courage in "understanding the disciplinary challenges, knowing what your discipline can do and cannot do, the limitations of your discipline" (UC13).

The courage to challenge others was extended to challenging the Coordinator and their teachings: "I try to actively encourage, I'm also open to criticism, that's what you should learn to do" (UC05). This courage to challenge was also present on the capstone unit of study and extended to all persons, including external stakeholders, regardless of their position:

I think that takes courage right to be able to question, to be able to challenge, to be able to say, "But didn't you just say?", and this is to anybody, right? So, there's a little bit of a license to kill, in a way, because the projects' goals trump every hierarchical power structure. (UC09).

On the leadership unit of study, the Coordinator stated that students need courage to be humble and take on a growth mindset, and explained further:

To grow is to go through periods of pain, and it sounds hard, it's tough, so it takes courage to be a leader, it takes courage to lead yourself. It takes courage to face, perhaps, your own limitations about your personality, and that perhaps there are some dark sides to this particular trait, that being high in conscientiousness, might come across as micromanaging to your teammates, and that's why they've hated you. It takes courage to have those conversations in class ... it just takes courage to engage with the unit, and it takes courage to engage with the self. UC07

For other Coordinators, student courage was needed in dealing with others, particularly those in their project groups. For one Coordinator, they acknowledged the courage required to verbalise or articulate ideas in the pressure of group settings, particularly when a student's English is not strong: "even being able to verbalise or articulate or express something in that situation, particularly when it's a shared grade, I can imagine that requires a lot of courage" (UC10). In another unit of study, that courage was extended to people being themselves, deliver unique insights, and "to challenge other members of their group to think that way, because as a group, they have to be unique as well" (UC14). The idea of courage in student teams was extended by UC13 to both giving and receiving critical feedback, noting that students required 'huge courage' to be receptive to criticism. Consistent with the literature, this data indicates that Coordinators perceive a certain level of courage as necessary for students to fully and freely participating in critical dialectal discourse, a crucial factor in transformative learning (Mezirow, 2006; Taylor & Cranton, 2012).

These examples of the stage of dormancy, where uncertainty is rife and students are required to both challenge themselves and others to move forward, highlights the metacognitive and reflective challenges that students face in transformative units of study. To support students in this in-between state of 'liminality' (Meyer & Land, 2006), Coordinators often noted more time was needed by students, which will be discussed in the following section.

5.3.5 More time for students and facilitators

The perspective transformation process is onerous and time-consuming (Taylor, 2000). It takes time for students to experiment, engage with others, receive feedback, and build confidence in their new skills (Mezirow, 2000). Indeed, many Coordinators said that their students needed more time to get the most out of the learning journey. For some, this time was needed in class to engage with the content.

In Law, this extra time would have been used to repeat concepts to consolidate their learning (UC04). Given that the unit was run in a 5-week intensive mode, the Coordinator noted that there is less time for dormancy on a concept and be able to return to it later, re-engage with it, and combine different knowledges to create something more developed. Without this extra time, they hypothesised, "[students] might be more likely to regurgitate information, without the deeper reflection and independent verification time to let things settle" (UC04). Even with a 13-week Semester, one Coordinator noted that "always students prefer to have more time" (UC08), noting that the assessment schedule was very stressful for students. In Music, the 1-hour class time to play together is more like 45 minutes in practicality. The Coordinator added, "I think if we had more, it would have been good to not feel rushed in the activities that we were doing, because it's sort of like, as soon as we get deep with something, "Oh, actually, we've only got 4 more minutes"" (UC02). A different Coordinator managed their timings of class time and content by taking a middle ground between different students' needs saying they "split that difference" (UC11) between those wanting to move on and those needing more time, with a deference to those who need more support. For UC06, a full Semester was still not enough time to provide the student experience they thought was deserving: "they need time to talk about it, obviously, we rush Aboriginal studies, Aboriginal education, in a 12-week course – this course should run for the whole year, for 2 semesters, to prepare students well" (UC06). Two other Coordinators also thought longer-term about the impact of their students' learning journeys and their dormancy periods. For UC01, they noted that the reflection period happened immediately after students' exchange internships, whereas they thought a follow up a few more months later would have been more beneficial:

I think it's important to move completely away from it where you've start to do other things and then think, "oh, this is actually where I can apply this" ... I think a lot of the skills are things that they would not necessarily apply in a normal unit of study. So, it would probably come back up when they do an interview, or when they go into another placement, which is perhaps not going to be immediately after the program. (UC01)

This concept of requiring a longer period for learning was also discussed by the first-year Health Coordinator. They noted that their foundational teachings were at the bottom of

Bloom's (1956) Taxonomy, and that students aren't necessarily able fully utilise their learnings in their first semester at University: "in later years, I know that they will develop the insight and the courage that they need in order to understand the value of what I'm teaching them" (UC15).

Coordinators were regretful themselves that they did not have more time to better facilitate the student experience. For some, this time would be dedicated directly to students. One Coordinator spoke of the incredible value of one-on-one time with their students, saying "I would have loved to spend more time on that mentoring piece and actually really getting into their assumptions, that would have been very valuable" (UC01). This reflects Apte's (2009) notion that facilitators are often required to draw learners' attention to the movement occurring, as small but significant steps can otherwise be overlooked.

A similar tone was struck in Music where more time would have been valuable to allow different instrumental groupings to allow students to better express themselves: "with more time and space, I wish that I could curate the best opportunities for each student to both come up against something that is really difficult, and then to also have experiences of feeling really liberated" (UC03). More time in Design would have allowed students to "mature their solutions and their ideas ... in a way like it's just a scratching the surface and the semester ends without a closure" (UC05). This Coordinator felt that further follow up would allow students to keep developing ideas that they demonstrated so much passion about. Similarly, another Coordinator said that longer tutorials would allow for deeper conversations and a greater link back to the core material, lamenting the extra financial cost that such a shift would have (UC11).

For other Coordinators, that extra time would have been spent outside of the classroom on the design of the unit or engaging with feedback. In a Design unit, this time would be used to continue their iterative changes to assessments and learning activities: "time for assessments and thinking about the assessment design is definitely in an area that I'd like more time on" (UC02). Another Coordinator reflected that feedback for all their units of study comes in at the same time, which is sometimes difficult to implement immediately and satisfactorily given time constraints (UC08). This data is consistent with previous findings that high-intensity dissonance requires learning processes that are more complex and therefore time consuming to construct (Kiely, 2005).

Whether it is on-stage or off-stage activities, Coordinators expressed a desire for more time to improve their facilitation. This emphasizes the institutional constraints around workloads and availing time to dedicate to improving teaching practices and delivering quality educational environments, especially given the inordinate amount of time required to facilitate transformative learning in group settings (Gallagher, 1997). Indeed, educators feeling constrained by time is not a new concept in higher education (Taylor, 1998), but it renews the call to question the balance of demands in institutional settings where facilitating transformative learning is desired.

5.4 Forth Quadrant – Developing the new perspective

The fourth and final quadrant of the Questions for Reflection focuses on the emergence of students' new capabilities (Apte, 2009). Aligning with Mezirow's (1991) final stages of perspective transformation, learners seek to practice new approaches and skills, receive feedback, and look to re-integrate their new or adjusted frames of reference into an integrated whole.

5.4.1 Students' emerging capabilities

The emerging capabilities that Coordinators were able to identify by the end of Semester revolved around their self-confidence and a mindset shift toward self-development and a future focus. Rather than gaining technical or hard skills, Coordinators largely spoke about their students' soft skill development such as increasing their resilience, adaptability, critical thinking, communication, and teamworking skills.

In the interdisciplinary capstone unit, the Coordinator spoke to the importance of students developing their resilience, teamwork, and self-identity. An example of visual artists was highlighted, where initially these students may think they don't have something meaningful to offer their interdisciplinary teammates with strong methodological backgrounds. However, this evolved throughout the semester:

And then to those really heartening moments where, actually my head tutor spoke to this in the lecture at the start, the fact that when push comes to shove, when they're in these pressured group work situations that there are those students who may not have that methodological surety, but actually, they understand that they offer something really unique. And I think that's, if we're thinking about something transformative, it's in that moment. Well, that's a moment, a trigger, where it's like, "no, actually I bring something to the table" ... despite all of those necessary challenges and hurdles, that it's still able of delivering and contributing to a positive student experience. That stuff is cool. So, I think teamwork, resilience, and I call that one creativity, and maybe self-efficacy. (UC10)

This increase in creativity was also found in Music, where students confidence to innovate, take risks, and try new things also evolved throughout the unit of study Semester:

Well, I could definitely see many of them being more inquisitive with their own instruments and their own capabilities ... I had a singer that ended up playing quite a bit of drums, and also vibraphone, which she'd never played before. And then at the concert she did vibraphone and voice together for the first time ... I think, yeah, being inquisitive, being a bit more versatile with their instruments and also with their instrumental roles, or their preconceived ideas of how they should behave in an ensemble, like as a piano player, or a drummer. (UC03)

On exchange, the Coordinator spoke to the value students gained from doing some uncertain and perhaps not aligned with their expectations, which was anxiety inducing. Once in the midst of the project, a big increase in confidence was noted: "I think a big piece of it was

their confidence in seeing that they were doing the thing that they were anxious about” (UC01). This confidence also came from the necessary increase in soft skills regarding communicating with their workplace supervisors:

I think after a few weeks definitely they became more adaptable. They became more flexible when they dealt with that anxiety of uncertainty, and they learned to sit with that a bit, they were better able to respond to it in constructive ways. A big thing that we talked a lot about in those mid-placement catch-ups was that a lot of them found it very hard to approach their supervisors to ask for things or to ask for guidance, and we worked a lot around that as a communication skill. I think students often hear communication skills, but they don't actually know what that looks like in a workplace. So, a lot of it at Uni is doing a presentation or writing a report. And I spent a lot of time with them around “communication skills is also this, it is how you ask for things, and when you ask for it”. And they were definitely much better at that at the end than they were at the beginning. (UC01)

Many Coordinators spoke about the emergent capabilities in terms of students’ newfound confidence in themselves and their ability. After interacting with stakeholders, UC08 could see the shift between students initially not knowing how their skills will apply in the real world, to then getting excellent feedback for their stakeholders on their projects, often leading to future professional relationships. The Coordinator spoke to the emerging “glimpse of hope in them” after the final presentations, saying they “they feel very proud” (UC08). Similar chords were struck by UC09 on their capstone project, saying that the confidence in students comes from “really seeing and feeling the flow of the project, understanding some of the dynamics of the engagement with stakeholders that are necessary – these are the emergent experiences of the skills we're trying to develop” (UC09), noting that it does, by and large, work. This data demonstrates Coordinators’ recognition of students engaging with Mezirow’s (1991) final phase of perspective transformation with a renewed sense of self.

The group discussions in one first year class was boosted by a notable increase in willingness to participate:

People's confidence, like the broader set of voices by the end of semester, suggested that more people at the end than at the beginning, were feeling confident to raise questions in class, make links to their own experiences in class, make links to pop culture or cultural moments in class, and also voice their sense of the analysis or of what the reading was saying, or something like that. So, that's good, that's what I was witnessing, and that's what I would hope for was also the case across the cohort. (UC11)

This confidence to speak in class was also applied to students’ capacity to tackle difficult concepts in the materials, often requiring persistence through initial misunderstandings, assisted by other students, resulting in a growing interest and intellectual curiosity. This then translated into confidence to take these learnings into their broader world: “usually by the end

of semester, I do start to hear some students' stories about conversations they've had with other people, like family, friends, often fathers, and how that's beginning to emerge" (UC11).

Similar confidence and broader application of learnings was observed by the elective law Coordinator who specifically noted the increase in critical thinking skills. Students started to relate their learnings to their own experiences, or those of people they know, with an increase in confidence to appropriately address the situations: "So, all of those capabilities and insights are emerging as to the different ways they can instrumentalise and exercise these new understandings" (UC04). For UC05, this increase in criticality was extended to critical thinking about the design profession itself. The Coordinator spoke to students' shifting perspectives regarding their conceptions of wicked problems and a newfound sense of responsibility, especially regarding becoming a facilitator of other stakeholders in society, to deliver and enact solutions together:

So those are very important shifts in perspective that I'm pretty convinced that they didn't have those perspectives before this semester, and now they can't help actually thinking like that going forward. And again, if that's really the case, which I'm sure it is for some students, then I have done my job for this semester. (UC05)

Instilling a sense of professional identity that is aligned with students' values was also seen in the first-year health unit. The Coordinator observed:

There's obviously still a long way to go, but you can see from the way that they interact, the things that they said they enjoyed, and some of their reflections, that they are developing an understanding of who they are within their profession, and some of the tensions and strengths that appeal to that. (UC15)

This increase in understanding, responsibility, and awareness was also felt in Aboriginal education with students "developing critical thinking skills and a deeper understanding of the contemporary issues Aboriginal people faced in everyday life, and they were empathetic towards it, so that's the shift that was happening, and they cared" (UC06). This open-mindedness developing in students was also seen in the ICPU units. The Coordinator here observed the change in problem solving approaches shown in students' individual reflections: "I tend to see lot of students explaining, "wow I never saw this when I first started this unit"" (UC13). A mindset shift, from students initially being very individualistic, to then understanding "how to look at problems from a macroscopically, from different perspectives" (UC13), was a notable shift in students open-mindedness and teamworking capacity. This capability change was beautifully distilled by another ICPU Coordinator:

When they start this unit, they know how to get to their destination as long as the sat nav is on, and then, as soon as you turn it off, you realise you've got to learn a few skills to get to your destination, and I think that's what they've learned. That's the best analogy I can think of. (UC14)

While this journey can be difficult for both student and Coordinator, the payoffs are rewarding for both parties. One Design Coordinator reflected on watching students' journeys:

[In] the individual reflections, it's good to just read some of that feedback where people have actually found things where they've enjoyed that, where you can see that their skills have improved or increased. Also, because it's a process, the design thinking process, is one where we do iterate, where you make something, and then you change it, and you keep changing and improving, seeing the development of the project. So, I think that demonstrates the students gaining new skills ... I try to speak positively in the lectures as well about, "this is where you've been, this is now how we can see certain things or understand certain things". I call them design thinkers; they're not just students. (UC02)

In leadership, the Coordinator specifically spoke to student feedback detailing their own increase in reflectiveness and how they now understand the importance of this as a future leader. Despite difficulties in facilitating the learning, this “mindset shift, I think, this is when the joy of why we do the unit comes through for us, and we go, ‘Oh, thank goodness’” (UC07). Equipped with frameworks and techniques to assess themselves, students were “really thinking about their future professional life and career and seeing it holistically, so we've helped them shape that” (UC07). Highlighting the necessity of critical self-reflection for transformative learning and the educator’s role in developing these skills (Mezirow, 2006), the Coordinator spoke of ‘gold nuggets’ that come out, such as students realising they are in the wrong major and changing study paths. They summed up the general increase of student agency in taking control and ownership of their studies and careers fittingly:

I think what we're seeing is student agency. That's what I'm saying, autonomy, agency, to be able to craft, curate, the path that they want to take, and all we did was just present it through this unit – I think that's really life changing. We may not see it right away, but we see a paradigm shift for students, and the joy is that they begin to realise, “man, it's up to you, you get to change your world, and you get to craft it”. And we go back to motivation, the life that you craft needs to align to your values, because then it's going to be more meaningful for you, and if it's more meaningful you'll be motivated. It speaks to job satisfaction, to say, “right: life, wellbeing, outcomes”, all those things that we keep talking about in <unit of study>, when students start to synthesise that they realise, “Okay, this is all now about what happens after university”. (UC07)

These profound shifts in students’ agency, future careers, and alignment of values serve as an excellent example of what transformative learning can look like in higher education. The data further evidences the role of transformative learning in enhancing student’s confidence, self-trust and personal strength (Neuman, 1996). Indeed, it highlights the efficacy of learners constructing self-narratives of their learning journey as an intentional part of learning design that seeks to foster transformative learning through critical reflection (Fahrenwald et al., 2014).

5.4.2 Students’ awareness of change

In Design, the Coordinator was providing weekly feedback to students about where their level of understanding and skills should be, with students gaining awareness of this “certainly

coming towards the end [of Semester]" (UC02). In Law, this awareness came as they exercised their potential in written assessments and were subsequently legitimised and validated: "they see that they've got capabilities now, and that those capabilities are rewarded too ... because I want those capacities to be fortified by the feedback" (UC04). Similarly, in a Design unit, while students were too focused on the problem at hand during the Semester to realise their emerging capabilities, the final assessment was a reflective report where "looking back, they became aware of how much they changed throughout the semester" (UC05). In Health, a growing awareness from students was demonstrated with them "mostly telling me this in their reflective essays" (UC15), with an assumed level of "tacit development that goes on that they may not be aware of" (UC15). The explicit feedback in writing to facilitators in Leadership was through student emails to both the Coordinator and the broader tutoring team:

We often get emails from students saying, "Hey, the thing we did in class, I went and applied it into a job interview and got the job, got the internship". So, we're seeing a lot of that where when students put it into practice, they email us. (UC07)

The written feedback from students also came through in end-of-Semester feedback to the facilitators, acknowledging their journeys. The Coordinator explained, "for a unit like this, you will get tens of pages of comments, both good and bad ... I think it's at that ground level, that stuff is really appreciated and rightly so" (UC10).

This awareness of emerging capabilities was also demonstrated in person, with students approaching facilitators after lectures. This shows that "obviously they're changing, and it's like their ongoing reflection, as well after the lecture, coming and telling you that they are learning something" (UC06). In the ICPU units, the Coordinators both observed that their in-class interactions with students housed the awareness of their emerging skills. UC13 spoke of the proximity to student groups in class, the use of one-on-one consultations, the ongoing feedback cycle delivered to students, and their adaptation to this feedback throughout Semester. For UC14, students started to become aware of their emergent capabilities after the mid-semester break, after stakeholder touchpoints, and when the facilitators step back from the groups and let them take over the process: "for a couple of weeks they're not very good at it, but eventually they say, "Hey, we've got this", and I think they do realise it by then" (UC14).

This growing of students' awareness was also cyclically reinforced with some Coordinators leveraging past Semester's learning into the current session to enlighten students:

Now, I'll try to bring the stories ... I'm trying to bring the previous semester students ... I'll let them know, okay, what exactly happened to the previous students, how they are moving forward ... I'll show them some videos of the past students. They were talking how they feel at the very starting ... "I was feeling a bit of panicking at the at the beginning, but as I go, I grew with my confidence" ... I just want the students to take out that fear, and to bridge the gap between industry and the University. (UC08)

The concept of future learnings was extended by another Coordinator who commented on the learning journey in Semester just being the start:

I think, not everything is immediate. I would hope that there's a slow burn here and when they've left this, got their mark, maybe even a year out, and I've heard that, that they think back and they're like, "Oh, yeah, we did that then, mustn't do that again", kind of thing. But we do try in the shorter term recognise and celebrate with them what they have done, even if it's imperfect, and achieved something in delivering a project and engaging with a sponsor. And so, I think the experience is immediate, it's of the moment, but it also has a slow tail, a long tail, I hope. (UC09)

While some students were able to realise these changes themselves, often with the assistance of reflective assessments or more time, other students needed a helping hand from their facilitators. On exchange, while students reflected on their learnings, the Coordinator often needed to re-frame students' experiences in their reflections to assist them:

They said, "Oh, I struggled with this, and then I did this", and I said, "Well, you developed that skill". So, I tried to signpost that for them very explicitly ... Without that, I think that they would probably have had a vague sense that they were more relaxed, or that they were more confident, but I don't know that they would have been able to name the thing that they were developing if I didn't say, "well, that email that you sent you developed your communication skills, or you developed your collaboration skills". (UC01)

Similarly, in Music, the Coordinator took an encouraging role to further assist students' reflection:

I try to give mostly encouraging feedback, like: "I love that, I could see how much you were listening, that you heard what this person was doing, but instead of copying it, you supported it". So, trying to give them that sort of feedback, or ask them questions like, "Could you hear what that person was doing?". And they're like, "No", and I'm like, "Hmm, I could tell that you couldn't hear what they were doing". So, I try to give them that feedback in class, and occasionally, written feedback. The written feedback is easier, obviously, it's more direct, and I can say things that might not be appropriate, or might not feel right to say, in front of everyone else. (UC03)

These instances highlight that although students may have experienced an unrealised impetus for a transformative experience, a skilled facilitator can sense these opportunities and intervene with helpful stimulus to assist students' learnings. This reflects Apte's (2009) assertion that while potential can be created in the learning environment to foster a transformative experience, the process is not yet complete. Continuing this learning journey is needed to re-integrate one's learning back into all facets of their life as they carry their new meaning perspectives back into their social world (Mezirow, 2000). As these examples highlight, skilled facilitators support this process of reflection to assist students' re-integration into personal and professional spheres where the learning may continue.

5.4.3 A mood of possibility and looking to the future

As students engaged with their new perspectives, Coordinators shared the mood of possibility that was created being created by these learning journeys within their units of study. On exchange, the facilitator's reflected upon the possibilities opened up by the exchange program:

I think I was very lucky that, because it was a mobility unit, there was so much there, them going away, and being away from home, being away from Uni, traveling, being in this group, living somewhere else. So, I think there was just all of that, where all these amazing things could happen ... that just opens up so many more ways of learning and so many more ways of thinking about an experience that isn't there if it's a normal unit. (UC01)

For another Coordinator, working with industry stakeholders and having the chance to create real professional relationships with experts in the field was invaluable not only for students, but also for the external partners:

This is one of the opportunities for them, they get a good student out of that, one whom they are really motivated in that project to move forward with the thesis or the PhD. I can see many PhD students now join with various clinicians and the researchers who did this unit and did the similar project. And I believe that's a very good opportunity for the students to take that part ... I'm giving them an opportunity to know what exactly happening in this trajectory, and they get that taste, and if they feel more confident, they are moving towards those kinds of areas. So yeah, that's one of the hopes I'm having. (UC08)

Similarly, in a capstone unit of study, the Coordinator spoke of the future possibilities that opened up to students based on the experience in their project teams and their realisation of their self-worth in their industries:

I think that the biggest thing in that was to really, really link this unit as the last thing before they graduate to their real-world career path ... I think that is exemplified by an assessment that is the creation of a portfolio, and what that portfolio was used for ... I tell them, "You can take this to the next interview, you can take this ... you can table it, you can say, this is the story of my 6-month project". And I think the recognising that as of value to them and making them realise how valuable that is also pays back in terms of, "Oh, yeah, this is this is not just another assessment, this is literally the thing before I get paid" ... So, I think and I tell them like, "what's your time worth?". And we have this little discussion, because the point is in a few months' time, there is a real value if somebody's going to be paying them, and so putting a time and money onto the project, I think really helps the penny drop, "is what I'm doing worth that money?" ... because that's how much you're going to be worth next month after you graduate if you get a job. So, I think those real-world benchmarks are very useful. (UC09)

This future-looking approach was evident across multiple units of study regarding the breadth of possibilities available to students. In Aboriginal education, this resulted in an open-mindedness and hunger to learn:

The students were positive, they were empathetic, they were curious, they wanted to know more. And you know, in week 12, when I say, "This is the last lecture", they said to me, "Oh, my God! We just only started getting used to this!". (UC06)

In Music, the facilitator was enthusiastic in stating, "I think the whole thing is about a mood of possibility!". They expanded, "It's very open-ended, each exercise within the class, I feel like none of us know exactly what's going to happen, how we're going to feel" (UC03). The Coordinator further explained that while students may be initially confused with the lack of formal or strict boundaries, this allows them to broaden their applications skills, opening up new musical and professional possibilities.

In Gender Studies, the facilitator and students applied a shared phrase to their ethos and learnings: "there's this metaphor around rain and the earth, and theory needing to smell of the earth if it's going to be good for it" (UC11). They expanded:

So, that was like a touch point, students kept coming back to that because I mentioned it a few times in the first few weeks. But if I'd asked students what they think about a particular idea, sometimes there'd be students who would be like, "it smells of the earth", so, they'd call back to it across semester ... This is a kind of feeling that I try and convey, is that even if the things that we're talking about are hard, there's something promising and joyful and exciting and important about putting words to it and trying to make sense of it ... It's just about refiguring the joy, you can't unsee the patterns that you're seeing, but you can take pleasure in seeing them, and then being able to talk about it ... because you're talking directly about things that people feel are unfair, and some people find that enabling, and some people do have a moment of finding that hard. And so, it's about, when you see people grappling with that, trying to find ways of reframing, or at least letting them know they're in company. (UC11)

This newfound way of seeing the world, even for its difficulties, unlocks possibilities through shared experience and deeper insight into self and others, consistent with previous findings (King, 1999).

Highlighting the assertion of continued application and embodiment of learning through an integrated self (Mezirow, 1991), many Coordinators raised the prospect of how the unit of study's learning has transformed students and will continue to impact their futures. In Design, the Coordinator highlighted that students will "continue to use those methods, so I think that's one way that the learning will continue ... they can use the design thinking process and apply that to other problem solving" (UC02). Having framed their learning and methods as an interdisciplinary tool, the process can be continued to be applied to any form of problem solving – it doesn't have to be a design issue. Similarly, in an ICPU, their second individual reflection specifically targets students' strategies for future collaboration. The Coordinator asserted that "a lot of students take on, take the messages from this particular unit, and they

go on to do in their future team projects” (UC13), specifically mentioning their teamworking processes, communication techniques, and problem-solving techniques and approaches learned. Although there is no direct feedback mechanism to the facilitator after the unit of study has ended, they reflected, “I feel there's a lot of reflections happening in this unit as such for them to move forward and work in future" (UC13).

In Music, students were more explicit with the facilitator regarding the future use of their new skills and mindset:

A lot of them have articulated that they would like to either bring some of these new ideas into their performance practice or their composing. Some of them have specifically said, “I'm in a band, so, I might bring some of these new ideas that I discovered on the bass into my band” ... Some of them have expressed that they want to find other people to play music like this with, and in the feedback I'm giving at the moment, I'm encouraging them when they've said that, I've said, “It'd be really great if you could find like-minded people, either from this class or in your world, to keep exploring” ... I hope that it makes them more sensitive listeners to people, and a little bit more like self-aware of their contributions, musically or socially, or just in empathy. That's just an ideal. (UC03)

This excerpt shows the many specific instances of explicit feedback the Coordinator received of students carrying forward their learning into the future with open-mindedness and enthusiasm – a new set of values and ideals put it into practice – also encouraged sensitively by their facilitator.

Chapter 6 – Student qualitative results & discussion

This chapter presents students’ perspectives to help us better understand and eventually improve learning experiences towards transformative learning as facilitated in higher education settings. In-depth interviews with 35 students are presented, and verbatim quotes are used to convey students’ lived experiences of transformative learning as authentically as possible. Additionally, the findings synthesise the similarities, differences, and variances between those that did and did not experience perspective transformation during their unit of study experience.

The chapter begins by exploring interviewee demographics and PT-Index classifications. The subsequent four sections will address: the initial state of students arriving in their units of study; the encountering of novel experiences; navigating social exchanges with others; and finally, the new perspectives that emerged. Throughout, student perspectives are integrated with established literature situating their insights within ongoing academic discourse to advance our understanding of transformative learning practice.

6.1 Interviewee demographics and statistics

The demographics of the interviewees have been collated to display their representativeness of the survey participants. The interview demographics demonstrate a representative data set with most being young adults between 18-23 years of age (74.3%), single (77.1%), with a high school education (74.3%), and female (65.7%). This compares to statistics in the survey showing most between 18-23 years of age (79.2%), single (73.6%), high school educated (70.8%), and female (69.4%). The full interview and survey demographic information is detailed in the table below for comparative purposes.

Table 16 - Demographics of Interview and Survey Participants

	Interview n	Interview %	Survey N	Survey %
Gender				
Female	23	65.7%	197	69.4%
Male	9	25.7%	74	26.1%
Non-binary	1	2.9%	2	0.7%
Prefer not to say	2	5.7%	11	3.9%
Age				
18-19	6	17.1%	65	22.9%
20-21	11	31.4%	105	37.0%
22-23	9	25.7%	55	19.4%
24-25	3	8.6%	21	7.4%
26-27	2	5.7%	15	5.3%
28-29	1	2.9%	10	3.5%
30-34	1	2.9%	7	2.5%
35-40	2	5.7%	5	1.8%
40+	0	0.0%	1	0.4%
Marital status				
Single	27	77.1%	209	73.6%
Partner	6	17.1%	50	17.6%

Married	1	2.9%	12	4.2%
Prefer not to say	1	2.9%	13	4.6%
Highest Prior Education				
High school	26	74.3%	201	70.8%
Bachelors degree	7	20.0%	61	21.5%
Graduate certificate/diploma	0	0.0%	11	3.9%
Masters degree	2	5.7%	7	2.5%
Other	0	0.0%	4	1.4%

Note. n = 35, N=284

The nationalities of interviewees have also been collated below for representativeness. Corresponding with the survey statistics, just under half of interviewees identified as ‘Australian’ and the next most common nationality was Chinese. Subsequently, Indian and Indonesian interviewees were equal third most common, similar to the survey rankings of third and fifth most common. A range of other various nationalities are present in the data to reflect a culturally diverse cohort.

Table 17 - Nationalities of Interview Participants

	<i>n</i>	<i>%</i>
Australian	17	48.6%
Chinese	4	11.4%
Indian	2	5.7%
Indonesian	2	5.7%
Australian German	1	2.9%
Australian New Zealander	1	2.9%
Bangladeshi	1	2.9%
Chinese Australian	1	2.9%
Filipino	1	2.9%
German	1	2.9%
Hong Kong	1	2.9%
New Zealander	1	2.9%
Peruvian	1	2.9%
Singaporean	1	2.9%

Note. n = 35

Overall, this study’s interview phase demographics can be seen as broadly representative of the survey participants. This data is only displayed to highlight aggregate information and will not be used for any further analysis.

6.2 Interview PT-Index classification

All 92 survey participants who indicated they would be willing to participate were invited for interview and 35 completed the interview. The table below displays that the unit of study with the largest number of enrolments had the highest number of interviewees (8), with the second and third largest units having 4 and 6 interviews respectively. Only two units of study did not have any interview participants.

After their interview, each participant was classified by the researcher into one of the three PT-Index classifications. The full breakdown of PT-Index by unit of study is displayed in the table below.

Table 18 - Interviewees by Unit of Study and PT-Index

	PT-Index 1		PT-Index 2		PT-Index 3		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Unit1			1	2.9%	1	2.9%	2	5.7%
Unit2					6	17.1%	6	17.1%
Unit3					2	5.7%	2	5.7%
Unit4					1	2.9%	1	2.9%
Unit5	1	2.9%			1	2.9%	2	5.7%
Unit6					1	2.9%	1	2.9%
Unit7	1	2.9%			3	8.6%	4	11.4%
Unit8					1	2.9%	1	2.9%
Unit9								0%
Unit10	2	5.7%			6	17.1%	8	22.9%
Unit11								0%
Unit12	1	2.9%					1	2.9%
Unit13	1	2.9%			1	2.9%	2	5.7%
Unit14					2	5.7%	2	5.7%
Unit15					3	8.6%	3	8.6%
<i>Total</i>	6	17.1%	1	2.9%	28	80.0%	35	100.0%

In total, there were 6 (17.1%) with PT-Index of 1, indicating no perspective information had been experienced, 1 (2.9%) with a PT-Index of 2, signifying perspective transformation that was not related to their unit of study experience, and 28 (80.0%) with a PT-Index of 3, where it was identified that perspective transformation took place based on their unit of study educational experience. A lower proportion of PT1 students participated in the interview compared to the survey, whereas a higher proportion of PT3 students completed the interview compared to the survey. For comparison, the survey PT-Index classification proportions were 42.3% PT1, 2.1% PT2 and 55.6% PT3.

It is notable that four students had differing PT-Index classifications based on their survey and interviews. One student who was classified as PT3 based on their survey was categorised as PT1 after their interview. Their interview demonstrated that they had not experienced perspective transformation due to being unable to identify a disorienting dilemma and not being able to clearly articulate what about them had changed. Contrastingly, three students who were classified PT1 on the survey were deemed to be PT3 after their interview. One student indicated that their survey answer to Item 2 of ‘no’ was a mistake, with their subsequent interview answers suitably demonstrating that they had experienced perspective transformation. A second student only realised their perspective transformation in the ten weeks between the survey and interview and were appropriately classified at each stage. A third student experienced their transformation within the interview itself due to the reflective questions and were deemed as PT3 by the conclusion of the interview. These cases are discussed as appropriate throughout the subsequent analysis. Furthermore, the singular PT2

student is not included in this analysis as their perspective transformation was not due to their unit of study experience.

The following analysis in this chapter focuses on addressing the research questions drawing on relevant data, analysis, and discussion. That is, uncovering how students experience transformative learning, and what, if any, similarities and differences in transformative learning are experienced.

6.3 Initial frames of reference and expectations

Students enter their educational experiences holding initial beliefs, frames of reference, and expectations of what their unit of study experience will entail (Mezirow, 1978b). This section unpacks students' current understanding of themselves and their worldview to establish what foundations exist to be potentially transformed. These factors determined prior to learning are denoted by Biggs (1989) as student characteristics within the presage component. It compares PT1 and PT3 cohorts to highlight any similarities or differences between initial frames of references and subsequent learning experiences of students throughout their units of study.

6.3.1 Motivation for enrolment

The interviews revealed that students who did not experience perspective transformation during their unit of study experience generally had arbitrary or shallow reasons or were forced by degree requirements. For example, "I think I picked it just because of my affiliation to science and I'm really interested in science and a science project, I wouldn't mind, you know, that was about it" (S02). Similarly, two other students said, "I just read the word 'sport', and I thought, 'Okay, that's the unit I have to take'" (S09) and "it was kind of more out of convenience, I think" (S05). A fourth student mentioned their degree requirement that forced them to enrol:

Well, it's a mandatory unit for Commerce students, so that's why I had to take it. If it would have been optional, I don't know if I would have taken it. Yeah, I just knew I had to take it. So that's why I enrolled. (S23)

Indeed, none of the six PT1 student cited intentional or potentially transformative reasons for enrolling. These initial frames of reference and motivations among the cohort highlight the lack of deeper reasoning for their enrolment and suggests the students may be predisposed to taking surface level approaches to their learning in these units of study (Biggs, 1987). It also indicates that students' initial mindset may play an important role in being open to a possible transformative learning experience. Neuman's (1996) finding indicates that a learner's predisposition to change is dependent upon developing critical reflective skills earlier in life.

Contrastingly, the PT3 students frequently cited nuanced and intentional reasons for enrolling in their units of study. For many who experienced perspective transformation, they had a very specific reason for enrolling in their unit of study which was met by their experience. For S11, re-entry to their home country entails a re-entry action plan to apply their learnings to the benefit of the nation. Enrolling in their unit of study directly assisted that program by learning and applying design thinking methods to their field of expertise, as that would "give

a creative thinking process on finding solution to that specific problem” (S11). Another student had similar expectations in their unit of study where they enrolled specifically for exploration and to learn from other disciplines in a non-technical environment: “when I joined this unit, I had this perception that maybe something nice will happen, and it definitely did, it completely changed my perspective as well” (S24). This idea of exploration was also mentioned by another student who was looking for a chance to further their experiences in similar units of placement units of study they had done previously: “that's the reason why I chose this internship, for having a good network and exploring different things in a different place and knowing about organisations, their cultures, and all” (S35). The notion of discovery, challenge, and open-mindedness was fittingly described by one student:

My whole life was stuck back home, and I was after some changes or new challenges. I think it's nice to experience more courses, or other major courses from other faculties, because [they] can make me learn more. I think it's not good for me to just learn courses from one faculty. So, I always take more elective class from other faculties ... I don't want to stay in my comfort zone, because I always do this. So, I kind of force myself to go out to seek some are more challenges ... And I'm not [caring about] the result that much, because I think I already experience the process, so it's good. (S04)

These PT3 students have demonstrated an open-mindedness consistent with a socialised mind, ready to be influenced by others, indicating a state exists that is ready to be transformed (Kegan, 2000). This state allows learners to engage in more complex and connected ways of knowing, through collaboration an incorporation of others’ views, thus increasing the likelihood of transformative learning (Cranton, 2011).

One subset of PT3 students enrolled with a strong understanding of their units of study and an interest in their given area. One Design student explained: “this one just piqued my interest ... when I was reading the brief, I was like, ‘Oh, this this sounds in line to how I've always perceived design to be” (S18). For another student, reading about the unit of study revealed that it matched their interests and may have lots of future value for them, regardless of their career choice: “it seems really interesting, I'm very interested in how people's behaviour interact with them, and healthcare is also like a fundamental thing in life, it will benefit me even if I'm not in the healthcare faculty” (S33). This concept of future applicability was shared by another elective student in this unit of study, who noticed that communication skills were a strong focus, rather than simply technical knowledge. They felt like this broader skillset development was “way more relevant to me, and more applicable to my career in the future, as well as developing and enhancing my skills as a future clinician, especially for placements” (S31). Consistent with readiness to participate in communicative learning, these PT3 students are indicating willingness to collaborate with others to inform future action (Kemmis & McTaggart, 2005).

The data in this section demonstrates PT3 students’ active engagement with the motivational context of learning, showing interest and ownership over the learning journey that corresponds with the employment of deep learning approaches (Biggs, 1989), which in turn is

crucial to perspective transformation (Wang et al., 2021). The results also demonstrate PT3 students' pre-existing alignment with the concept using personal experience and meaning to inform future action, a fundamental pillar of the perspective transformation process (Mezirow, 1996). It also raises the prospect that these conversations may prime students for transformative learning experiences by allowing them to correctly understand the learning environments, curricula, learning activities, and educational goals prior to enrolment and approach them with an aligned and optimistic mindset. For institutions, facilitating communication and sharing across year groups may provide expectational alignment prior to students enrolling in their units of study. This may facilitate further overlap of the motivational context, learning activity, and interaction with others, consistent with seminal educational theory for deep learning approaches (Biggs, 1989).

6.3.2 Expectations of self

To further establish their early mindset upon enrolment, students were asked what they expected they would learn during their unit of study experience. The expectations of the PT1 cohort were generally unambitious, focused purely on technical content or knowledge, or was poorly aligned with what the unit of study offered.

In Design, one student commented, "I don't think I expected anything different from the other design units, just getting a brief, and then learning the design principles, and using the methods" (S05). One inbound exchange student described their expectations purely in terms of content without mentioning the broader social commentary and critique that was available: "my expectations are limited to the outline ... just discover the how sport is done in Australia, how the level of familiar sports are compared to Europe, and how the athletes of other sports are compared to Europe" (S09). Similarly, another student's expectations were limited to the course content, rather than the greater self-development options available to them: "I just knew we were going to learn frameworks and theories, and it was more tools that you could use ... it felt like it was a little bit of fancy common sense ... it's such a subjective kind of fluffy unit" (S23). A comparable expression from another student questioned the validity of their unit of study: "mostly I think that this particular course just serves as a way of corporatising the university in terms of making students ready for corporate or industrial work, rather than really expanding education and knowledge within the institution" (S22).

These PT1 excerpts highlight that these students did not express greater ambitions for personal growth through the incorporation and appreciation of others' perspectives in line with Mezirow's (1991) perspective transformation process. Their personal expectations also did not align with the Coordinators' descriptions of the potential personal learning journeys available within their respective units of study. It indicates that these PT1 students were dismissive of this prospect and expected to focus on what Leung & Kember (2003) describe as 'book learning', where understanding is reached without reflection, meaningful application, or relation to personal experience.

In contrast, many PT3 students enrolled in their units of study with nuanced expectations that were well-aligned with those of their facilitators. This was particularly prevalent across

Design. One student commented that although they wanted to gain some skills, the most important thing they wanted to develop was “the mindset – the design mindset” (S04). Due to some previous failures of their designs, another student said they decided to enrol in the unit of study to learn about design thinking, idea generation, and building connection to users (S26). A third Design student felt many units of study focused on solving problems without further examination of their impacts, which “builds this hubris, this ignorance in designers” (S18), whereas they correctly expected their unit of study looked more deeply at critiquing the social ramifications of design.

PT3 students also held expectations of experiencing diversity and developing their soft skills. An interdisciplinary student expected to gain a real-life experience as to what working after university would look like, which included “being put into a random group of people and having to figure out what dynamic works with us” (S21). The idea of diversity also manifested for an exchange student, saying “that’s the biggest expectation for me, having exposure to cultural diversity in the workplace context” (S35). This could be summarised by one student’s expectation of “being empathic with your subjects, putting yourself into their shoes” (S11). One student outlined their initial expectation of a personal growth journey that would develop their soft skills, which matched their experience:

Going in, I expected to learn about myself, which I did. I hadn't [previously] thought about my strengths and my weaknesses so intently. But I definitely expected to do that, and we did. We [addressed], 'What are you good at? What should you improve?', etcetera. I also expected to learn more about communication, groupwork, leadership, which we did, through things like I-statements, reframing disagreements, and the biases. (S14)

Overall, the data demonstrates PT1 students’ expectations of just gaining technical knowledge and not anticipating greater opportunities for personal growth in their units of study, consistent with instrumental learning (Mezirow, 2000). Correspondingly, PT3 students showed a more nuanced expectations where students expected to change their mindset, build connections, critique ideas, experience diverse teams and cultures, or build empathy, consistent with communicative learning. These results indicate that some students may be entering their units of study more open to the possibility of critical self-examination and experiencing perspective transformation due to their prior context.

These analyses of students’ motivations for enrolment and expectations of their learning provide useful data to illuminate PT3 students’ interest, investment, and personalisation of learning in action. This has important implications for institutions that seek to foster transformative learning. For example, pre-enrolment information, such as unit of study outlines, should orient students effectively toward transformative learning experiences and corresponding approaches to learning, where applicable.

6.3.3 Students’ understanding of teachers’ expectations

Facilitators of learning play a crucial role in constructing the learning environment and actively facilitating transformative learning through critical reflection and critical dialectical

discourse (Mezirow, 1991). Students were probed on what they thought teachers' expectations of the learning would be to ascertain a possible understanding of, and alignment with, the educational experiences being created for them.

PT1 students' views on what their teachers expected them to learn generally aligned with their own expectations that the unit would teach them content or practical skills. The cohort did not express understandings aligning with Coordinators' more ambitious agendas for their educational experiences. Multiple comments were limited simply to information transmission, with teachers being seen as wanting to "present how sports are done in Australia" (S09) and that "teachers expected us to learn the university guidelines for what we should have after our degrees" (S22). Rather than grasping the opportunity for self-development journey by enhancing their self-reflexiveness and learning to lead themselves and others, a PT1 student explained their views of teachers' expectations:

I think they were just more interested in seeing us develop practical skills ... for me it was all just kind of like, yeah, of course I know how to speak in public, I know how to write a proper essay, a cover letter, introduce myself to professionals, but I guess it was more for people that maybe don't have those skills to kind of be on par, which is maybe why I think it shouldn't be a mandatory unit, maybe it should be kind of more an optional unit for people that feel like they need those skills. (S23)

These incongruences with Coordinators' expectations of students employing deep approaches to learning suggest that PT1 students have been less likely to engage in the transformative learning process due to surface level approaches to learning. However, PT3 students' understanding of their facilitator's expectations provide stark contrast. Those who did experience perspective transformation revealed that they understood there was opportunity for higher-level development that aligned with that of their Coordinators.

Rather than being a recipient of information or content, many PT3 students were aware that facilitators expected that students would in fact be learning about themselves and it would be a journey of personal growth. One student described that their Coordinator expected them to "learn the skills that would be applicable for future leaders, as they call it, and also learn a bit more about ourselves" (S19), proceeding to describe themselves in relation to group dynamics. This sentiment was echoed by another student in this unit of study, saying "I think they also wanted us to learn more about ourselves to a point where you could pick out maybe one or two flaws in your opinion that you had, so that you could grow from that" (S15). A Design student described the Coordinator's desire for their personal growth journeys and instilling sense of self-belief and identity: "I think he wanted us to be more passionate about our capabilities as people and as designers" (S19). These examples highlight a level of readiness for critical self-reflection, learning to think for oneself and about oneself, consistent with Mezirow's (2006) definition, beyond that displayed by PT1 students.

Groupwork can foster transformative learning through a shared catalyst that personalises experience, making it more meaningful for learners, and provide a supportive environment for critical reflection (Taylor, 2000). Indeed, PT3 students also showed their understanding of

their Coordinators' aims to develop their various teamworking skills, and many students specifically mentioned the idea of developing their ability to collaborate with others. This took various forms throughout students' respective units of study, showing their nuanced understanding of how this applied in their fields. One Music student described their teacher's expectations as developing their ability "to work in an ensemble environment and how to make space in a composition for other people ... knowing when to be quiet and let other people shine and then knowing when other people drop back to take a turn" (S29). A second Music student said, "the whole purpose of the class is to be able to work together and create a body of work" (S12), saying that having an open-mind and making careful collaborative choices was central to the idea. In an interdisciplinary unit, this was comprehensively described by a student:

I think they really wanted us to learn how to form group connections, how building a strong foundation with your team is essential for good research and for good work. So, it's not just about formulating a report, but it's also about finding a consensus with your group members and going through that process of compromise to have a favourable outcome that suits all people. (S21)

Many students in project-based units of study described their Coordinators' expectations in relation to collaboration throughout their teamwork. For S08, the idea of developing collaborative skills on their project was also linked to dealing with uncertainty and remaining accountable for deadlines and deliverables. Similarly, another student remarked, "I think the teachers were more focused on us learning how to run a big project like this and how to work together as a team ... I think they probably more expected us to have revelations about teamwork and managing a project" (S13). Expectations of working together increasingly well was also described by another student: "from my tutor, there was an expectation that we would all learn to connect a bit better with each other and learn how to function as a group a bit better over the course of our time" (S19). Another interdisciplinary student said that "the main synopsis of the unit was that you need to be able to work with people from other fields and bridge the knowledge ... the main idea of it was to be able to collaborate" (S16). These students have all demonstrated that they understood their facilitators' ambitions for them to learn more than just content and to develop their own personalised capabilities regarding teamworking, collaboration and working with others. These PT3 students highlight an expectation of, and willingness to participate in, critical dialectical discourse where others' experiences can be considered and incorporated (Mezirow, 2003). The literature asserts that dialectical discourse can develop a learners' reflective judgment and acceptance of others, however, this data indicates that students with correct expectations of encountering this process may be more likely to participate effectively in group discourse and therefore experience perspective transformation.

Furthermore, PT3 students were also aware of further soft-skill development expectations from their teachers, including developing empathy and reflexivity. Coordinator expectations of developing their students' compassion were described by two students: "[the Coordinator] wanted us to learn the empathy in design" (S04); and "a very big topic is being inclusive people of different backgrounds, gender disabilities, and mental health care" (S33). Similarly,

reflexivity was also discussed with one student commenting, “I think they expected me to get better at reflection of what's happening ... what I gain from it, how I apply that to the current situation, and how I'm going to use it for my future” (S35). Combining all areas discussed in this section, one student aptly summed up: “I think they probably wanted us to learn a bit more about how to work in diverse teams, but also approaching conflict, and I think there was a big emphasis on reflection” (S14).

The data throughout this section highlights PT3 students' deft understanding of their facilitators' expectations with nuanced, open-minded, and personal growth-oriented expectations. These PT3 students demonstrated an understanding of self-awareness, empathy and social deftness consistent with Mezirow's (2003) emotional intelligence factors that assist in critical reflection and participation in critical discourse. Indeed, the persistent understanding of the role of critical reflection, and alignment with teachers' expectations of engaging in this process, reinforces Brookfield's (2000) assertion that it is the fundamental pillar of transformative learning. It highlights the need for educators to embed and facilitate critical self-reflection within curricula intended to foster transformative learning, and for students to expect and accept this process as a fundamental aspect of their education in such units of study.

6.4 Encountering novel experiences

Trigger events, or disorienting dilemmas, are the catalysts for critical reflection that enable possible transformation (Mezirow, 1990). They are the first step in the perspective transformation process and occur when anomalous experiences cause cognitive disequilibrium, where step two results in self-examination, and step three a critical assessment of one's assumptions (Mezirow, 1991). These initial steps may lead to a potential rearrangement of belief structures that guide action. This section will reveal and discuss students' conception of their learning experiences and whether they believe they experienced a disorienting dilemma and perspective transformation. Subsequently, the challenge and productive struggles of students will be discussed, followed by when those who experienced perspective transformation became aware of these events and processes. Given that transformative learning incorporates affective dimensions (Taylor, 1998), students' emotions that were evoked are embedded throughout the rest of the chapter.

6.4.1 The trigger event

Students who did not experience perspective transformation were generally clear in expressing that none of their values, beliefs, opinions, or expectations had changed throughout their unit of study experience. Without perceiving that they encountered a disorienting dilemma to catalyse transformation, PT1 students were unable to progress through any further stages of Mezirow's (1991) perspective transformation process.

Discussing their group project, one student directly stated regarding their values, beliefs, opinions and expectations: “no, they didn't change ... everything fortunately for our group went as planned” (S02). This demonstrates an absence of disequilibrium in their groupwork and also indicates that they did not expect to encounter such dissonance elsewhere in their

unit of study experience. Similarly, an interdisciplinary student confirmed they did not experience any changes: “I don't think I did ... maybe when I was younger, potentially, when I first started university, it could have been a lot more transformative” (S17). One student's strong sense of self-belief was highlighted in their response:

I don't think that any of my values, expectations, or opinions changed during the course of the study. I don't think that it was the purpose of the particular course, anyway. I thought mostly it was about consolidating the knowledge that I had learned and using it in a way that was opportune for an industry or career move. So, I felt very confident, going in with my particular opinions, values, and everything like that. And therefore, didn't really experience a change in any of that. (S22)

A similar response from another PT1 student who said they did not experience any change; however, they did perceive some value of the self-examination process:

I know what I believe, and I think it stayed consistent ... maybe it just helped me give them a name, because for our assignments we had to narrow and make our opinions concrete. So, maybe just help me label them and understand other peoples' perspectives more. But I don't think my own values changed. (S23)

These instances clearly highlight that PT1 students were generally steadfast in their worldview and confident that they had not changed due to their unit of study experience. It highlights Mezirow's (1978b) assertion that perspective transformation requires a trigger event of an experience that is incompatible with the learner's current view and requires critical awareness to incorporate the perspective of others. Consistent existing research, it demonstrates that some instances of self-examining due to encountering others' perspectives did not cross the threshold of challenging frames of reference to the extent that they could not be disregarded (Wang et al., 2021). This data is also consistent with the assertion that low-level dissonance leads to increased competence rather than profound shifts in a learner's worldview (Kiely, 2005).

Students who did experience perspective transformation provided stark contrast to the above. PT3 students were confident that they had experienced change and could clearly distinguish their disorienting dilemmas. This occurred frequently in learning activities or assessments where students were exposed to their actions or opinions of others around them, including becoming a leader of their group, or through team deliberations.

Taking the viewpoints of others during a learning activity was experienced as the trigger point in Design by one student: “we were doing the empathy map at that time, and we have to think about the emotions that can be related to our audience from different stages, so at that time I have to assess, we're walking in our customers shoes” (S04). In Leadership, a group activity after identifying and discussing biases was identified as one student's catalyst, as they more purposefully took account of others' situations and perspectives:

After we talked about bias, we did a group activity, so that probably triggered it, because obviously the University of Sydney is very multicultural, and at that point I

realised a few people struggled with English, and I was like, 'Oh, well, we've just talked about this, I will make sure I try and really understand what they're trying to say, before thinking that because it wasn't expressed as clearly, it was not a strong idea'. (S14)

For other students, it was assignments that initiated the perspective transformation cycle by incorporating others' perspectives. A Leadership student recalled that their assignments relied heavily on students' class discussions, saying, "it was really important that I remembered, or had recorded, what had been going on in the tutorials, so that I could take those experiences and reflect on them in my assignments" (S19). Similarly, a Design student noted that their group project's usability test required them to "work through the user's experience – we were using sync allow methods at that time, and I really have to think from the perspective of our users" (S04). These instances highlight that assignments that require students to think from others' perspectives and discuss them in their work can act as a trigger point for questioning one's frame of reference. This is consistent with findings indicating that seeing issues from others' perspectives can disrupt a learner's way of thinking and provide alternative viewpoints (Apte, 2003). It emphasises how peers can provide transformative impact through living dissonance that allows a learner to engage in listening, understanding, and relation with others (Belenky & Stanton, 2000).

For one set of students, it was the moment of becoming their team's leader that started their transformative journey. On a capstone project, the novel responsibility of leadership was one student's catalyst, reflecting: "I was chosen to be the team leader of that project, so I had never led a project before, so that's a first" (S07). On an interdisciplinary unit, being thrust together with random teammates with differing and unknown backgrounds led to a difficult period, where connections were hard to establish: "then I realised, 'Oh, I need to change myself first', there should be a bridge to connect us together, so I can be this leader" (S06). Another interdisciplinary student who described themselves as shy and hesitant to lead said, "I felt like I had to take on more of a leader role, which I didn't expect ... that's when I really realised, I needed to start developing more leadership quality, I didn't have that before" (S16). These results make a novel contribution to the literature by highlighting the importance of team leadership, responsibility, and accountability in triggering students' transformative learning experiences.

Finally, for many PT3 students, it was recognising others' perspectives in their team environments and classroom learning activities that was their journey's catalyst. International students in one student's interdisciplinary team forced a re-examination of their ways of working:

There were quite a few challenges that came up. So, language barriers, different cultural differences in the different ways we approach group work, or approach university work in general, different work ethics between cultures. So, I think that really opened my mind to how to more effectively work as a team. (S21)

Similarly, the process of change started for S30 when they started looking at their group project differently by “seeing it through my group members perspective whilst doing group work – I was able to take things that they would value, and they would look at” (S30). In Music, a clash of musical styles, skillsets, and approaches lead to S29’s frame of reference being questioned: “there were lots of kids doing really weird things in the class, like making noises in weird ways, and playing their instruments in ways that I wouldn't expect... my expectations were definitely subverted by all of those different influences” (S29). Consistent with literature demonstrating that during perspective transformation discussion with peers is an ideal mechanism for learning (Kitchenham, 2008), an interdisciplinary student, the exposure to others’ different skillsets and viewpoints allowed them to see different frames of reference:

The fact that I'm introduced to so many people from different disciplines, I'm constantly surprised by how many different ways that people view the world ... I feel at Uni things tend to be very insular with your major, so you don't really get a chance to talk to that many people outside of your discipline. (S20)

For other students, the alternate frames of reference came from other parts of the learning journey. For S28, their interdisciplinary project allowed them to discover new perspectives that challenged their existing viewpoints:

We looked a lot as a group into Indigenous knowledge sharing, and I learned a lot from various Aboriginal practices, ways of knowing, and ways of listening that I haven't heard about, or learnt about, in my Uni degree, and that was quite groundbreaking. It really did change the way that I not only looked at research generally, but also just community outlook, and made me feel like I could be more engaged with Aboriginal practices and protocols ... and it was slightly fed by other group members, I think that did have an effect, but that was definitely a very key experience. (S28)

In the Aboriginal education unit, a similar realisation was had by another student with a powerful guest speaker:

A distinct memory was when we heard an Aboriginal Elder’s story about the concentration camps, especially the Kinchela Boys Home, and it was quite jarring to have them there live and tell students of the experiences, the abuse, the mistreatment, that they went through. (S10)

Similarly, a guest speaker also provided the catalyst for S33’s learning journey, clearly describing the moment:

In the disability lecture, the question I asked, that's a very important thing that I think sparked a change in me ... the question and the answer was really, really, helpful. So, that lecture was really interesting and it activated me to think differently, because in the past ... I have this like rooted structural way of thinking, that's very fixed and not

flexible. So, after that, I start to think from others perspective and it's very different.
(S33)

These guest speaker experiences highlight the concept of democratised collaborative spaces that escape the rigidities of hierarchy and history, becoming a more inclusive space for storytelling that fosters empathy (Zeichner, 2010). These instances again highlight the importance of critical dialogue and the role of peers and others in the perspective transformation process, consistent with the literature (Taylor, 2008).

Overall, this section identified importance trigger events for transformative learning including learning activities and assessments exposing students to their own actions or opinions and those of others around them through leadership responsibilities, team deliberations, and guest speakers. The catalysts reflect those prescribed by seminal literature: critical discourse learning activities and group projects (Mezirow, 1997) and shared experiential learning activities (Taylor, 2000). It also highlights the use of intentional pedagogical use of narratives and stories to assist critical reflection (Fahrenwald et al., 2014). For educators aiming to provide transformative learning experiences, it emphasises the role of including diverse voices, facilitating dialectical discourse dialogue, and encouraging the critical incorporation of multiple views in learning activities.

6.4.2 Open-mindedness and curiosity

Intellectual curiosity also played a role in PT3 students' educational experiences, reflecting helpful supportive feelings in the transformative learning process surrounding destabilisation (Nogueiras et al., 2018). Those who experienced perspective transformation spoke confidently and clearly of their curiosity of the content and methods that captured their attention and engaged them, as well as their curiosity to learn about themselves.

In terms of methods, one Aboriginal education student said the unit of study “definitely piqued my curiosity in terms of learning about the relationship that we could have as educators in the future” (S10). In Design, one student commented that their “curiosity was definitely woken, because I was working with different parameters to understand the problem” (S24). Another student said, “the curiosity about the design actually evoked me a lot – I think the more I learn the design methods thinking sort of stuff, the more I wanted to know” (S26). In describing another group's application of methods to their design, one student remarked: “I think it's a very interesting product ... they just opened their mind, so it's a very important approach to improve students' curiosity and creativity” (S32). A Music student gave a vibrant description of their curiosity with the class's improvisational methods:

We all wrote down on a sticky note a prompt for a score ... and then put it into a hat, and then over the next week or two we would spend 10 minutes in groups in the class where a few kids would play the scores ... and then the rest of us would just watch, and then we'd have to guess ... based on what these people played. And I remember I did this prompt that was 'a life cycle of a frog', and so they had to play that ... I remember there was some kind of mallet percussion which made it really cool. I just felt like they really embodied my idea that I had for the life cycle of a frog ... And I

thought that was a very interesting thing, because it's like, how can you actually objectively play music that demonstrates a concept? You know what I mean? So, I thought that I was very curious about that, and I think that definitely got me thinking.
(S29)

Methodological curiosity was also demonstrated by an interdisciplinary student who reflected, “throughout the unit curiosity was definitely evoked through being able to be imaginative and creative in what we were doing with our projects” (S30). In Health, a PT3 student commented that the unit of study’s critiques of the healthcare system engaged them: “[healthcare] can be very pathologising and individualising, it doesn't account [for] the individual themselves, which made me really surprised and very curious as to more learning about what it is and how to resolve it” (S31).

A number of PT3 students also described their curiosity in terms of their self-learning journey: “so, curiosity, I'd say just about myself, after the first reflection task I was curious to see what else do I really not maybe entirely know about myself” (S15). Another Leadership student expanded: “I was definitely curious ... I also enjoyed learning more about myself, and how I fit into a particular category ... or what my way of thinking was, I definitely thought that was quite interesting” (S19). A third student said they were “quite curious when we spoke about ... that good characteristics also had negative parts, which I often think about ... that was quite curious” (S14). These examples clearly highlight self-examination and critical assessments occurring, in line with Mezirow’s (1991) Stage 2 and 3 of the perspective transformation cycle. It demonstrates PT3 students’ curiosity and their willingness to engage with the unit of study through the utilisation of deep learning approaches (Biggs, 1987). In line with the ethos of facilitating transformative learning experiences, the data displaying student’s curiosity reflects the fundamental role of higher education as means an invitation for students to think, discover, and invent (Kasworm & Bowles, 2012).

6.4.3 Challenge and productive struggle

This section will analyse the ensuing conflict, challenge, and associated emotions encountered by students throughout their unit of study experience. Focus is given to the role of productive struggle, the space in between the known and unknown, where learners are experimenting with connections between action and consequence, and questioning their frames of reference (Murdoch et al., 2020). Students’ descriptions of the learning experience largely correspond to Mezirow’s (1991) phases two and three where learners self-examine and make critical assessments of their assumptions. Wherever possible, the experiences of PT1 students who did not experience disorienting dilemmas will be contrasted with those of PT3 students to highlight the differences in these groups’ journeys.

Educators can design learning experiences where information is likely to be disorienting, however this can’t be guaranteed, it depends upon learners’ circumstances and approaches to learning (Meerts-Brandtsma & Sibthorp, 2021). Indeed, conflict or productive struggle was generally not part of the unit of study experience for students who did not experience perspective transformation. For one PT1 student, conflict was not the right word, instead describing ‘differences’ between group members: “I don't think there was ever really a

souring or a bad taste, usually it was like, ‘Oh, yeah, we've gotten off topic’ ... I don't think it ever really flowed into other areas” (S17). A similar comment was made by a Leadership student, saying the group started with a lack of direction, but “I wouldn't call it conflict, I think we were just brainstorming ... and then we ended up settling ... but other than that, I would say everything went really fine with the group itself” (S23). This theme was continued by another student, describing that their teammates had a “a very similar understanding ... we mostly agreed ... we would have small debates ... but ultimately, I think we all had an understanding” (S22). This student expanded upon their realisations from this group agreeableness:

I learned, so in my reflection, I wrote about how our specific group didn't have as much tension as was probably required in order to create a more balanced project at the end of the time there. So, what my main takeaway throughout that reflection was citing that we probably needed to have more debate and more discussion about what we wanted to actually do and get out of the unit, rather than just agreeing with everything that each other said. (S22)

Similar to PT1 students generally not encountering conflict, no PT1 student expressed that they had overcome a significant challenge or experienced emotional turbulence throughout their unit of study experience. Many of this cohort were focused on the content or technical sides of the learning, rather than any of the more profound learning opportunities available to them. This was highlighted by S02 saying that they experienced “nothing too extreme, because it wasn't a question about my character or what I believe in, it was more of expanding my knowledge and my research” (S02). Similarly, another student remarked that apart from some general assessment anxiety, their unit of study experience “didn't evoke much other emotion, to be completely honest, it was more like a mandatory course that I had to do that didn't necessarily spike any curiosity in the actual topics that we were discussing” (S22). While some feeling of surprise was mentioned, this was mostly in relation to content. For one student, they were “quite surprised in the different ways that design is used in the real world, I don't think I was expecting to really learn that” (S05). Correspondingly, content was the focus for another student who was “really surprised about the gambling and betting partnerships or advertisements throughout the sports” (S09). These PT1 students’ recollections further evidence their lack of disequilibrium experienced, in line with Mezirow’s (1991) theory. Furthermore, their unemotional learning journeys correspond with Taylor’s (2000) assertion that emotions provide the impetus upon which learners critically reflect. Without experiencing disorientation or the emotional premise upon which to reflect, these learners are unable to engage with the fundamental stage of the perspective transformation process. It emphasises that while educators are responsible for the design of the overall learning environment, each learner owns their own learning journey based on their individual circumstances (Wang et al., 2021).

Contrastingly, the PT3 cohort cited multiple conflicts in their unit of study experiences, particularly in the group settings. In Design, one student described their difficult team environment: “working in the group setting, that was challenging, and there were also challenges of learning from each other, listening to each other as well, there's actually quite a

bit of argumentation, and it was a struggle to get a finished product out” (S28). Students in the group not feeling heard was described by another student: “we just had a group of people who were very smart, had excellent ideas, but didn't want to listen to anyone else ... I was just frustrated, because we would have meetings, we would get nowhere, it would just be everyone talking at each other” (S13). The source of frustration for S04 was an idle group member: “one of my teammates, she didn't really understand what we were doing, I'm not bitching about her, just saying that things happen, cause me and my other teammate [had] anxieties and [it was] very stressful at that time” (S04). For an Interdisciplinary student, an unfortunate grouping with absent teammates resulted in their difficult situation:

It was very testing for me in so many ways ... there were these 3 people in class, and I had said in my mind, “I hope I don't get grouped up with them”, and they're the ones I got grouped up with! And I was just like, “Oh, you see, this is just my luck”. And I knew why I didn't want to group up with them, I knew they weren't going to do anything, I knew they weren't going to contribute the way I wanted them to contribute ... they weren't doing [their work], and that was making me panic, making me stress.
(S16)

PT3 students also expressed varying self-reflective anxieties, highlighting their cognitive dissonance. For two Design students this was about being feeling insecure about their own skillsets: “I'll start with anxiety ... I think 99% of my classmates, they came from design background, and I was not so” (S04) and “I am very anxious because I didn't know about design thinking” (S11). An ICPU student also described vague answers they were receiving from teaching staff, further reflecting, “that's almost a bit of a reflection of what you expect in further work and the real world, is that there isn't a rubric that says how to write every sentence, but I think it made me a bit anxious” (S13). Other PT3 students dismissed anxiety but went on to describe their experiences using related words such as “apprehension” (S19), “frustration” (S16), feeling “nervous” (S12). This data is consistent with the finding of Grund et al. (2024) that negative emotions such as frustration and stress are principally experienced when encountering novel experiences. These findings lend support to the notion of productive struggle as an essential aspect of the transformative learning processes and an indicator of meaningful education (Murdoch et al., 2020). It also emphasises the critical role of the educator in skilfully empowering and assisting students through this turbulent process.

PT3 students were also clear that they had a non-linear emotional journey as they faced and overcame their various hurdles. One PT3 student recounted that early assessments brought on an “anxious moment ... that was definitely a bit stressful” (S01). This was followed at the end of Semester by “crunch time ... that was a bit anxiety inducing, but it was also hopeful, we can get this in and get a good mark, this is my best work, we've all put everything into it” (S01). Another student described their experience as going “through like stages of denial, and I guess acceptance in a way, of going, ‘No, it's okay’, and I feel a lot happier and a lot less scared, I think, having done this subject” (S12). Other PT3 students related to this journey, saying their experiences were “a bit frustrating at the time, but I think it's positive overall” (S13) and “although it was painful, it was actually good” (S14). One student who “dreaded the group work component a little bit ... you end up with those awkward conversations at the

start, and I especially hate when you have to make your own group” (S19) eventually came to say by the end, “it was honestly pretty good” (S19). Similarly for an interdisciplinary student, their groupwork “was frustrating at the start ... we're not only doing our work, but we're also having to translate for these other members and explain things multiple times ... it felt unfair, but I think yeah, now I would be a bit more patient and understanding” (S21). A Design student said that using new approaches in a diverse team was “a hard thing to do ... it wasn't easy ... it was pretty challenging” (S25), but changing their mindset was “very helpful, very supportive for me” (S25). This kind of journey was summed up with many emotive words by a Health student, who reflected:

The change was really difficult in the beginning ... I felt really nervous and a bit awkward as well ... I recognised that I had a lot of things I had to improve on. So, initially, I felt a bit underwhelmed, a bit sad that I wasn't able to really do the best I could. But as time, as time happened, and the more I communicated, I felt a bit more encouraged, a bit self-empowered, and a bit more confident as well ... which I'm really proud of. (S31)

Two students also explicitly used the term rollercoaster. An Aboriginal education student described their journey hearing from their guest speaker:

I think it could be described, a very basic analogy, like a roller coaster. Yeah, it starts off kind of mid amount, and then you climax to a tipping point where you kind of see exactly what abuse they went through, and there's even like scars, we could see them, it's not something that the Elders were hiding from us, nor should they hide it from us. But yeah, I think that was kind of the tipping point. (S10)

Another student candidly described their unit of study journey as initially unsuccessful regarding some assessments, reflecting that “it was successful in the end, but unsuccessful emotionally, like it was this roller coaster” (S18). They further described that their anxiety and negative experience in the unit of study was balanced out by their excitement, hope and passion, saying these conflicting emotions “kind of level-headed me” (S18). A range of affection was also felt by one student, commenting, “I definitely experience a lot of feelings and a lot of challenges, and as well as I gain a lot” (S04).

This data clearly demonstrates PT3 students encountering conflicts, anxieties, and emotional turmoil and subsequently proceeding to have meaningful and transformative learning journeys. It highlights Mezirow's (1978b) notion that perspective transformation is catalysed by an experience inconsistent with the student's current worldview, often associated with initially negative emotions. It highlights the essentiality of, and need to embrace, dissonance and conflict in the transformative learning journey, rather than avoiding it (Taylor, 1998). The data corresponds with the notion of 'crossing the threshold' and the difficulty and negative experiences experienced between not knowing and knowing (Meyer & Land, 2005). The results resonate with Mezirow's (1997) assertion of learners actively engaging with their thoughts and feelings in the meaning making process resulting in changes that guide future behaviour. PT3 students' group conflicts catalysing their learning journey corresponds with

Taylor's (1998) assertions that transformative learning is affective learning that is group situated, time consuming and effortful. It highlights that importance for educators of facilitating opportunities for students to challenge and redefine their destructive habits through critical dialectical discourse and the incorporation of other's perspectives (Taylor & Cranton, 2012).

6.4.4 Realisation of change - "it came to life, it crystallised"

Dirkx (1997) asserted that transformation involves dialogue with unconscious aspects of the psyche and that learners gain insight about themselves outside of conscious awareness. Mezirow (2006) similarly argued that most transformative learning occurs outside of the learner's awareness, thus uncovering when learners became aware of their process of change is beneficial in understanding their learning journeys. This section will discuss when PT3 students first realised that they had started to change, or changed, because of their trigger event.

Most PT3 students were very clear about the point at which they became aware of themselves changing. Of the 28 PT3 students, 19 claimed they became aware during the unit of study, five stated they realised changes both during and after the unit of study, and four realised after the unit of study, including one student who realised their change in the interview process itself.

Students who actively realised they were in a process of change were prompted by their unit of study learning activities or assignments. For one student, it was "actually a specific time, it was the second lecture that was happening" (S26). For S14's realisations regarding their biases, "it was as it was happening because they were bringing them up, and I was like, 'Oh, wow, maybe I sometimes do that', and as we did our group work in that class, I would be like, 'Okay', taking a step back" (S14). A Leadership student's realisations "would have been 'while', so, about maybe week 5, 6, 7, at some point everything just clicked" (S07). For an Aboriginal education student, their change due to the Elder guest speaker started "during hearing those stories – I was quite upset, I think most people were very silent, the atmosphere kind of changed, but I think it was more so afterwards when everyone just sat in silence" (S10). These examples highlight the educator's importance in constructing learning environments that stimulate change with suitable and methodical thought provocation through critical reflection and critical discourse (King, 1999; Mezirow, 2006; Brock, 2010).

A Music student's change began immediately, reflecting that "in this subject in particular, you have to be open minded, so I guess in a way, it started from when I began the subject and stepped into my first class" (S12). One student described how a learning activity using power matrices and understanding people's influence led them to gather a great insight around the reason for Design: "I got to know these things basically govern how the design needs to be made, and that's the reason where I thought, 'Okay, so this is changing for me, the whole perspective is, in fact, changing for me', starting by week 3 itself" (S24). After completing a cultural competency module and beginning group work with international students, challenges emerged as predicted by the theory for one student, realising they had encountered their disorienting dilemma: "definitely in the process of being in the group and working in the

group I realised, those warnings that were given in the module, it came to life, it crystallised” (S21). For a Law student, it was both in class activities and an assignment that brought upon their realisation of comparisons to their home country: "During class, when the teacher explain about this is the situation, this is the rules and process ... I try to always compare it back home ... when I did my assignment, it's always like trying to compare it” (S03). When completing assignments, S19 realised their memory of content from the unit of study was significantly increased due to the class discussions. These examples not only highlight student’s disorienting dilemmas, but encountering these so early in their unit of study experiences indicates that deep approaches to learning were likely being utilised, where learners were personalising meaning and integrating knowledges (Biggs, 1987).

Reflective assignments were the source of awareness of change for other students. Halfway through the semester, a reflection task forced an examination of S13’s role in the group: “at that point I started to realise that how I was approaching the group project was very different to anything I'd done in previous semesters” (S13). For a Design student, their final reflection prompted a sudden understanding of a quote from their facilitator, “that was when it kind of hit me ... the reflection I genuinely think is what made me retrospectively then look back and be like, ‘Oh, actually, I changed a lot of my viewpoints and perceptions throughout the semester”” (S18). These reflective assignments provoked the critical reflection upon habits of mind as well as bringing them to consciousness for students, evidencing the fundamental role and importance critical reflection in the transformative learning process (Mezirow, 1997).

Students who only realised they had changed after their unit of study experience had a different process of realisation. For some students, it was a process of small accumulating trigger events that prompted their change. One student reflected, “I don't think I realised while the change was happening – I guess, maybe reflecting back after we had submitted the project, and after I was out of that moment, I realised, ‘Oh, yeah”” (S08). For S15, they would notice a few hours after each class positive feelings regarding their increased group engagement and that it was ‘really nice’ and ‘just so natural’. They recounted that they “didn't actually really think about it in the moment” (S15), it was only reflecting after the unit of study that they realised their shift. The process of accumulating small changes and realising later that they had changed was aptly captured by one student:

For me, it was definitely, retrospectively. I think it's very hard to realise that things change ... each little step was something which was like, ‘Oh, yeah, of course’ ... but it culminated and towards the end of the semester, I could really see that the outlook was different. So, there wasn't any instance where I could go, ‘Oh, that's when I realised things were different’, I just looked at my own character and self and thought, ‘Wow, I have changed trajectory’. (S28)

For two other students, their realisations only came after the unit of study when talking with friends and family. For S16, a discussion about leadership with a relative “brought me back to that unit, and again, it's been a few months since I finished the course, and I only recently started thinking about it ... when my relative kind of brought that to light recently, I was just like, ‘Okay”” (S16). Another student’s realisation also came much later when “talking about

it with other friends from other units after ... and by telling them about what it was like to do this kind of work” (S08). These instances highlight that unrealised changes can still be brought to attention by social interactions well after the unit of study experience has concluded. This finding is consistent with a prior study at the institution that revealed that both social and work experiences can manifest students’ transformative learning experiences months after the unit of study has concluded (Northwood, 2021). This data corresponds with, and builds upon, Mezirow’s (2006) assertion that transformative learning often occurs outside of awareness, with third parties such as educators, or in these instances, friends and family, bringing them into consciousness. The process of additional change and reflection after the unit of study experience is explored further in the last section of this chapter.

The process of realising a perspective transformation is occurring, or has occurred, was often associated with feelings of surprise. Surprise was often expressed by PT3 students in relation to one of their assumptions being violated and requiring re-calibration, leading to an increase in self-reflexiveness. For one student, their expectations of groupwork processes were violated, reflecting, “I think I was surprised by how my relationships changed with other people in the group ... we all got quite close working together doing a whole lot of meetings and stuff, I came to respect them more” (S08). Another student’s assumption of themselves was debased, recounting, “I was surprised that I didn't know as much of myself as I thought, and then it just made me curious to learn more” (S15). Another student recalled how being shown views from sections of society that have different views to theirs surprised them: “it was really interesting to have your eyes open to like, ‘Oh, there are all these other subsections that have completely different views, and how do we tackle science in that area?’, so that was interesting” (S13). Violated assumptions leading to reflective cycles were also demonstrated by a Health student in two aspects. Firstly, regarding different health needs and outcomes for varying sub-sections of society and taking a holistic view of health, and secondly, regarding their Coordinators’ “emphasis on self-regulating and motivating ourselves to complete things on time [was] also very surprising to me” (S31). These students’ reflections demonstrate how revising assumptions moves learners towards a more sentient self-knowledge (Meerts-Brandsma et al., 2020).

This section has highlighted the array of realisations of change experienced by students in the perspective transformation process. Many of these changes were small accumulative changes, consistent with the theory, and highlighting the importance of the roles of the educator, critical discourse, and critical reflection in both facilitating and realising these transformations (Mezirow, 1994). Consistent with previous findings, students re-examining their learning experiences can be surprised to realise that life lessons have been learned (Brock, 2010). In concert with Apte’s (2009) findings, these results provide educators with further impetus to facilitate learning activities that encourage learners to investigate novel parts of their being, where surprise can be evoked, and assumptions interrupted and revised.

6.5 Social exchange

Developing a new perspective through transformative learning requires negotiating change in relation to others, aligning with Mezirow’s (1991) fourth phase of perspective transformation.

These social exchanges occur as learners resonate with others in their social environment through discussion of ideas and feelings, finding connection through mutuality, and reciprocating feedback (Grund et al., 2024). This section will subsequently discuss social support received by students from their educators, teammates and classmates, and family and friends.

6.5.1 Support from facilitators

Robertson (1996) posited that a skilled and responsible educator is required to facilitate the complex and emotional process of transformative learning. Notably, those within this study who did not experience perspective transformation were generally more dismissive of the role of their facilitators in their unit of study experience.

A PT1 interdisciplinary student shared their frustration that their lecturer and tutor “didn't know as much about individual topics, so we couldn't really go to them to ask them about our specific question ... that made it especially difficult” (S22). This comment also highlights a focus on being provided with specific content guidance, consistent with task-oriented instrumental learning (Mezirow, 2000), rather than seeking to be supported in communicative learning. For a Leadership student, their dislike of their unit of study experiences stemmed from their perception that “the tutors didn't seem to be like aligned with each other at all ... I wasn't very happy with my tutor because I don't think he followed the rubric at all when marking our assignments” (S23). They further expressed their frustration that “the assessments were quite subjective, it's not like math where there's a correct answer, and you either get the marks or not” (S23). These students' grievances and perceived unfairness led to their disengagement from the learning journeys and highlights Biggs' (1989) assertion that students' approaches to learning can be impacted by their perception of the learning environment. It also demonstrates the concept of potentially 'miseducative' experiences that interrupt the learner and discourage them from participating further and more meaningfully in the process (Murdoch et al., 2020).

Students who did experience perspective transformation frequently cited their teachers' importance, both from their Coordinator and their class tutor. In contrast with S23 above, a student in the same unit of study reflected that their “tutor in that unit of study definitely helped, she facilitated a really open and comfortable environment for me to be able to speak up in, as well as the group that I worked with” (S15). Guidance from tutors assisting students' learning journeys was common. For S10, they had a tutor who was “very helpful, and she made herself available to ask after class if anything was too overwhelming, or we needed to have a chat” (S10). Similarly, a Design student was grateful for the support of “my tutor, I would really to thank her, she basically helped me through ... [she] was especially fun to learn from” (S24). Another student in this unit commented that their tutor answered many of their questions, saying “he definitely helped me a lot” (S26). In Health, students were similarly appreciative of their tutor's role, with one saying they “got feedback from my tutor and that's why I get a lot of confidence and improve” (S34). These students highlight the importance of educators supporting transformative learning experiences prioritising

relationships with students, showing their social-emotional competencies, and demonstrating authenticity and interest in their students (Galtseva et al. 2020).

It was not only tutors' positive advice that assisted, with one student noting that their tutor "didn't only say the positives, I loved how she gave constructive criticism, so that really kind of motivated me to improve" (S31). In Music, one tutor provided "reassurance: it's more so like, 'I know you feel like you're doing the wrong thing, but actually, it sounds great', or, 'Yeah, that's a really good idea that you just brought to the table, let's actually continue with that'" (S12), noting the supportive community that was built in the classroom. This was extended by a student in another unit of study saying their experience allowed them to "gain friends that maybe last life long, or teachers, some of my tutors, they even became my friends" (S04). This data reflects Bullen & Roberts (2019) findings that tutors' ability to foster a classroom community aids the transformative learning process through enhanced social support and capacity for critical reflection.

This appreciation for teachers was also extended to students' Coordinators. Several students spoke of passion, with one remarking "[The Coordinator] was just so passionate, I still remember the way he talks ... I think it was almost transpiring through the students" (S18). For a capstone project student, the Coordinators' "constant feedback on whether what we were doing was the right thing, that was helpful" (S07). A Design student also praised the supportive relationship they had with their Coordinator who "helped me to understand, she made me the subject" (S24). This data aligns with Cranton's (2006) notion of an integrated academic experience being provided that draws from both purpose and passion. These results also corroborate Apte's (2009) notion that opportunities and positive experiences with learning support from teachers and peers promote transformative learning experiences. Similarly, it reflects participants becoming engaged with building confidence, initiating action, and assessing feedback, crucial steps in the perspective transformation process (Mezirow, 2000).

6.5.2 Teammates and other students

Group-based reflective learning has been found to increase empathy and foster perspective transformation and thus impact reflective quality (Chick et al., 2009). Indeed, students who experienced perspective transformation often cited their teammates and other students as supportive factors in their learning journey.

For some PT3 students, it was the support of their cohort or classmates generally that was important to their perspective transformation. After an emotive guest speaker in Aboriginal education, one student cited the importance of having a "cohort that you can get support from, I had friends that we would check up on one another after that chat" (S10). This student further elaborated that "if I was alone, then you really wouldn't have people to bounce off ideas or thoughts from, and that's a major part of learning, reflecting or getting over these difficult emotions" (S10). One student in Leadership said that in class discussions it "was good to hear from other students, rather than just staying in your own bubble" (S14).

Teammates also played an important role in supporting PT3 students' learning journeys. An interdisciplinary student cited important support from "my group members definitely, so the other group members who were domestic students, we did talk a lot about how we can accommodate for these international students" (S21). This teammate support was felt by one student who said "even when we had different opinions at one point within the group, there was never any hostility ... they were really open to exploring [my ideas] as opposed to just shutting it down just because I didn't feel confident" (S15). For a capstone project student, it was their teammates' blunt and honest written critique that supported their learnings about themselves, prompting them to try to foster a more open environment where constructive criticisms could be discussed easily (S07). These examples of students resonating dialogue, actions, and feedback in group settings demonstrate Mezirow's (1991) fourth phase of perspective transformation where students negotiate change as a shared experience.

Teammate support for two students came from existing friends in their group. This allowed one student do 'sanity checks' to check if they were leading the team appropriately, stating, "those sanity checks were probably the biggest thing that helped" (S07). For an interdisciplinary student, having both their partner and a best friend in their group meant "they were all sort of on that same journey a little bit and so I always had someone to talk to about it and that sort of reinforced, or at least adapted, the way that I thought about it" (S28). These instances of supportive roles from those within the unit of study experience with trusted relationships highlights the importance of fostering students' learning communities, co-connectedness, and willingness to talk. This mirrors findings that both educator-to-student and peer-to-peer relationships are important factors in fostering engaged learning communities that participate meaningfully in dialectical discourse (Sidelinger & Booth-Butterfield, 2010), which is crucial for transformative learning.

Teammates played a further role in assisting the new perspectives to be formed by providing diversity and living, alternate frames of reference (Apte, 2009). For one student, their teams' diversity in skills was "really, really, good and because we all had differing areas, we were comfortable with and we were good at, we were able to compensate for our weaker areas" (S07). For another student, "seeing it through my group members' perspective whilst doing group work" (S30) allowed them to see what others valued.

Cultural differences were also seen as important aspects of students' learning journeys. For one Design student, their perspective was assisted by informally connecting with their teammates who were both "from a different culture altogether, but we all gathered around and work together, so that was one big thing" (S24). Similarly, another Design student said their learning experience was not easy because "me and my group mates all from different backgrounds, we had to combine our ideas, our insights, but with that being said, I feel this is a great course for my personal experience, because I can apply it to more practical work in my future" (S25). This sentiment was echoed in an interdisciplinary unit where "we were diverse in ourselves, we all came from different backgrounds and disciplines, so, having a different awareness ... that was really foundational" (S21). These examples highlight the diversity introduced by cultural differences and their important role in the transformative learning journey for some students. It furthers the notion that transformative learning can be

facilitated through a pedagogy of discomfort by placing learners in different cultural setting than they are used to, thus exposing them to novel discourses that may act as a conduit for transformation (Stone et al., 2017). As demonstrated, this has implications for both domestic and international students in espousing novel cultural situations, and further compliments findings that these differences are crucial in dismantling meaning perspectives related to culture (Jones & Walker, 2019).

Assigned groups, as opposed to student-formed groups, was also discussed by PT3 students. In Leadership, one student “really enjoyed how they assign the groups based on a different background for each person, and also different personality types, I thought that was pretty interesting” (S19). Similarly, an interdisciplinary student spoke highly of their experience that mimicked “what working will look like beyond university, so being part of a diverse group that we can't choose who we're going to work with” (S21). They explained that it was an important part of their experience “being put into a random group of people and having to figure out what dynamic works with us” (S21). A student whose group was not assigned wished their unit of study organised the groups intentionally for diversity, explaining, “I think you get a much greater experience of actually speaking with other students, people from different cultures, different backgrounds, its different people” (S18). They added that acting as a facilitator in an unknown and diverse group is closer to “an actual real-life setting” (S18) they will encounter in their careers. These students are demonstrating a curiosity in, and mutual appreciation for, a togetherness with their learning community. Grund et al. (2024) argued that this relationality should be the focus of education aiming to foster transformative learning experiences. This data also furthers the notion that the nature of learners’ groups, support level, and educational context are important factors influencing the transformative learning experience (Bullen & Roberts, 2019).

6.5.3 Family and friends

Outside of their educational contexts, PT3 students also demonstrated support in their perspective transformations from trusted relationships with family and friends. One interdisciplinary student noted that talking to people from outside of their unit of study helped them to contextualise their journeys, saying “it was good to talk through it with some other people outside of that, and get a fresh opinion, and our family members as well” (S08). These different opinions were needed for one Aboriginal education student from their international friends given that they had difficulty discussing their learnings with domestic friends: “they are afraid of opening this topic ... it is not really a topic that everyone is comfortable to talk in Australia” (S34). Other PT3 students spoke about their family members, with another interdisciplinary student saying, “I would speak to my mum about it ... she's really good to ground me down ... she'll bring up those emotions and those revelations, so I feel like she was part of that as well” (S30). Assistance from family members in the perspective transformation was encapsulated by one Design student who recalled fondly:

I think particularly my family, my wife, she's my support system. I always told her about everything and she's really helpful to me to get through this stressful phase, and then really supportive too, when I'm getting to the peak on the learning phase. (S25)

This data aligns with Ball's (1999) findings that kindred others provided the most reinforcement during the social exchange stages of perspective transformation. It also reinforces the importance for learners to have strong social networks that provide avenues for discussion, contextualisation, and support for their transformations.

These three domains of social exchange with educators, teammates and classmates, and external family and friends, highlight the importance of supporting roles in the perspective transformation process. Indeed, some students directly transcended these in their remarks. One student reflected, "I always want to get feedback from my groupmates, or even my significant others, I want to improve in my life, especially for my future, and especially now I have a family, especially now for my family" (S25). Similarly, another student commented, "I'm more familiar with the challenges right now, and I think the connections that we build with not only partners, our teammates, or the classmates, are really important, and the tutor as well – it's really important" (S06).

This data lends further credence to Bullen & Roberts (2019) call to enact relational teaching mechanisms to support perspective transformation as learning is unrealised until it is facilitated through interpersonal connection. While Mezirow (1978b) emphasised that perseverance is needed in the perspective transformation, often with temporary assistance from peers and educators, this data also extends that notion into the trusted social domain of family and friends.

6.6 A new perspective

The transformative learning process necessitates time for inquiry, experimentation, and revision as learners move into their new state of being (Nohl, 2015). Mezirow's (2001) perspective transformation process denotes phases five to ten as developing a new perspective where options are explored, actions planned, knowledge acquired, new roles adopted, competencies built, before finally being re-integrated back into one's life. This section correspondingly discusses how learners shifted their action and meaning, the role of critical discourse and self-reflective assignments in this process, and further transformations experienced by learners after their unit of study experience.

6.6.1 Shift of action and meaning

The transformative learning process involves an establishment of new routines where skill development is crucial for finding stability (Grund et al., 2024). Accordingly, students who experienced perspective transformation in this study cited four main areas in which they had developed competencies that would impact their future actions: empathy, leadership, open-mindedness, and confidence.

An increase in empathy was cited by many PT3 students in their change process. Design students frequently cited growth in this area. One student said, "I think in the process my mindset has changed ... when you have conversations with others, you need to show your empathy as well to understand the person's real situation, and then maybe you can build a more harmony relationship with others" (S04), elaborating that this was a universal solution. Another student mirrored this, explaining: "I am more empathetic to others, it's one of the

core values that was taught” (S11). A third Design student noted that their growth in empathy could be applied to their work life, saying their projects could benefit from a “more human centric approach” (S25). Similarly, a Health student explained how they had grown as a person and also understood their profession more deeply: “it really changes my beliefs and my opinions about how I view other people and about myself ... it really changed my perception and the way I act towards people, I'm a bit more understanding of other peoples' situations are due to maybe structural societal issues rather than an individual problem” (S31). This data provides evidence to Mezirow's (2003) assertion that empathy and social deftness are strongly associated with, and assists in the process of, critical reflection. It also highlights the importance of educators' compassion in appropriately and intentionally facilitating students' empathy development in a nurturing environment (Wang et al., 2021).

A growth in leadership skills was frequently cited by the PT3 cohort. A capstone project student said due to their leadership responsibilities they now realise “I'm a much better leader than I thought I'd be and that my skills seem to really shine when it comes to just dealing with people” (S07). Based on this newfound confidence, they will now “absolutely take way more leadership stuff whilst I can and be a lot more proactive” (S07) in leading others. For an exchange student, their lessons in the workplace around management practices could be applied in the future, reflecting: “if I'm leading a project ... I can instil a sense of responsibility among everyone in my team” (S35). One interdisciplinary student described how their leadership experience helped them to understand possible future roles they could play, saying “I can be someone leading the whole team” (S06) if contextually appropriate. Another interdisciplinary student colourfully reflected that despite being ‘a very shy person’, in the future “if I have to be the leader of a group project, fine, I'll do it, I'll tell people to step up ... I think from now it's going to be a Jekyll and Hyde situation; I'm going to bring out the other side of me” (S16). This idea of becoming adaptable in leadership was also reflected by a third student, saying “I'm willing to be flexible in terms of what my role is, so I'm okay with having to be a little bit of a chameleon depending on what the group needs at that point in time” (S13). These students have clearly demonstrated how their perspective transformation from their unit of study experiences have changed their approach to leadership with a particular focus on adaptability in future applications. It also highlights how their re-integration of learning back into their lives are conditionally dependant, in line with Mezirow's (1991) final phase of perspective transformation.

PT3 students also cited their growth in open-mindedness stemming from their educational experiences. An Aboriginal education student described their new mindset as “just being more open minded, I just don't have any assumptions anymore” (S10). Minimising prejudices and increasing tolerance was echoed by another student who said they would “have more of an open mind when going into group work ... now I would be a bit more patient and understanding ... having a bit more awareness” (S21). A Leadership student also extended this compassion to themselves, saying “knowing that it's okay, you can reflect on your strengths, your weaknesses, you'll see where they go” (S14) and allowing leniency for their mistakes. They expanded:

There was a lot more about unconscious bias that I hadn't really thought about, and I do find myself reflecting on that and catching myself a lot more about unintentional things ... [now] when I go into group projects, if I feel annoyed or disappointed, just like stopping for a second and thinking, 'Is it really their fault, or is there something I could do and how can we work through that?', and I find myself doing that. (S14)

For S19, their unit of study helped them to think more deeply and engage with others more frequently, displaying their open-mindedness toward others. They now view class discussions as helpful and have “tried to be a lot more interactive in my [other] tutorials, because I have found that it actually does help me focus better, and it helps me retain the information a bit better as well, when I'm more actively engaged” (S19). This student’s transformation provides further evidence to Bullen & Roberts (2019) findings that more personalised and meaningful learning experiences are more likely to lead to students adopting deep learning approaches. Relatedly, a Design student’s new mindset has allowed them to think “a non-linear way ... [previously] I didn't feel like I was a person to do design thinking ... I'm just a machine; I'm just a little part of it ... [but now] I can think freely” (S26). This data saliently highlights Mezirow’s (1991) concept of the new frames of reference of learners being more open, broad and reflective.

From an emotional perspective, multiple PT3 students expressed hope and were clear that their learnings had initiated a cycle of self-improvement with practical and impactful relevance for the future. S21 described that it was “exciting to get a real-life experience that we will probably most likely have in the future after university, and then hopeful that it isn't that scary in the end to work with a team of people you don't know ... there is light at the end of the tunnel” (S21). This hope regarding working successfully with others was matched by another student who commented: “hope was definitely one of the big ones about me just thinking, ‘Oh, maybe I can actually overcome my shyness that I usually have when I meet new people’” (S15). This future application was reflected by another student, reflecting that “it gave me a good experience when it comes to a work point of view and learning how to apply that work into my real life... so definitely it instilled a sense of hope in me” (S35). The hope felt by PT3 students’ learning was not just in application to work life. One student said they “definitely hope that I'll reach to a point where I can use it everywhere I want in my life” (S24). Starting a future cycle of success was mentioned when S18 remarked that hope was their ‘biggest’ feeling, saying, “I can do so much with what I've learned, and I can take this so much further, and I feel so passionate and driven to pursue this” (S18). This was analogous to another student saying they were hopeful that they “could really be able to work hard on something and produce results that ensured that I was learning and applying skills” (S31). For an Aboriginal education student, they reflected that “coming out of that unit of study, I was more hopeful, maybe prepared, I would say, to be more culturally aware, which I guess was the goal of the unit” (S10). These positive emotions reflect those typical of transformative learning experiences where learners participate in social exchange and form new meaning and actions, where one’s values and the world are once again congruent (Grund et al., 2024).

A Music student’s surprise at their own performance violated the assumptions they held about themselves, leading to a universal development of confidence:

There was a couple of times where I'd have to start a piece of music, and it was just me playing solo, and I'd be super, super nervous ... because I wasn't so sure in my skills, and then I started playing and coming up with ideas. And I was actually surprised, I was like, "I'm doing okay, and I really like what I'm coming up with", and then the next person would come and join in and play, and we'd start creating this whole piece, and it was beautiful ... I was just really surprised but also very hopeful, because I know I can play now, I know I can do this, and that has helped me develop my confidence throughout everything really. (S12)

These PT3 comments contrast starkly with PT1 students' expressions of hope that was vague, "just kind of a bit more like hopeful for the future" (S05), or were re-affirming of their existing beliefs: "I guess I was also kind of hopeful in the sense that I saw that I was on the right track, like when they were teaching us how to make our CV, or like how to talk in public and in like how to behave" (S23). This data highlights that transformative experiences start to instil a sense of hope in students for the future where future applicability of their learning is appreciated and a cycle of improvement can be seen. The hope of these learners aligns with the positives emotions of gratitude and wonder revealed in previous studies (Grund et al., 2024). The process of meaning-making and a re-integration to the learner's whole in this phase corresponds with Ball's (1999) findings where students' realisations when overcoming disequilibrium were linked to feeling optimistic and perceiving greater future possibilities.

In addition to enhanced confidence previously mentioned, several more PT3 also cited their growth in confidence. For one interdisciplinary student, their experience made them feel like they "got a little less self-conscious and a bit more confident in saying, 'Yes, I have these skills and I'm able to apply them'" (S30). Another pupil from this unit of study happily recalled their change from their learning journey: "that's my achievement, I really like it, I really learned a lot, I know there's more I should learn, and it gave me a sense of confidence to do more challenges in the future" (S06). Reflecting on their newfound leadership skills, a capstone project student said that after feeling initial anxieties, they benefited from "an increase in confidence as those went away" (S07). A Leadership student reflected on their incremental changes, saying "the biggest thing with this unit was that I was gaining a lot more confidence ... it wasn't really a big thing, but more of a gradual thing, comparing myself and how I was at the start of the semester to at the end" (S15). After their increase in confidence from their unit of study experience, a Design student said that they are now leveraging this mindset and "implementing the same across all my units, and I've seen good grades coming in" (S24). A Music student described their shift in mindset that was encapsulated in their end of year performance: "me at the start of the unit would have been, 'Oh, that's horrible, I'm not great'; me at the end of unit was like, 'Oh, you know what, it is what it is!'" (S12). They explained that this increase in confidence has changed their musical process: "because of this class, I've started playing my instrument more ... I play more now, I am not as afraid to make a mistake, because I know it's just part of the process ... I definitely am a bit braver now" (S12). These students are aptly highlighting that a shift of action or behaviour during the perspective transformation has led to a shift in meaning or perspective,

which correspondingly is being integrated back into the students' broader practice, aligning with Mezirow's (1991) final phase of perspective transformation. This data corroborates the notion that affective learning results in the development of courage, self-trust and personal strength (Neuman, 1996).

Overall, the results in this section revealed PT3 students' deep engagement with educators, peers, and community, and transformative learning that is thoughtfully re-integrated back into multiple spheres of self with harmony and enlightenment. Kiely (2005) posited that these learnings more likely to persist ongoingly due to their social construction and support. Mirroring the findings in the quantitative phase of this study, these results contribute meaningfully to the field by overcoming limitations of previous findings' absence of evidence regarding later stages of the perspective transformative framework (Bullen & Roberts, 2021). For educators, it highlights the moral orientation of transformative learning both at the individual and institutional level, reinforcing the cardinal nature of transformative learning in higher education (Mezirow, 1978b).

6.6.2 Critical discourse and self-reflective assignments - "It's like a mirror to me"

Most transformative learning occurs outside of the learner's awareness, and as such, the role of the facilitator is to enhance the prospect and ability of the student to engage with the process by moving it into consciousness (Mezirow, 2006). It was further asserted that critical self-reflection and critical dialectical discourse are fundamental factors in this process. Subsequently, this chapter will highlight the role of students engaging with and enhancing their self-reflectivity through these assignments and learning activities and its criticality in the transformative learning process.

Importantly, students who did not experience perspective transformation demonstrated that their thought processes regarding their reflective assignments and learning activities were generally narrow or based in instrumental learning. This cohort also communicated that they would not have performed these tasks without being forced, and none were able to demonstrate what the reflections helped them change about themselves. One interdisciplinary student recalled that their reflective assignment explored their team's lack of tension, saying "my main takeaway throughout that reflection was citing that we probably needed to have more debate and more discussion" (S22), adding that the assignment was a "mandatory way of me reflecting on the unit that I probably wouldn't have done otherwise" (S22). Another student in this unit stated that their learning activities helped them to reflect on the experiences within the class, "but on a broader scale, I don't think I necessarily took more of a macro lens to evaluate my studies – I think that's also because of my mindset going into the class, it didn't really occur to me to extrapolate some of the activities" (S17). A Leadership student's reflections helped them to "just boiling down things that you already know" (S23) or to mechanically "break down when we were meeting, what we were meeting for, what was our objective, what we accomplished" (S23). These content and process focused approaches to their assignments that did not impact their future version of themselves was encapsulated in their comment:

I wouldn't say it made me necessarily sit and ponder about existence, you know. I think it was more like, 'Okay, this is my assignment, and I have to reflect to complete it', but I wouldn't say after class I went away with stuff to reflect on. I think it was just more when I had to do the assignments, because that's what was involved. (S23)

An Education student also commented that their assignments helped them to think about their experiences again in terms of memorisation:

You had to remember all the all the things you did 2-3 months ago ... you remember the little things, but the little things you remember stay probably longer, maybe forever. So, it helped to remember or reflect on the activities you did, or the sport events you visited. (S09)

While this student does mention reflecting, there is no conception of a change in their beliefs or actions, they instead focused on content recall. Another PT1 student described how their reflective assignment focused on describing how “all of our ideas work together because of our science backgrounds ... I also reflected on my interpersonal skills how I handle myself during the day, how I talk to other people, disagreements, agreements, like the main communication skills” (S02). Despite completing this reflection, this student similarly did not articulate any critique of their behaviour or actions nor what they had changed about themselves throughout the unit of study experience. This data highlights a surface approach to learning being utilised by students, with a focus on memorisation and reproduction (Biggs, 1987). Correspondingly, knowledge is being acquired without meaningful application or personalisation of meaning. These students’ data align seminal descriptions of task-oriented learning – focusing on what one knows, rather than how one knows (Mezirow, 2000; Kegan, 2000).

In contrast, PT3 students were more able to see the value in their unit of study’s learning design, learning activities, and potential for transforming them. This was embodied superbly in one student’s reflection on their learning experience:

From the beginning, you already could tell that [the unit of study] really can change your behaviour and your understanding. But other courses would be just learning knowledge, and you just keep on inputting, you just keep on remembering facts, and it's just hard for you to change as a person. (S34)

This sentiment was echoed by many other PT3 students. For a Law student, their unit of study helped them “to write better, to think better, to critically analyse things ... it's like self-learning ... it tried to ask your brain to think more from your end, so it's not just a descriptive process ... it forces you to think” (S03). An interdisciplinary student said that their unit of study experience brought together two spheres of their life: “it allowed me to see different parts of what I've learned throughout my life experience, and my experiences at Uni in this degree so far, and it allowed me to culminate them all together” (S30). This border-spanning learning was repeated by another student, saying, “with this particular unit, I did find myself reflecting more on the group work, and ‘Wow, that was really good, how can I apply this, or what's changed, to different settings?’” (S01). These students once again highlight Mezirow’s

(1991) final phase in the perspective transformation process of a re-integration into one's life as they cross-apply their new perspectives into different settings.

Assignments enabling students to constructively critique and learn from themselves was widely shared among the PT3 cohort as having enhanced their reflective ability. For one student, the reflective assignment led them to think about “what did I do wrong, and what did I do right, and how can I do better ... and [the feedback] gives me confidence” (S34). Another student had a similar frame of mind: “I always reflect myself at the day, after the class ... I will have this special moment before my bedtime, or during the way home, I will reflect myself, my behaviour: what did I say, and what did I learn?” (S04). They furthered this, adding: “I had a moment that I found, if I didn't reflect, I won't truly learn something at this unit, and with my other units as well – so it's like, life study, life lesson stuff” (S04). This newfound proficiency was also appreciated by another student: “the final reflective component was good in bringing about new ways of understanding ... there was some quality in changing my reflective ability” (S28). These students' demonstrations of the necessity of critical self-examination to realise learnings are consistent with the seminal works in the field (Taylor, 1994). PT3 students' emphasis on exploring their habits and mind and drawing meaning from their experience underlines the essential role of critical self-reflection in the transformative learning process (Mezirow, 2000).

Many of those who experienced perspective transformation were also aware that they would not have realised their learnings, or not experienced them in as much depth, without their reflective assignments. Describing their evaluations of their group members and their final reflective review of their unit of study, one student said, “if it weren't for the assessments, it wouldn't have been probably as transformative for me ... the final assessment was probably the most transformative of my own perception” (S18). Another student said of their final reflective assessment, “after that assignment, I realised a lot of things about the whole unit, so I think that assignment is very meaningful for me, I can review the whole learning of the semester” (S32). The importance of this type of approach was captured by a student who mused, “I believe you can't really grow if you're not reflecting about what you've done in the past ... it's that process of, ‘What have I done wrong, or what could have been done differently, and what could I change moving forward?’” (S10). This importance of this process to bring learning into awareness was captured by an interdisciplinary student:

I hadn't really thought about how our group was going, I was just like, ‘Oh, no, it's not going anywhere good’, and then we had to do a reflection task, and I had to actually think about ‘what's my role in this group?’, and I guess at that point, I started to realise that how I was approaching the group project was very different to anything I'd done in previous semesters. (S13)

They further described that the reflection task involved discussing “‘what have you learned, and how have you changed?’, that was an active part that we had to think about ... overall, the reflections were important” (S13). These themes were echoed by a student in another unit of study when asked if their learning activities and assessments helped them to reflect on their experiences and learn from them:

Yes, definitely, and I think that was especially the case in the final assessment, which was a reflective piece. So, being critical of the experience, of myself, of my team members, that was definitely very useful to understand how our dynamics did impact the group members and our research ... it was definitely a brain mover ... it did have that impact. (S21)

Self-reflective assessments promoting recognition of perspective transformation was also present in units of study where scaffolding, formative reflections were present. A Leadership student noted that “having done reflection tasks each week really helped me just think about myself, and my role as a student, as well as a peer to others” (S15). They expanded that their weekly reflection was useful both for content understanding and self-reflection: “having to force myself to actually really think about what happened this week, or what did I like in this week's module, really helped me just understand the material, as well as build on that” (S15). This was echoed by a Design student who said, “the assignments, of course, helped me reflect ... they're just gradually making me know how to advance” (S26). One Design student summed up the power of a unit of study to enable a transformative experience through scaffolding self-reflections:

This unit, it's like a mirror to me, I would say that a lot, a lot, of things changed, a lot of things, and it connects me with different units as well ... The [unit of study] was like a complete retrospective review for me. I completed the learning activities and the remarks I got from the learning activities, I got to know where I'm lacking, such that I can resolve those issues, if there are any. And when I did, I also got another reflection that I'm improving. So, it was quite active and fun to see that it's improving day by day, and even activity-wise. It was so nice to experience. (S24)

A Health student also recalled how their third communication task provided them with “really good insightful feedback as to how I could improve” (S31). They expanded:

In the final [task], I was able to integrate all of them, and then I was able to achieve a full mark, which I felt very like happy with because that reinforced my perception that ‘Oh, I am really developing’, because my I saw my marks and feedback change progressively. So that made me really reflect on how I'm progressing. (S31)

These instances highlight the transformative power of critical discourse, critical self-reflections, and scaffolding reflection tasks to bring learning into consciousness and enhance the reflective abilities of students. The results lend support to Kiely's (2005) call for educators to design assessments that encourage critical self-reflection and support this with structured opportunities for critical discourse. The findings corroborate the notion that educators should take responsibility to assist their students' development of critical reflectiveness to empower students and assist their transformative learning journeys (Bay & Macfarlane, 2011). Indeed, it underscores the importance of dedicating sufficient time and engaging in continual practice to assist development of these fundamental skills needed for learners to experience transformative learning (Kitchenham, 2008).

6.6.3 Post-learning transformation - “Looking back at it, I think I have imbibed more values in it”

Interviews with students revealed that new perspectives continued to develop and evolve over time after their units of study had concluded. Several students interviewed revealed that their conception of their perspective transformation changed from either completing this study’s survey, or after completing the survey and before their interview.

Two interdisciplinary students stated that the LAS survey distributed to them in the weeks after their unit of study experiences helped them to realise their learnings. In describing when they first became aware that they had changed due to their unit of study experience, one student explained:

Definitely also after we finished the project as well, and you have that time to reflect and thinking about it, and especially while doing the survey that you gave out earlier in the year, it definitely crystallised, ‘Oh, okay, so, my mind did change from beforehand to after’. (S21)

When asked to comment on the survey’s impact on their reflection, they expanded:

I think we take a lot of things for face value. So, when you're going through a challenge, maybe you don't necessarily consider it a challenge, it's just, ‘it is what it is, this is what's happening, we just have to deal with it’. But during [the survey] I needed to think a bit more critically about the experience that I had and explain how it impacted on my own views. And thinking back to it, it made me realise how different my ideas, especially of working in a group of international people, or a diverse group of people, and how that changed in my mind over time. (S21)

A similar conversation was had with another student in this unit of study when they were asked at what point they realised they had changed:

I think, retrospectively. While I was in it, I was sort of just going along doing the steps and then looking back when I was answering these questions, and when I was doing the subject surveys, I was thinking back to the time when we worked on the project, and, yes, retrospective thought. (S30)

When asked to expand on what made them aware of their change, they explained:

Probably reflecting on the group work and reflecting on how we all worked together and realising that we all used our specific skills to come together. I feel like I didn't really realise that throughout the semester, but looking back on the subject, I feel like we did that pretty well. (S30)

While these two students were in a unit of study that specifically had a critical reflection on interdisciplinary and the learning experiences in the unit, this did not seem sufficient to crystallise these learnings, and this study’s survey acted as that catalyst. This highlights the importance of critical reflection, its timeliness, and students’ ability to fully harness its

potential at the time of learning. This data validates the notion that learners' critical reflections upon interactions with others, rather than the interactions themselves, catalyse transformation (Archer-Kuhn et al., 2021). It also suggests that where a unit of study does not have critically reflective assignments, these questions could instead be built into end of semester surveys to prompt the process, noting that these optional surveys often suffer from low response rates. These institutional changes may assist in alleviating and complimenting the tension noted by Walker (2018) that post-secondary education is heavily reliant on using student satisfaction measures to evaluate their programs' deliveries.

One student who was classified as PT1 based on their survey responses, but classified as PT3 based on their interview, explained that their shift in mindset was due to further reflection after the unit of study stimulated through social interactions. They explained this shift in perspective between survey and interview:

I guess maybe at that time I had just finished it ... [but] I really reflected on myself afterwards, because I remember talking to my one of my relatives about this and ... she had said something to me which made me reflect on that unit, which was, she said, 'I really think you should work on your leadership skills'. And I think that hurt my pride a little bit ... I only recently started thinking about it because I remember having conversations with the teacher who was running that course. And I just remember saying, 'I don't have leadership qualities, I don't know how I'm going to lead the group, I need your help'. And yeah, when my relative kind of brought that to light recently, I was just like, 'Okay', I guess maybe that's why my reflections on it changed a bit." (S16)

This capability of social interactions after a unit study experience to catalyse perspective transformation for students corresponds with earlier findings from LAS surveys and interviews in a separate study at the University of Sydney (Northwood, 2021). It provides further evidence that perspective transformation can be aided by trusted companions (Ball, 1999).

For one student, the catalyst for fully realising their perspective transformation was the interview itself. After being classified as PT1 on their survey, the student started the interview by answering that 'yes', they did change because of their unit of study experience and unclearly stated that their expectations were subverted by interacting with students from different musical backgrounds. When further probed on why they said they hadn't changed in their survey, they explained: "I was thinking more about the content we learned, we didn't really even learn anything, and it didn't subvert any expectations, but the sounds we made, and the pieces we made, and actually collaborating with other students in the class, was what changed my beliefs" (S29). Without clearly being able to express what beliefs had changed, they were probed further on their thinking process when selecting their Question 1 statements, responding:

One specific instance comes to mind that, I think sums up all those things really well, basically throughout the term, everyone started off making really normal music. And

then, by the end of the term, it was just weird, it was super weird music, it was just sounds, and people just making sounds ... we had to interpret a score using non-traditional ways of playing. And so, I think I did some weird pick scraping on my guitar or something and there was this one kid that was throwing his shoes across the room! I feel like that relates very heavily to all of those statements. And there was also this one other kid that was like scratching on the blinds and like making polyrhythms using the shutters, and I just thought that was a bit crazy ... but I guess, it's interesting, because, as I'm talking, I'm thinking, 'well, I didn't even learn anything, they didn't teach us anything', but maybe the whole point of us learning was just for us all to be weird together, maybe that's just the whole point of the subject, is that we don't learn anything, we just be weird, I guess. (S29)

A shift in the student's thinking emerged, with further reflection on what they did learn:

We didn't really learn anything technically, but it meant that we could just experiment, and there were no consequences. So, I guess it's definitely expanded my level of comfort with trying out new things ... I've never tried to interpret a non-written score before, I've never tried to interpret something that's not a chord chart, or sheet music, and so that definitely invoked curiosity for me, and it definitely made me think about how it's possible to portray something through your instrument. (S29)

After recalling some further class experiences and explaining their frog life-cycle prompt, they reflected further:

I totally forgot all this stuff happened until you asked me actually ... by the end, I'd made a few friends in the class, and I felt a lot more comfortable ... I definitely learned something, I learned how to communicate nonverbally with people, because we just sit in the classroom for half an hour and just play sounds, and that was pretty awesome ... I do a lot of overthinking, but now that I'm thinking about this subject, I realised I've never overthought this subject actually ... I think over the course of the term, I'd learned to just let go of expectations of myself and of what the music would sound like, and just give it a go, and flow with the other musicians. (S29)

The difference in the student's clarity about what changed for them between the beginning and the end of the interview was stark. This student's interview demonstrates that the interview acted as a reflective aid, crystallising their partially realised learnings into a more complete state. Indeed, it mirrors Tran's (2012) findings that interviews can enhance students' experiences by further engaging them with their learning and enriching these experiences through supported reflection. Consistent with Mezirow's (2012) description of the transformative learning process, it highlights that although dissonance inducing information had been introduced, the student needed further critical examination and reflection upon the incongruence experienced to realise their learning. This student's progression highlights Brock's (2010) assertion that the educator's role in transformative learning is to provide appropriate challenge and thought provocation to stimulate gradual change over time. It suggests there is room for educators to consider how to best foster

reflective environments within, and after, their units of study to maximise the learnings possible from an educational experience. It also indicates the LAS (King, 2009) may be used as an intervention tool to stimulate further reflection and realisation of learning.

The notion of future learning from a unit of study experience was encapsulated by several students who projected their learning cycles forward into the future. Another Music student commented that they “still talk to the tutor and reflect on my experience and go, ‘I wish I could do more of this stuff’” (S12). Similarly, a Design student commented that “the learnings that I had from [this unit of study] is very relevant and can help me in my profession, and in my life, I’m so much happy – you know, looking back at it, I think I have imbibed more values in it” (S11). A Health student shared this joy and applicability of their new mindset for the future when reflecting on their unit of study learnings: “it wasn’t the end of the journey, I still have loads, it’s like a lifetime journey, so I can keep continuing to develop that, which I’m really happy with, because I can do it in my everyday life now” (S31). These examples highlight Taylor’s (2008) assertion that facilitating transformative learning experiences creates potential for students to learn both inside and outside of the classroom. It emphasises that transformative learning experiences are often the starting point for a powerful sequence of shifts in perspective across a learner’s lifespan as they realise their fullest potential (King, 2005). The findings also add credence to the tension educators face in balancing the competing demands of curriculum, students and the institution on classroom time while giving sufficient space to the time-consuming process of facilitating transformative learning (Taylor’s, 1998).

Chapter 7 – A Collection of Tensions

This study has investigated both the Coordinators' and students' views on the transformative learning experiences facilitated, or not, and their reflections upon their personal experiences. The results have indicated that powerful learning experiences can and are occurring, and these learnings are changing students' lives and futures. However, raised throughout interviews were tensions that provided barriers to facilitating or experiencing transformative learning in these settings. Robertson (1999) argued that an inherent entanglement in education exists in the complex and dynamic interactions between student, educator, and institution. Indeed, as Connell (2019) has further argued, the marketisation of modern universities has resulted in a multitude of tensions across the landscape: between teaching and research, between university management and the rest of the workforce, and between profit (or 'surplus') and its civic and moral purposes.

This chapter will therefore discuss hindrances to facilitating transformative learning and demonstrate the impact of these multitude of tensions upon students' and educators' experiences. This is achieved by foremostly addressing the impact of scale, quality, and casualisation upon facilitating transformative learning experiences, and subsequently, by discussing the impact of internationalised cohorts. Thirdly, the chapter explores transformative learning through isolated units of study, rather than integrated programs, before lastly addressing the personal costs of facilitating transformative learning and its incongruence with institutional recognition.

7.1 Scale, quality, and casualisation - "When we get big, we get fractured"

The rapid growth of higher education as an export of Australia, particularly at leading research-intensive Universities, has led to a strain on resources and unusually high teaching loads (Waring, 2024). At a unit of study level, Coordinators were unambiguous and unanimous regarding the negative impact of this scale on the quality of the education experiences they felt they were able to provide given their limited resourcing.

Coordinators were clear that the scale of their student cohorts, and their rapid growth, presented an issue for the quality of student experience they were trying to deliver. One Coordinator from Design was clear: "in terms of barriers, I think scale is one - if we continue to grow at this sort of exponential rate, what does that mean?" (UC05). They expanded upon how scale conflicts with their pedagogy:

I think what we're doing is actually a good approach. So, we have this project-based learning, we have small groups, tutorials, we have a lot of work that can be done in real time, can be observed by tutors ... it's very much a collaborative ... it's this sort of cultural approach where part of our learning is actually interacting with other people's ideas and getting that cohort learning from being in a big cohort, being able to wander around, look at work, be inspired by other people, see what other people are doing. And I think when we get big, and we get fractured ... So, with scale, I think one of our challenges is, we don't want to be losing that type of experiential learning, which it's almost in this intangible way of learning, in a sense. (UC02)

The Coordinator went on to describe a fit for purpose learning space at the institution which also had scale perfect for their unit of study's learning needs. The facility was described as housing around two hundred students at a time: "[This unit of study] could fill the space for a whole day, that would be a good place to have our home, but we don't necessarily get that space" (UC02). This data mirrors the call for place-based learning in education that immerses students within practice (Bates et al., 2019).

The inability of the institution's infrastructure to cater for a unit of study's needs was widely shared among Coordinators. In describing learning studios that best facilitated their unit of study's team-based project needs, one facilitator lamented: "the infrastructure is the biggest issue ... the timetabling team tried to accommodate me, but the university is limited ... I don't know how in the in the future I can facilitate that ... so infrastructure wise, I'm having a bit of concern" (UC08). Similarly, a capstone Coordinator described the difficulty the scale of their unit was putting on finding appropriate facilities: "We have now grown to a stage, we just can't get flat rooms to do this" (UC09). They went on to describe the largest flat-room space at the institution as "freezing in winter, hot in summer, you name it, so facilities don't facilitate the teaching of this class" (UC09). Similarly, another Coordinator described the "logistical and structural barriers, in the sense of, just ensuring they have the space that doesn't get in the way of the discussions" (UC05). They also described the need for "a studio space that could accommodate the entire class, so they could actually walk around and talk to others and see each other, like this visibility across the entire cohort, is quite important" (UC05). These voices highlight the strain that growing student scale is placing upon the ability of the institutions' facilities to provide learning spaces that best supporting the learning needs of students. It echoes the call for institutions to develop learning spaces that better support facilitation of learning through convivial, equitable, and sustainable classrooms (Wilson et al., 2025). As this study's results have indicated, critical dialectical discourse and shared experiential activities are crucial for facilitating transformative learning, and these tensions raised by Coordinators' highlight the need for spaces to facilitate these processes.

The constraint of scale is not just felt physically across the institution's venues and learning spaces, but also on the workloads of academics, both full-time and casual. This was highlighted by one Coordinator's description of the addition workload placed upon them by delivering experiential learning, saying, "good results ... it's done at the expense of other things ... we've been snowed under with all of this admin stuff at the moment" (UC12). They went on to describe the administrative load of employing and paying casual staff, the systems for booking and paying for students' field trips, and safety requirements, saying, "there's more and more barriers, including paperwork to do ... there's a lot more considerations, that actually, you're taken away from the teaching in many ways" (UC12). These results lend credence to the assertion that demand for high productivity and efficiency in contemporary universities results in an accelerated landscape that leaves little time for reflective practice and scholarly practice (Nørgård et al., 2024). These comments are consistent with findings that administrative workloads are at untenable levels (Tight, 2010). Given the time-consuming nature of designing and facilitating transformative learning (Taylor, 1998), these

institutional demands call into question the ability of the educator to appropriately foster an environment for this type of learning.

For other Coordinators, the concerns of the growing scale were the impact not only upon their workloads, but also on their casual staff. In speaking to systemic issues within their student cohort and the stresses placed on them, they reflected:

And there's very limited things that we can do to meaningfully address that given the other structural barriers of workload for me, and wage theft for casuals, if they're stepping into that. I think that if we paid casuals fairer and more for the work that's actually involved in teaching people well, and that I think any reasonable person would expect is part of the work of teaching people well, then we would be able to do a lot better by our students. (UC11)

The Coordinator went on to reflect on how obtaining small amounts of additional pay to meet for marking moderation meetings is “treated as if it’s like a major concession instead of the bread and butter of the institution” (UC11). These sentiments echo the broader notion of modern universities dominated by massification and marketisation where casualisation of the workforce dominates and cost-benefit approaches favour productivity over wellbeing or quality (Bosanquet et al., 2020). In speaking about what ownership and autonomy they personally had to control or alleviate these tensions, such as reducing student support or core course content, they reflected further:

I guess there are moves that we could make, but it's a real balance of like not impoverishing the core pedagogical aims in order to support those other needs of the student. That's the kind of circumstance that we're being put into by these structures. (UC11)

The largest unit of study investigated also spoke to these issues and the tension that existed between competing priorities. When asked about any barriers they experienced in trying to deliver a transformative learning, they exclaimed: “Student numbers!” (UC10). They expanded:

Staffing of the unit, I've got amazing teachers, but that's 15 teachers, 50 workshops. Sydney does not have enough space, and yet we've got a house and make sure that everybody's well and safe, and obviously at the start of the year there was a lot of issues with the general condition of teaching spaces. So those practical things, I would say, I should in all honesty, override pedagogical issues. (UC10)

The tensions of scale were also felt in units of study with external stakeholders and partnerships. In Design, difficulty was described in obtaining external partners for the students to interact with: “it's very hard to address that with the structure that we have, and with the timeframe we have” (UC05). This therefore limits the breadth of stakeholders with whom students can partner to research, thereby limiting the effectiveness of their solutions:

Ideally, we would have students immersed in particular communities and cohorts of people, ideally very unfamiliar to them, to enact this shock of perspectives and

viewpoints, and get them to become really facilitators on their own right, and mediating different perspectives which they may not even understand very well, but they have to work with. (UC05)

Similarly, the scale of student cohort and barriers to providing non-traditional learning impacted the ability of the Coordinator to facilitate Aboriginal education. They described their approach to facilitating their content, including Indigenous wellbeing, and the tension that exist:

I take the students out and we play indigenous games, so they'll learn, and they can take whatever they learn into the classroom to teach the next generation. But obviously now, the constraints are time, money, resources, funding all these are significant barriers. (UC06)

In speaking to scale, the exchange Coordinator understood the benefit that their small cohort had upon their ability to deliver a meaningful experience to their students:

I think [scalability] does often get in the way of deep learning. For example, because it was such a small cohort, the fact that I was able to sit down for 30-40 minutes with each student, that was such an integral part of their learning, and of me assessing them and getting to know them. And that is something that you're just not able to do. It was hard to do with 28 students even. So, it's just not something that's scalable. (UC01)

It is notable that Coordinator of the smallest unit of study actively reported that their small scale allowed them to provide a learning experience that they otherwise couldn't have by leveraging proximal critical discourse with students, key to transformative learning (Mezirow, 2006). This, coupled with the second smallest unit of study Coordinator (31 students) being the only interviewee to say “no, there's no huge barriers that I can think of right now” (UC03), clearly highlights that smaller cohorts result in fewer perceived barriers to facilitating transformative learning. This data is consistent with previous findings at the University of Sydney that active and experiential learning experiences are negatively impacted by the scale of growing student enrolments (Mantai & Huber, 2021). Large classes have been found to stifle student engagement (Hancock, 2010) and reduce the frequency of educator interaction and feedback with students (Prosser & Trigwell, 2014), which are key components of facilitating transformative learning experiences. This raises the question of where the inflection point of is for a unit of study in terms of scale, quality of learning, and cost of resourcing, and how to best balance these considerations in the modern university.

7.2 The impact of international cohorts: culture, language, and inequities - “A broader institutional dilemma”

Coordinators were not asked at any stage of their interviews about their students' level of English proficiency. However, most Coordinators at some point mentioned the quality of their students' English, various cultural barriers, or other similar inequities, as an impediment to their facilitation of transformative learning. These unprompted digressions speak to the

prevalence of these concerns and how deeply they are embedded within the learning experiences of their units of study. Whilst these topics are intended to be discussed with a language of care and empathy toward students, particularly international students, it also seeks to provide the comments of staff in a way that conveys their perspectives honestly and appropriately. The discussion in this section aims to highlight these tensions, promote thoughtful dialogue on facilitators' views, and ultimately, serve to emancipate students and enhance their learning experiences.

Firstly, it should be noted that both the number and proportion of the international student cohort that many Coordinators are facing is substantial. The table below detailed the domestic and international students from each unit of study. An estimation was used for two units of study that were sub-projects of a larger shell unit for which statistics were available.

International Students by Unit of Study

	Domestic Students		International Students		Total Enrolments
	<i>n</i>	%	<i>n</i>	%	<i>N</i>
Unit1	21	75.0%	7	25.0%	28
Unit2	19	3.9%	465	96.1%	484
Unit3	29	93.5%	2	6.5%	31
Unit4	6	11.8%	45	88.2%	51
Unit5	58	59.2%	40	40.8%	98
Unit6	134	72.0%	52	28.0%	186
Unit7	498	58.6%	352	41.4%	850
Unit8	44	84.6%	8	15.4%	52
Unit9	6	3.0%	197	97.0%	203
Unit10	567	55.8%	450	44.2%	1017
Unit11	103	57.5%	76	42.5%	179
Unit12	4	1.5%	264	98.5%	268
Unit13	26*	59%*	18*	41%*	44
Unit14	28*	59%*	19*	41%*	47
Unit15	232	76.8%	70	23.2%	302
<i>Total</i>	1775	46.2%	2065	53.8%	3840

This data strongly corroborates Coordinators' perceptions in interviews where their international student cohorts were described as "a significant, significant minority, if not majority of the class" (UC11), "80 to 90% students from international jurisdictions" (UC04), and "95.5% international" (UC02). Indeed, it highlights that most students in this study were international students (53.8%), where four unit of study cohorts contained more than 88% international students.

The foremost observed impact of such internationalised student cohorts was the quality of English proficiency. For Coordinators, this presented issues in basic areas such as content delivery and class discussions. In Design, where "people's proficiency with English, is an ongoing surprise to me" (UC02) and certain terminology "has a different meaning in everyday English as opposed to how it's used in Design" (UC02). This resulted in a lot of questions and confusion from students, especially early in Semester, where the Coordinator

got “the feeling that sometimes that nuance of the really conceptual ideas is not really getting through” (UC02). Similarly, in Law, the Coordinator described a dual problem of international students having a lack of familiarity with fundamentals of the Australian legal system, combined with “a gap in communication” (UC04). This created a tension for some Coordinators in addressing foundational content, noting international students often have “English proficiency that isn't actually sufficient for what's expected of University-level study” (UC11). This creates an obstacle for facilitating learning in assuming that “everyone has a certain degree of proficiency with English, which doesn't always match the cohort, which I think is a broader institutional dilemma” (UC11).

When facilitating learning in class, multiple Coordinators conveyed their frustrations with eliciting engagement and responses from students, preventing their ability to engage in critical dialectical discourse, a key factor in transformative learning (Mezirow, 2006). In reflecting on their empathetic attempts of trying to facilitate class discussions, and being understanding pressures facing students, one Coordinator commented:

English seems to be a big issue. Let's be real, international students we've got, and as much as I've been around to draw out and encourage, I've had people just blankly look at me and not say anything. I'm like, “I'm really trying hard here!”. There's that anxiety to communicate. (UC07)

A similar experience was shared by another Coordinator who found difficulty in judging whether all students were understanding concepts being discussed:

Unfortunately, it's hard to identify in the teaching setting, because you see the reactions, especially of my international students, are very indiscernible at times. There's not a particular response in the face, or in the oral expression, that indicates that they've had these journeys. (UC04)

The difficulties Coordinators faced in connecting with their international student cohort they believed was also being experienced by student peers in group settings. One ICPU Coordinator described issues with power dynamics in teams being exacerbated by international students. Where domestic students didn't have experience in working with an international community, “working with international students can be a big challenge ... those people will struggle when they have to work with students with limited English capabilities” (UC13). Similarly, the other ICPU Coordinator said in helping to manage group conflicts, they understood the while some international students may speak their native language or language of their disciplines very well, the facilitator had to “avoid the elephant in the room ... that some people don't have good language skills ... that's something that is very hard to work around, because the University has allowed students to come in with abysmal language abilities” (UC14). They expanded upon the impact this has on other students:

The students do get very angry when they have out of a group of 5, say, 2 of them can't speak any English. It really bothers them, and I get it, because they feel like they have to do all their work. And the students that don't speak English again can be very

good in their own field of finance and mathematics but tend to sit quietly when they're dealing with something written by a sociologist, they really don't know how to interact at all. So, it's not just their lack of English. It's their lack of ability to engage in this kind of environment that causes students to be unhappy. (UC14)

This lack of English proficiency was being perceived by Coordinators to impact trust between students and their ability to engage freely in discourse. This in turn impacts key aspects of facilitating of transformative learning through the educator's ability to build classroom trust (Neuman, 1996), peer-to-peer relationships that foster engaged learning communities, (Sidelinger & Booth-Butterfield, 2010), and the perceived quality of the classroom (Bullen & Roberts, 2019).

A lack of English proficiency was also resulting in students relying on external assistance. As one Coordinator noted, "I have concerns when our students are arriving, and they're needing to have real time translation in class, and even in conversations - I find that a challenge, and that's also a tutoring challenge" (UC02). Similarly, a Coordinator heavily leveraging group projects noted that some teams "may well have members of the cohort or their group, even whose spoken English is not great, and this will not be news to you, people using translation services in class" (UC10). The Coordinator went on to express empathy for the courage it would take those students to verbalise their views in those situations. Similarly, another Coordinators spoke to how daunting it is for students to give in class presentations, saying, "presentations can be a bit daunting for international students who have limited English communication skills" (UC13). Further empathy for international students' situations was shown by a Coordinator who reflected:

I do think that there's a deep structural unfairness about our treatment of international students ... [including] the kinds of supports, social supports, financial supports, the financial circumstances they find themselves in, I think it puts a strain on that cohort ... it's a big group of students who are experiencing a set of stresses that other students might not be. (UC11)

Many Coordinators further reflected on the different teaching cultures that international students may come from and the impact this has on their Australian experience. One Coordinator observed, "Definitely, I think the vast, vast majority coming from a different learning system, there's quite a lot of cultural changes which are different when they come and learn at Sydney" (UC02). Another Coordinator expressed how this impacted the classroom and their interaction with stakeholders:

Again, sadly, attributable to international cultural differences, they also find it extremely difficult to question, which is such an important part, right? I mean, they should be asking questions, and they do, but they never test the question. So, it's like, they leave it after that, rather than probing and checking. So, there's a superficiality about their contact. (UC09)

This data corresponds with findings that the learning approaches and critical thinking of international students from China can be impacted by insufficient language proficiency,

unfamiliarity with the local norms of discourse, and lack of experience at exercising criticality (Tian & Low, 2011). These factors may prevent learners from participating in key factors in perspective transformation such as critical discourse and critical self-reflection (Mezirow, 2006).

These problems were perceived as not just being due to their “lack of communication of skills” (UC09), but also due to having “no idea of how to talk professionally and to actually meet professionals who are acting as their sponsor, so there's a huge gap in the theory that they've been learning and the actuality” (UC09). This data indicates that some students may not be able to participate fully in the discursive activities of the shared experiential activities that can evoke meaning making (King, 1999). This was exacerbated by the program being an “inexperienced masters” (UC09), allowing students to enrol without necessarily having any professional work experience in the area, leading to students being “very timid about project management – it's not a timid subject.” (UC09). Another Coordinator spoke on these topics, explaining:

Even our master's students, we are noticing that there's been a big change in the type of student we're getting ... what we're finding is that of those students, some will have had previous Design experience, but not necessarily. We are also having, so we have, I think, a big range in skill sets that people are arriving with. They're not the sort of the traditional master student, which may have been the case, say 10 years ago, where people are coming back in from industry to reskill. These are often first timers, like almost first degree, so, newcomers, and certainly often the first time studying in Australia as well. So, not necessarily a Design background. Not necessarily English as the first language. (UC02)

This ‘timid’ nature and so-called ‘superficiality of contact’ was observed in other units of study and led to unequal authority to speak across the Law cohort. The Coordinator described that “it comes out in the written responses, and that's a lot to do with the reticence of our international students to speak openly and personally about their experience” (UC04). An ability to engage in dialectical discourse may prevent learners from constructing personalised learning (Mezirow, 2003), recognising that one’s discontent is shared among peers (Mezirow, 1991), and engaging in togetherness with the learning community (Grund et al., 2024) – all key components of the transformative learning process. One Coordinator also reflected on how a lack of verbal engagement then led to difficulties in how international students engaged in written form in the learning management system:

I think another is the teaching culture which a lot of them are very much used to. So, not being comfortable to speak, to contribute, to ask questions, during even group tutorial time, it very much makes it makes things teaching tricky. Especially when it's then asked on Ed Discussion, and you have to respond and type responses in words and text. (UC02)

However, this facilitator pivoted the conversation helpfully to suggest that both staff and students could have better understandings of both language and cultural competencies to alleviate this tension.

Overall, the results in this section demonstrate the tension that large scale international cohorts and English proficiency inadequacies are observed to be having upon the effectiveness of facilitating transformative learning environments. It renews the call for institutions to consider how to best create classroom environments where critical discourse and critical reflection are developed, vital for transformative learning (Mezirow, 2006) as well as international students (Brookfield, 1986).

7.3 Education in isolation - “Sad but true”

The academic staff participating in this study were interviewed about their experiences in facilitating learning at the unit of study level. A tension that became apparent was the restrictiveness of this institutional silo. While Coordinators were responsible for their individual units of study, many spoke about the impact of both programmatic and institutional barriers to their effectiveness. It became apparent that Coordinators had no control of the learning contexts prior to their units of study, and little vision over where students progressed to within, or outside of, the institution.

Several Coordinator shared their concerns at the lack of foundational knowledge of students entering their units of study, particularly at the capstone level. One experienced capstone Coordinator illuminated helpfully:

The whole concept of the capstone is an assumption that you don't have to teach them, you just have to watch them apply it, and I've tried to adjust for this, but certainly, it's proven wrong quite often. The difference between the book knowledge and the applicability of that knowledge, it's a huge gulf sometimes, and worst case, it also brings into question the limitations of their book knowledge. They've learned, for example, the jargon, and they can restate, and even answer, particular types of questions, and then you ask something off kilter, something from the real world, and say, “how do you do that now?”. And they just flounder and lost. So, you realise that their knowledge is not founded on anything, any solid understanding. That's one of the sad but true assumptions. So, it's ended up that we do have to give some reminders, and cover little bits of content, and I know others do even more in other capstones, because you can't assume what you'd like to assume, that everything is in their heads, and now it's just an application thereof. (UC09)

Another capstone Coordinator was incredulous that they were tasked with running an interdisciplinary capstone where students were arriving with no concept of interdisciplinarity. They further expanded:

This again, maybe says something interesting about the institution, that students from the <Faculty> can arrive in their 3rd year, and not be aware of such a term. When, and I say that not to lay at the feet of the students, but given how baked into a lot of

the rhetoric, strategic and otherwise, that we have institutionally. And if we think about the graduate qualities again, the things that we are equipping students with, they won't necessarily be familiar with that, which is quite surprising to me. (UC10)

This frustration at program-level design, whether lack thereof, or a lack of individual involvement in the process, led to a feeling of silo and isolation from educators. This is consistent with findings that entrenched interests, inflexible university systems, and cultures of performativity restrict experimentation and innovation across programs (Clifford & Montgomery, 2015). This data indicates that institutions may be well served by fostering collaboration, communication, and shared leadership across programs to facilitate integration and synergy across units of study, rather than separation and incongruence.

Yet another capstone Coordinator described how foundational skills were lacking in their students. The facilitator discussed the industry exposure the unit provided, and the skills they were developing in students, such as “team leadership, team working quality, leadership quality, and time management - it's a mix of soft as well as the hard skills the industries are expecting” (UC08). When asked if students had that exposure elsewhere in their degrees, they responded that “the type of assessment strategies we are having and the type of design report they write, they never, they haven't had that one before in the curriculum” (UC08). These instances raise the question of how students are being set up for success in their capstone with clear, international, synergistic program design across the years of their degree.

Previous research has indicated that active learning and the use of reflection, dialogue and project-based learning is effective in facilitating transformative learning (Provident et al., 2015). However, these programs leveraged ‘cohort group’ model where each group is maximised at 15 students – a scale incomparable to the learning contexts in this research project. Indeed, this tension corresponds with assertions that the impacts of internationalisation upon transformative learning experiences has received little consideration, and that individual educators feel disempowered to enact broader changes at the institutional level (Clifford & Montgomery, 2015).

These concerns were also shared much earlier in programs, with a second-year core unit also expressing lacking foundations in their students:

Well, reflection is a big one. They get to us after doing [introductory unit of study], then they've done all the technical stuff, and they get to us and they just are in this state of shock, almost like, “What is this?”. So, it just means that because there hasn't been that scaffold ... they get to us and we're doing professional identity, ethical responsibility, it's full on. I really feel like we smash these poor kids when they get to [this unit of study]. And they're like, “What? What's happening here? Who am I? What's the meaning of life?”. (UC07)

The concern of Coordinators was not just expressed in terms of students entering their units of study, but also their pathway after completing their units. As the exchange Coordinator reflected, “that's always a tricky thing, when you teach a unit in isolation, which most of us do, is that you don't really know what they go on to do next” (UC01). Their solution within

their immediate context was to have an assessment to help students to consider the ongoing impacts of their learning: “their final reflection piece, that was actually the idea for that assessment, was to set them up to keep thinking about it and to keep talking about it in different contexts” (UC01). In Music, the Coordinator reflected that “if there were more subjects that could feed into this, or support this subject, maybe, or more opportunities for students to explore these kinds of ideas in other areas of study, that could be supportive” (UC03). In Design, the Coordinator thought about the lost potential from the effort that students have invested into their group projects:

In a way, it's just a scratching the surface and the semester ends without a closure, right? So, the ideas are presented, are there, but not fully developed, and I understand that some students may have felt a bit let down or frustrated because they don't get a chance now to keep developing those ideas that they demonstrate so much passion about. (UC05)

These instances demonstrate that Coordinators feel there is a large investment, both by students and educators, into establishing a safe learning environment through team bonding, building a learning community, and conducting team projects, which is then not harnessed to its full potential or built upon in the future in meaningful ways.

In Aboriginal education, the facilitator specifically reflected on the need to continue learning in a more intentional, cyclical manner. In their view, ideally, students would go out into the world to apply their learnings, reflect on gaps in their knowledge and mindset, and return to the Coordinator to further build their skills and new mindset. Without experiencing this initial foundation, followed by time to go out and process the application of their new mindset, the Coordinator reflected powerfully:

Otherwise, you can't build on to anything, because they have nothing to reflect on. We just teach for a semester and say goodbye. They're like seasons right? They come and go, and come and go, and come and go, but we never meet them again. So, it has to be a cycle. I've taught you, then after 360 days, you come back to me again and see what else is needed. (UC06)

This data speaks to an authentic learning model based on experimentation and action leveraging real-world experience, collaboration, and sustained investigation (Lombardi & Oblinger, 2007). Authentic learning shares many fundamentals with transformative learning including problem-based learning design, dialectical discourse, perspective taking, and meaning making (Gayton, 2023). However, due to the individual unit of study structure, implementing learning of this kind to foster transformative learning experiences would require intentional program-level design to assemble it across multiple units of study.

These results demonstrate educators' views of the potential for transformative learning as supported cycle of learning across programs. This concept is not novel, it very much reflects Kolb's (1984) reflective learning cycle, applied to transformative learning, across a program of study. It raises the issue of transformative learning beyond the unit of study level to the program level. If tertiary education institutions aim to provide transformative learning

experiences, this study's data brings into question how learning is being designed and implemented at a program level to enact this intentionally and effectively. Indeed, it renews the call for holistic designs of transformative curricula, moving beyond the enthusiasm of individual educators, re-orienting institutional level strategic plans and policies to resource meaningful redesign (Clifford & Montgomery, 2017). This study indicates that the individual ingredients for transformative learning are present, what is needed is the institutional will to design programs that intentionally embrace and unleash its potential.

7.4 Personal academic investment and lack of institutional reward - "I don't get the love back from the Uni"

Coordinators communicated a significant personal investment required to facilitate transformative learning experiences, at odds with institutional recognition structures. One Coordinator highlighted their struggle with balancing their passion for teaching with the demands of delivering it:

Look, anyone who does this type of work, the experiential learning, and there's a few of us that I know of in our school, they always whinge about the same thing, and that is that it's very difficult to do. There are issues with finding capable staff, there are issues about priorities, I've got a couple of meetings now where we're talking about costs, and costs of field trip, and all that kind of stuff ... So, it's a time-consuming approach. You're very pleased at it, because it engages students, but it is time consuming as well, and you need to have expertise. (UC12)

When probed about what comes at the expense of that consumption of time, they were unequivocal:

Look, it's very clear what comes at the expense of ... it's what you're spending more time on, your teaching, and from an academic's point of view, and I guess you can even quote that, is that, really, that means you're not going to make it as an academic. You're not going to make it. You're going to be bogged down in experiential learning ... So, it takes you away from what the university really values in terms of academics. Real academics are publishing stuff and getting grants. (UC12)

These sentiments echo the 'publish or perish' (Coolidge, 1932) mentality in academia where institutional reward structures prioritise publications, rather than teaching or other practices, potentially resulting in unethical behaviour and impacting personal wellbeing (Angell, 1986; Rawat & Meena, 2014).

These feelings of being overwhelmed with the personal costs of delivering powerful learning experiences which are not recognised by the institution were also shared by another Coordinator. They reflected:

There's a huge amount of administrative and logistics overhead that nobody wants to acknowledge, including, for example, getting these projects, landing them in time for the class, meeting, and engaging, and discussing, and filtering the projects with the

sponsors. All these things, like the proverbial iceberg, right? And nobody wants to see how deep that goes. And this is my last week, I mean, next week I'm going to be on leave, but I shouldn't be, because I should be chasing projects for next semester, and nobody sees that. You know what I mean? If I can generalise, if they want transformative learning, they freaking better figure out how much it really costs, because if they don't, then there's a few people who get burnout trying to deliver it, and the rest don't bother. (UC09)

This data reflects the broader notion that contemporary neoliberal universities are unsustainable in requiring academics to excel at their work rather than to be well (Nørgård et al., 2024). The administrative burden of teaching clashing with their passion for teaching was echoed by another Coordinator. They said that “as a teaching facilitator, as an educator, huge, huge barriers, huge barriers, I could go forever” (UC09). Their cathartic response ended in semi-therapeutic laugh and sigh of relief at being listened to:

Oh, it's not facilitation, I love the class, I'm in my zone when I'm there, I love it. It's administrating, when you have a big team, when you are managing a big teaching team, and then you have an ever-changing coordination team ... that's a lot of fronted investment ... I just realised I really don't like management. I don't like managing. It's just like, Oh my gosh! I just feel like it's compliance. I think this is where this is where I understand my own personality traits. And I'm like, “Oh, conformity, compliance!” Doing all those very things, it's not my metron. I can do those things administratively. I can do quality assurance because I've learned how to do it. But, my goodness, it does give me a lot of anxiety. You know, marking calibration, multiple moving parts for [the unit of study], all the assessments, and things that need to be prepped up, even though we're just doing plug and play, there's still always still iterations that invokes multiple changes. So, process changes, managing all that, managing a big team, managing a coordination team, all the comms... Thanks for asking. I feel like I'm debriefing! Oh, my God! Getting there! (UC07)

The Coordinator interview eliciting therapeutic expression and processing of feelings mirrors Neuman’s (1996) findings of the impact of transformative learning. Indeed, it reflects the therapeutic implications of qualitative research for participants, where data collection can be transformative, curative, and generate meaning for participants, investigators, and readers alike (Nelson et al., 2013).

Similar impediments to facilitating transformative learning were also discussed by another Coordinator, who reflected on their career and the structures that govern the institution:

The university is fairly inflexible around experimentation, and how to engage and succeed with students. It takes a lot of effort to do the type of teaching that I'm trying to do, and if I was an early career researcher trying to balance a 40/40/20 role, our workload models and things don't account for the type of first year teaching load that is required to do something like this. University policies are not flexible. Disability Support and Special Considerations, and all of that sort of stuff are not flexible. And

so, even though I'm doing my best to interact with all of those to make them a positive experience for students, and to make sure that they are aware that Special Considerations exist, and they know what paperwork they need to do, and how important it is to get it right, there's just a lot of structural difficulties in the way that we teach that interfere with that ... So, there are barriers everywhere, basically, but trying to push through, regardless. (UC15)

These instances stand to demonstrate the toll that facilitating transformative learning experiences takes on academic staff, at great personal investment, often relying heavily on their goodwill, and at odds with the institution's promotional structures. As one Coordinator described their teaching responsibilities: "it's a tough, tough gig" (UC09). They went on in their final comment to encapsulate the overall approach demonstrated by many of the interviews in this study:

I just I love what I'm doing. And I don't get the love back from the Uni, but I get it from the students, so I'm happy. (UC09)

Overall, the results in this chapter reveal educators who are passionate about facilitating transformative learning, but who are impeded in delivering this by a multitude of institutional factors outside of their control. The results reflect systematic issues in higher education where educators need to feel heard in requiring support to deliver rich educational experiences that challenge students, foster productive struggle, and lead to transformative learning experiences (Murdoch et al., 2020). Where institutions aim for increased teaching quality through methods such as experiential or transformative learning, these dynamics are at odds with reward structures that devalue teaching compared to research, leading to academic strain and burnout (Valiente-Reidl et al., 2022). Indeed, the data presented reflects the notion that modern higher education must move beyond instrumental learning and empower learners to think dynamically through transformative understandings (Glisczinski, 2007). This is a difficult task where institutional demands upon educators inhibit their ability to enact curriculum redesign and foster factors known to promote transformative learning experiences.

Chapter 8 – Summary of findings

This study explored the transformative learning experiences of learners in 15 units of study at The University of Sydney, encompassing all faculties from the institution. It adopted a sequential explanatory mixed methods approach, using King's (2009) Learning Activities Survey (LAS) and follow up interviews to identify whether students have experienced perspective transformation or not, and what factors were associated with their experiences.

Surveys of 284 students were classified into deviant case samples revealing: 120 (42.3%) PT1 students, indicating that they had not experienced perspective transformation during the unit of study; six (2.1%) PT2 students, where perspective transformation was not directly related to their unit of study experience; and 158 (55.6%) PT3 students, who experienced perspective transformation as a result of their unit of study experience.

Follow up interviews with 35 students uncovered 6 (17.1%) PT1 students, 1 (2.9%) PT2 student, and 28 (80.0%) PT3 students.

All 15 unit of study Coordinators were interviewed using Apte's (2009) Questions for Reflection to discover the units of study's contexts and educational aims, and further the understanding of both students' and facilitators' experiences of, and designs for, transformative learning.

This summary of findings therefore integrates all results from the study to directly answer the research questions and discuss their implications for students, educators, institutions, and research.

8.1 Research question 1: What factors are associated with whether and how students have experienced transformative learning at the University of Sydney?

Surveys revealed that students who experienced transformative learning had greater engagement with each of the ten stages of the perspective transformation process compared to those who did not. Correspondingly, those who did not experience perspective transformation identified with the Item 1 'statement m – do not identify with any of the above' at a rate ten times higher than those who did experience perspective transformation. Furthermore, 26.6% (n=42) of PT3 students adopted new way of acting compared to zero PT1 students. The results indicate that Mezirow's (1991) perspective transformation phases appropriately describe a student's pathway to experiencing transformative learning.

Class assignments (77.7%) were the most important factor identified in influencing successful perspective transformation, where group projects (52.0%) were the most frequently identified, with personal reflection (39.9%) the second most frequently cited, and class activities (38.5%) third most frequent. People were the second most important factor influencing the perspective transformation process. The PT3 cohort identified the educator as the most important person influencing perspective transformation through both their support (25.7%) and challenge (12.8%). Teammates through their support (23.0%) and challenge (19.6%) were the next most influential factor in perspective transformation. Life changes

were also a factor in perspective transformation. The PT3 cohort indicated that significant life changes (25.7%), primarily through moving location (8.8%) and seeking a new job (8.8%), influenced the way they experienced their education-based perspective transformation. For the PT2 cohort, life changes (83.3%) were the most important factor, indicating that their perspective transformation was largely related to influences outside of their unit of study experience. This demonstrates that personal context and disequilibrium can influence both educational and to non-educational transformative learning.

Free text responses to survey Items 3 and 5 revealed that students experiencing perspective transformation perceived a growth in open-mindedness, a greater capacity to incorporate others' perspectives, revised prior assumptions or biases, developed self-reflexiveness, and arrived at new understandings of self.

These findings corroborate seminal literature that indicates educators can most effectively facilitate transformative learning by espousing differing views within students' learning groups to disrupt frames of reference (Apte, 2009), establishing group projects and shared experiential activities (Taylor, 1998; King, 1999), requiring personal reflections to foster critical self-reflection (Mezirow, 1997; Brookfield, 2000), and facilitating critical discourse activities that foster both teammates and teachers' support (Mezirow, 1997, 2000).

While self-reflection is an important factor in the transformative learning process, a student's self-assessed level of self-reflexiveness was not a determining factor in this study. The proportion of students indicating they consider themselves reflective, and that they consider the personal meaning of their studies, was consistently high across all cohorts. This indicated a potential disconnect between students personal perceived level of reflexiveness and the academic level of self-reflection required for perspective transformation.

8.2 Research question 2: How do students at the University of Sydney experience transformative learning?

Transformative learning experiences were observed by students to predominantly lead to increased empathy, leadership skills, open-mindedness, and self-confidence. These students frequently cited the future applicability of these skills, their enhanced perspective-taking ability and hope for the future based on their learning experiences. Similarly, educators observed that transformative learning was associated with a shift in students' self-confidence, a focus on self-development, and an improvement in soft skills such as resilience, adaptability, critical thinking, communication, and teamworking skills. These findings echo the literature indicating that transformative learning assists construction of self-narratives (Fahrenwald et al., 2014) and enhances student's confidence, self-trust and personal strength (Neuman, 1996). Students' newfound and enthusiastic ways of seeing the world, achieved through shared experience and deeper insight into self and others, are consistent with previous findings (King, 1999).

From the Coordinators' perspective, designing for transformative learning involved interrupting and fostering a critical re-examination of students' frames of reference. Trigger events for perspective transformation were created through strategic ambiguity such that

students could negotiate this uncertainty to reach a different version of themselves, mirroring the notions of liminality (Meyer & Land, 2005) and productive dissonance (Brookfield, 2000). Furthermore, trigger events were also achieved through sharing narratives or stories through guest speakers and peer-to-peer sharing and leveraging physical learning spaces to enable collaboration. These results indicate that students' frames of reference can be invisible to them until challenged by educators, curricula, learning activities, or peers, which is a crucial aspect of the perspective transformation process (Taylor, 2000).

From the student perspective, those who experienced perspective transformation felt supported in their learning journey by their teammates and other classmates. Critical dialogue allowed a resonance of actions and feedback in group settings, enabling students to negotiate their changes in relation to their peers as a shared experience. The findings correspond strongly with Mezirow's (1991) fourth phase of perspective transformation and demonstrate the role of teammates as providing necessary diversity through living, alternate frames of reference (Apte, 2009). Furthermore, students placed importance upon unknown and diverse teammates that mimic real-life settings of their future professional careers. Social support from friends and family also assisted transformative learning through resonance from those outside of the unit of study, providing contextualisation of the learning experience. These findings underscore interpersonal connection as fostering transformative learning.

The findings suggest that transformative learning process is an inherently affective one. Students' emotions included curiosity, anxiety, doubt, and anger. Encountering disorienting dilemmas elicits students' anxiety and a curiosity to learn more from these novel experiences. This was consistent with findings that cognitive dissonance results in initially negative feelings (Mezirow, 1978b) where overcoming this internal conflict is supported by engagement with these feelings and the learning environment with curiosity to learn more (Mezirow, 1997; Taylor, 1998). A dormant or 'not-knowing' time followed, where student courage was needed to overcome uncertainty and doubt, and move into developing a new perspective, consistent with the literature (Apte, 2009). Educators made careful efforts to support students in this time and quell any anger or defensiveness, consistent with findings that suggest ensuring students remained engaged and in tune with affective dimensions is crucial to transformative learning (Murdoch et al., 2020). Courage from students during uncertainty was observed and allowed them to continue participating in critical discourse with others, a crucial factor in transformative learning (Mezirow, 2006; Taylor & Cranton, 2012). Often, more time was needed for students to fully process their experiences, highlighting the metacognitive and reflective challenges that students face in transformative units of study.

Notably, the 28 interviewed PT3 students varied in when they became aware of their transformative learning experiences and their associated changes. Most (n=19) were aware during their learning experiences, but some (n=5) realised changes both during and after the unit of study, and others (N=4) only realised after the unit of study. Learning activities and reflective assignments were the most common source of the realisation of change for those during the unit of study. However, learners who realised their changes after their unit of study experience, through either a process of small accumulating trigger events or from talking with

friends and family. Often, realising a perspective transformation was or is occurring was associated with feelings of surprise.

The transformative learning experience of students were necessarily impacted by the educational environment constructed for them by facilitators. The learning environment and the facilitators were impacted by a range of factors and a collection of institutional tensions that were identified.

Firstly, the transformative learning experience takes place in a necessarily affective environment that also has emotional impacts on educators. Facilitators variously experienced: anxiety in creating fertile environments to facilitate transformative learning; curiosity regarding the impact of their learning design upon students' learning journeys; overwhelm of administrative and emotional burdens of supporting this kind of learning; and surprise at both positive and negative student experiences. Many emotions mirrored that of students, highlighting the strain of facilitating transformative learning, and raised the notion of the educator as a co-learner, consistent with seminal literature (Cranton, 1996). The findings further indicate the prospect of being transformative for educators through self-reflective teaching practices (Valiente-Reidl et al., 2022).

Secondly, the scale of student cohort necessarily impacted the learning environment. Coordinators of small cohorts did not raise significant barriers to their facilitation, whereas Coordinators of larger units of study listed extensive barriers. These were not limited to: administrative workload; infrastructure and physical space requirements; timetabling and capacity issues; and competing priorities between teaching and research. These were all perceived to impact the quality of the learning environment and the educators' capacity to facilitate transformative learning.

Thirdly, the internationalisation of cohorts, students' lack of English proficiency, and cultural barriers among students was seen as a barrier to fostering transformative learning. Facilitators raised a lack of engagement and ability for students to participate in dialectical discourse with both teachers and their peers, limiting their ability to participate in a key factor for transformative learning (Mezirow, 2006).

Fourthly, Coordinators tended to facilitate transformative learning at the unit of study level and raised a lack of program-level alignment with this goal. Prior and subsequent contexts were identified as beyond individual academics' control, with capstone Coordinators emphasising this misalignment. This siloed learning limited educators' abilities to foster and scaffold experiences to maximum effect, and thus, learners were perceived to be experiencing transformative learning in novel and isolated environments. Furthermore, delivering transformative learning was seen as at odds with institutional recognition structures, relying on significant goodwill and passion from educators, leading to feeling frustrated and undervalued.

8.3 Research question 3: What, if any, are the similarities and differences in transformative learning experienced by students at the University of Sydney?

Significant differences were highlighted between those who did and did not experience transformative learning.

Students who did not experience transformative learning tended to be enrolled in required units of study or had shallow or arbitrary reasons for enrolment. They often expected to learn technical content in their units of study, did not express ambitions for personal growth, and their expectations were misaligned with those of their educators. Resultingly, these students often focused on ‘book learning’ (Leung & Kember, 2003), where understanding is reached without reflection, meaningful application, or relation to personal experience, and employed surface level approaches to learning (Biggs, 1987), which may have limited their ability to experience transformative learning.

These students were generally clear that their values, beliefs, opinions, or expectations had not changed throughout their unit of study experience. They generally did not identify disorienting dilemmas through alternative frames of reference and therefore did not encounter a trigger event, which is required for perspective transformation (Mezirow, 1978b). These students generally did not encounter any conflict or significant challenges in their units of study and did not have an emotional journey that catalysed self-examination. These findings corroborate that emotions provide the impetus upon which learners critically reflect (Taylor, 2000). These students generally cited an increase in competence, rather profound shifts, consistent with previous findings of encountering low-level dissonance (Kiely, 2005). Teachers were not an important factor in the unit of study experience for these students. Their view of self-reflective assignments was task-focused and did not result in any realisations of self-change. These students also focused on the importance of individual tasks, rather than on shared activities, further showing a task orientation, and lacked prioritisation of critical discourse, a key factor in transformative learning (Mezirow, 2006).

In contrast, students who experienced transformative learning were starkly different. These students frequently enrolled in their units of study with nuanced, specific, and intentional reasons which were often met. They were open-minded to new ideas, collaborating with others, and engaging with others’ perspectives. They tended to be interested in the subject area, motivated to learn more about themselves and develop new mindsets, and showed ownership of their learning journeys. Furthermore, students who experienced transformation expressed a desire to build connections, critique ideas, experience diverse teams and cultures, and enhance their empathy in their units of study. These findings suggest these students’ aligned with the concepts of: a socialised mind ready to be transformed (Kegan, 2000); a willingness to engage in complex and connected ways of knowing which increases the likelihood of experiencing transformative learning (Cranton, 2011); and deep approaches to learning (Biggs, 1989), which in turn is crucial to perspective transformation (Wang et al., 2021). These students therefore demonstrated an understanding of self-awareness, empathy and social deftness consistent with Mezirow’s (2003) emotional intelligence factors that assist in critical reflection and participation in critical discourse.

Disorienting dilemmas for these students were clearly identifiable and occurred frequently in critical discourse activities or group experiences, such as those with guest speakers. Assignments that necessitated incorporation of multiple perspectives, and leadership or team deliberations in group settings, were impactful trigger events. These catalysts for transformative learning of encountering others' perspectives align with those prescribed by seminal literature: critical discourse learning activities and group projects (Mezirow, 1997) and shared experiential learning activities (Taylor, 2000). As a result of these disorienting dilemmas, these students encountered challenge and productive struggle where conflict and emotional turbulence was frequent and required time-consuming, deliberate efforts to overcome them. It is consistent with the literature that experiences irreconcilable with one's current worldview are initially troublesome (Mezirow, 1978b), are group-situated and need to be embraced and resolved (Taylor, 1998), akin to crossing the threshold of liminality (Meyer & Land, 2005).

Finally, students who experienced transformative learning tended to appreciate the value of their unit of study's learning design, learning activities, and their potential for catalysing self-development. These students felt their reflexiveness was enhanced by, and may not have occurred without, their self-reflective assignments, especially those that were scaffolded, emphasising the role critical self-reflection in fostering transformative learning (Mezirow, 2000).

8.4 Implications for educators

This study has many implications for educators wishing to foster transformative learning in their units of study.

It is important to understand students' motivations for enrolling, expectations of the unit of study, and their likely approaches to learning. Explicitly addressing these with students and explaining the learning design may help students manage expectations and assist the alignment of their actions with the intended learning journey, enhancing the likelihood of a transformative learning experience.

Facilitate intense shared experiences through group projects and support these with in-class activities, as these were identified as two main factors contributing to transformative learning. Prioritisation should be given to facilitating critical discourse in the learning environment through these activities to introduce alternative views, actions, and beliefs that may provoke internal disequilibrium and self-examination of learners' assumptions. Facilitating further perspective sharing using personal narratives and storytelling, emphasising the inclusion of diverse voices, and encouraging the critical incorporation of multiple views. Furthermore, the study revealed scope for further sharing through cross-cohort collaboration opportunities. These activities could assist learners' alignment of expectations with educators through those who have previously completed the learning experiences, which may assist to expectation management and appropriate approaches to learning being adopted.

Include self-reflective learning activities and assignments in the unit of study and assist students with the process. Opportunities for self-reflection were a key factor in fostering

transformative learning, as well as bringing that learning process to the awareness of the student for further consideration. This study indicated there is significant value in dedicating time to improving the critical reflection skills to appropriately in critical reflection. Developing reflexiveness is time-consuming and may require the educators support and peer-to-peer sharing to advance effectively, thus allowing structured opportunities for critical discourse can aid this process.

Introduce strategic ambiguity and productive dissonance whilst actively assisting students through this uncertainty to identify and overcome their challenges through personal transformation. Conflict within group settings is effective in catalysing transformative learning, but is an affective process that is time-consuming, effortful, and initially experienced with negative feelings. Students require support from peers and educators through critical discourse to be courageous and persevere to revise their frames of reference and destructive habits of mind. Empathy for students is important, and in turn can be developed in students because of the transformative learning process through a nurturing environment. Indeed, addressing the emotional experience of individuals is a central aspect of education (Grund et al., 2024).

Facilitating transformative learning is a difficult process that requires expertise, awareness of the process, and is associated with an emotional journey for the educator. Time is required to facilitate the in-class experience as well as revise curricula and learning designs. These pressures can be at odds with demands for time and institutional reward structures, and as such, fostering transformative learning experiences often relies on the individual passion of the educator.

8.5 Implications for institutions

This study has demonstrated that transformative learning has the potential to change students' lives, foster lifelong learning, and support diverse learners to succeed and feel connected with others. Opportunities for transformation supported by group experiences, critical discourse, and structured reflection enhances the student voice, student agency, and ownership of learning which in turn can foster deep learning and personal growth. While concerns of student dissatisfaction and disengagement grow within tertiary education, transformative learning shines light on areas for strategic improvement within the sector. This research project provides a range of recommendations to institutions wishing to improve the student experience through transformative learning.

Educators can be enabled by institutions to provide transformative learning experiences through appropriate resourcing. The transformative learning process is an inherently onerous and time-consuming process for students to experience and educators to facilitate (Taylor, 2000; Gallagher, 1997). Educators should be transformative learners themselves (Taylor, 1998) and should be continually striving to deepen their expertise, participate in critical dialogue with others, and engage in critically reflective practice (Cranton, 1994). Given that Coordinators in this study expressed a need for more time to develop curricula and increase the effectiveness of their facilitation, this study renews the call for a rebalancing in institutional demands to enable educators to focus on improving their ability and capacity to

foster transformative learning. Indeed, educators need to feel heard and supported by their institutions to deliver changes in educational practice (Murdoch et al., 2020).

This study's findings indicated that academic staff felt their facilitation of transformative learning was at odds with institutional reward structures. Providing these learning experiences was seen as taking a large personal toll, relying significantly on the educator's goodwill, and taking their focus and time away from other activities that were more prioritised in promotions. These educators felt left behind or disadvantaged in their careers, suggesting there is scope for institutions to recalibrate recognition criteria to encourage the facilitation of transformative learning experiences, rather than devaluing and disincentivising it.

Educators in this study expressed a desire for curriculum re-design that enables transformative learning to be implemented at both the unit of study and program level. While academics expressed an ability to implement change at the individual unit of study level, they highlighted opportunities for institutional support to provide holistic designs of transformative curricula across programs of study. Such changes could enable iterative, reflective cycles of transformative learning throughout learners' degrees. However, meaningful re-design of curricula must be implemented at the institutional level through strategic plans and policies in order to be enacted intentionally, effectively, and in line with revised recognition structures (Clifford & Montgomery, 2017). These changes could enable transformative learning to move from the periphery of higher education into central, intentional, supported curriculum and policy frameworks.

This study also revealed scope for institutions to give strategic priority to factors that can promote transformative learning. Prioritising the implementation of shared experiential activities and group projects, critical discourse learning activities, and self-reflective learning activities and assignments can assist learners to engage with transformative learning opportunities. Similarly, the study highlighted that there is value in explicitly trying to increase students' perspective-taking ability, leadership skills, self-reflexiveness, and empathy, as these were associated with a transformative experience. Indeed, the Australian Universities Accord (Department of Education, 2024) aims to support learners that are from diverse, low socio-economic status, and First Nations backgrounds by putting students at the centre of the higher education agenda. This study has revealed scope for transformative learning to support this agenda through its focus on empowerment of the student experience. This agenda is also relevant for international students who are a significant cohort within Australia tertiary education.

At the essence of transformative learning is the irreplaceable concept of a personalised, meaningful and shared experience with others. In a higher educational landscape that is increasingly influenced by digital learning and artificial intelligence, transformative learning may offer a 'humanising' counterbalance to efficiency-driven education. It is therefore a moral obligation for institutions to elicit that to maximum effect.

8.6 Implications for research

This study has made several novel contributions to transformative learning scholarship.

From a theoretical perspective, this study has uncovered that the initial mindset of students upon enrolling and whether they expected to learn technical content, rather than experience personal growth, may be a determining factor in whether students take surface or deep approaches to learning, and therefore, impact their likelihood to experience transformative learning.

Groupwork can catalyse the perspective transformation process through experiences of team leadership responsibilities and team deliberations regarding accountabilities. These occurrences can provide novel experiences and alternate frames of reference for students that can lead to self-examination and a revision in habits of mind or growth in new capabilities.

The study has revealed that social interactions can bring learning into consciousness and allow a learner to realise what they have already learned. Importantly, the study highlighted the potential role of family and friends, those outside of the unit of study experience, in assisting the transformative learning process.

The study's processes revealed that perspective transformation continues to develop over time. Students cited both the survey process and the interview process as catalysing their perspective transformation and bringing new learnings into awareness. This raises the prospects of these instruments acting as interventions to facilitate transformative learning.

Previous studies have noted that absence of evidence regarding the latter stages of the perspective transformation process (Bullen & Roberts, 2021). This study has provided meaningful data to illuminate students' experiences in these stages and is novel in a general Australian higher education setting.

Finally, this study is novel in its scale regarding the number of units of study, breadth of representation across an entire institution, and its incorporation of both student and educator voices. It has conducted these in a representative case study of under-investigated Australian higher education institutions to enable a great understanding of transformative learning.

From a methodological perspective, the study has emphasised the limitations of the binary construct of transformative learning. Low-level transformative learning utilising content or process reflection, or unclearly realised or verbalised transformation, may not meet the threshold to be considered transformative using the LAS.

Similarly, classifying these instances correctly is impeded by students answering 'no' to Item 2, that they have not changed their values, beliefs, opinions, and expectations being directed to Item 6, rather than proceeding to Item 3 to describe their unit of study experience. It is recommended that this flow is changed to allow students to elaborate on why they answered 'no' to Item 2 and assist the researcher in accurately assessing and classifying their experience.

8.7 Implications for students

This study's findings provide a helpful template for students wishing to increase their likelihood or effectiveness of experiencing self-development and growth through transformative learning.

Where applicable, units of study can be prioritised that include opportunities for groupwork and collaboration, critical discourse activities, and self-reflective assignments, as these are effective in providing disorienting dilemmas and raising self-awareness. Experiences in these unit of study can be enhanced through a deep approach to learning where active consideration is given to seeking make meaning and interrelationships between parts.

Transformative learning journeys are inherently personal, experiential, and impacted by the individual circumstances of the learner and, therefore, each journey will be necessarily unique with no universal pathway. Engaging in listening and talking to others with alternative viewpoints, including with international students, can expand a learner's awareness, and increase their ability to understand and empathise with others.

It is crucial to question one's assumptions, as well as those of others, to seek to understand the premise upon which beliefs and actions lie. It is fundamental to experience disequilibrium, and thus it is important to seek out and welcome disorienting dilemmas, where experiences are irreconcilable with one's worldview. It should be embraced that this process is necessarily ambiguous, uncomfortable, and uncertain, requiring courage and persistence to overcome.

To reconcile this dissonance, it is important to experiment with thinking and acting differently, to try out new roles, to gather feedback from others, and to use these to inform future iterations of self. Speaking to educators, peers, and family and friends about one's learning experiences can provide support and lead to new realisations. Learners should engage in regular self-reflection upon their experiences and seek to learn, change, and improve. The power of learners' experiences may not be realised until long after they have concluded and can be brought to awareness through further experiences or social interactions.

Finally, learners seeking to experience personal growth of this nature should heed the advice: "struggle is an integral part of transformative learning, and without struggle, we might argue that there is no learning" (Murdoch et al., 2020, p. 678).

Chapter 9 – Conclusion

Transformative learning is triggered by encountering experiences inconsistent with one's current worldview that requires critical self-reflection to overcome disequilibrium (Mezirow, 1978b). The resulting shift in learners' understanding has been argued to be the cardinal goal of education and fundamental to a meaningful tertiary experience (Mezirow, 1997). While Mezirow's (1991) conception of transformative learning provides a valuable framework to understand higher education students' experiences, a significant gap in the transformative learning literature exists regarding student experiences at a broader level, across multiple faculties, and in Australian tertiary settings. Compounding these under-researched factors, previous studies have also tended to focus on teaching practices rather than the student experience, neglected the role of diversity, age, and culture, and preferred small-scale case study research.

This doctoral study therefore adopted a sequential explanatory mixed methods approach to investigate the foundational concept of transformative learning and the factors impacting transformative learning experiences of learners across all faculties at The University of Sydney. It leveraged King's (2009) Learning Activities Survey (LAS) to identify whether students experienced perspective transformation or not, and what factors were associated with their experiences. Deviant case interviews explored how students experienced transformative learning and any similarities and differences. Apte's (2009) Questions for Reflection triangulated these findings through interviews with educators. The study investigated 15 units of study, returning 284 student surveys, and involved interviews with 15 educators and 35 students.

The findings indicate that transformative learning is effectively fostered through group projects, shared experiential activities, critical discourse, and critical self-reflective assignments and learning activities. The results indicate notable differences between those who did and not experience transformative learning, including their motivations and learning approaches, encountering of disorienting experiences, engagement with critical discourse and critical self-reflection, and appreciation for self-growth and development.

Novel contributions include leadership and team deliberations catalysing perspective transformation, awareness of transformative learning developing over time after conclusion of a unit of study assisted by friends and family, and a broad, representative case study of Australian higher education institutions.

The results contribute to a better theoretical understanding of transformative learning experiences and practices, informing the curriculum design and institutional support required to enable such experiences.

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Appendix 1 – Learning Activities Survey

Note: the following is the Word document version of the Learning Activities Survey. Participants completed an online Qualtrics version of the survey with flows to match this version.



THE UNIVERSITY OF
SYDNEY

ABN 15 211 513 464

JIMMY NORTHWOOD
PhD Candidate

Email: jimmy.northwood@sydney.edu.au

DR LILIA MANTAI
*Senior Lecturer, Academic Lead, Course
Enhancement*

Room 5154
Abercrombie Building (H70)
The University of Sydney
NSW 2006 AUSTRALIA
Telephone: +61 2 9357 7617
Email: lilia.mantai@sydney.edu.au
Web: <http://www.sydney.edu.au/>

Transformative Learning Experiences in Australian Higher Education: Associated Factors and Perceptions

LEARNING ACTIVITIES SURVEY

This survey is part of a research project about the experiences of adult learners at the University of Sydney. It is important that you answer the questions below based on your experiences related to your education in the unit of study in which you were contacted. The survey takes 10-15 minutes to complete, and your answers will be confidential. Completing and returning this survey acts as consent to participating in this study.

1. Thinking about your educational experiences in this unit of study, select any statements that may apply:
 - a. I had an experience that caused me to question the way I normally act.
 - b. I had an experience that caused me to question my ideas about social roles (that is, how certain people should act in a certain situation, for example, how leaders or teammates should act).
 - c. As I questioned my ideas, I realised that I no longer agreed with my previous beliefs or role expectations.
 - d. Or instead, as I questioned my ideas, I realised I still agreed with my beliefs or role expectations.
 - e. I realised that other people also questioned their beliefs.
 - f. I thought about acting in a different way from my usual beliefs and roles.
 - g. I felt uncomfortable with my previous actions/views or traditional social expectations.

- h. I tried out new roles so that I would become more comfortable or confident in them.
- i. I tried to figure out a way to temporarily adopt these new ways of acting.
- j. I gathered the information I needed to adopt these new ways of acting.
- k. I began to think about the reactions and feedback from my new behaviour.
- l. I took action and permanently adopted these new ways of acting.
- m. I do not identify with any of the statements above.

2. Since you began this unit of study, do you believe there was a time when you realised that your values, beliefs, opinions, and expectations had changed?

- Yes. *If "yes", please go to question 3 and continue the survey.*
- No. *If "no", please go to question 6 and continue the survey.*

3. Briefly describe what happened:

4. Which of the following influenced this change? (select all that apply)

Was it a person who influenced the change? Yes No

If "yes", was it... (select all that apply)

- Your teammates' support
- Your teacher's support
- A challenge from your teammate
- A challenge from your teacher
- Another student's support or challenge
- Other: _____

Was it part of a class assignment that influenced the change? Yes No

If "yes", what was it? (select all that apply)

- Group projects
- Deep, concentrated thought
- Class activities
- Non-traditional course structure
- Assigned readings
- Personal reflection
- Verbally discussing your concerns
- Self-evaluation
- Writing about your concerns
- Other: _____

Was it a significant change in your life that influenced the change? Yes No

If "yes", what was it? (select all that apply)

- Marriage
- Moving location
- Birth/adoption of a child
- Change or loss of job
- Divorce/separation
- Seeking a new job
- Death of a loved one
- Other: _____

5. Thinking back to when you first realised that your views or perspectives had changed, what did being a student in this unit of study have to do with the experience of change?

6. Would you characterise yourself as one who usually thinks back over your previous decisions or past behaviour?

- Yes No

Would you say that you frequently reflect upon the meaning of your studies for yourself personally?

- Yes No

7. Which of the following have been part of your experience in this unit of study? (select all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Your teammates' support | <input type="checkbox"/> Your teacher's support |
| <input type="checkbox"/> A challenge from your teammate | <input type="checkbox"/> A challenge from your teacher |
| <input type="checkbox"/> Another student's support or challenge | <input type="checkbox"/> Writing about your concerns |
| <input type="checkbox"/> Group projects | <input type="checkbox"/> Deep, concentrated thought |
| <input type="checkbox"/> Class activities | <input type="checkbox"/> Non-traditional course structure |
| <input type="checkbox"/> Assigned readings | <input type="checkbox"/> Personal reflection |
| <input type="checkbox"/> Verbally discussing your concerns | <input type="checkbox"/> Self-evaluation |
| <input type="checkbox"/> Other: _____ | |

Which of the following impacted you while you were taking this unit of study? (Select all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Marriage | <input type="checkbox"/> Moving location |
| <input type="checkbox"/> Birth/adoption of a child | <input type="checkbox"/> Change or loss of job |
| <input type="checkbox"/> Divorce/separation | <input type="checkbox"/> Seeking a new job |
| <input type="checkbox"/> Death of a loved one | <input type="checkbox"/> Other: _____ |

8. Gender: Male Female Non-binary Prefer not to say

9. Marital Status: Single Married Partner Divorced/separated Widowed Prefer not to say

10. Nationality: _____

11. Before starting your current degree, what was your highest prior education?

- | | |
|---|---|
| <input type="checkbox"/> Bachelors Degree | <input type="checkbox"/> Masters degree |
| <input type="checkbox"/> Graduate Certificate/Diploma | <input type="checkbox"/> Doctorate |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> High School |

12. How many years have you been enrolled in higher education? _____

13. Current age: _____

14. Are you willing to participate in a Zoom interview about your learning experiences? Yes No

15. Would you like to be emailed a one-page summary of this study's findings upon completion? Yes No

Appendix 2 – Coordinator Interview Questions



THE UNIVERSITY OF
SYDNEY

ABN 15 211 513 464

JIMMY NORTHWOOD
PhD Candidate

Email: jimmy.northwood@sydney.edu.au

DR LILIA MANTAI
*Senior Lecturer, Academic Lead, Course
Enhancement*

Room 5154
Abercrombie Building (H70)
The University of Sydney
NSW 2006 AUSTRALIA
Telephone: +61 2 9357 7617
Email: lilia.mantai@sydney.edu.au
Web: <http://www.sydney.edu.au/>

Transformative Learning Experiences in Australian Higher Education: Associated Factors and Perceptions

UNIT OF STUDY COORDINATOR INTERVIEW

This interview is part of a research project about the transformative learning experiences of adult learners at the University of Sydney. These questions will explore your experiences as a Unit of Study Coordinator (UoSC) in facilitating such learning experiences in your unit of study (UoS). The interview will take around 30 minutes, and your answers will be confidential and de-identified if used.

To assist your understanding of the terminology in this interview, the following are some brief definitions of relevant concepts:

- *Transformative learning* is a process of learning that can be achieved through perspective transformation, where critical self-reflection leads to a reformulation of meaning structures that govern how people see the world and act within it.
- *Perspective transformation* can take place when anomalous experiences result in cognitive disequilibrium, or a disorienting dilemma, often called a trigger event, that enables critical reflection and transformation.
- This transformation can impact both lower-order *meaning schemes* that govern how one views the world, and higher-order *frames of reference* that structure the assumptions that shape cognition, perception and feeling. This process can lead to permanent changes in behaviour and action.

Following some contextual questions, the Questions for Reflection about your unit of study will explore four quadrants:

- 1) confirming and interrupting frames of reference
- 2) working with triggers for transformative learning
- 3) acknowledging time for retreat and dormancy
- 4) developing the new perspective.

We will explore your views in each quadrant about, firstly, what may have been happening for your students, and secondly, what may have been happening for you as the facilitator.

Verbal Consent Questions

- Do you consent to participating in this research project, having this interview audio recorded and transcribed, and the data used for research purposes only?
- Are you aware that you can stop the interview at any point and withdraw from the study?

Contextual Questions

- Can you tell me briefly about the learning design of this unit of study?
- What did you expect students to learn in this unit of study?
- What was the typical learning journey for students?

Questions for Reflection

1. Confirming and interrupting frames of reference:

Focusing on the students:

- What were students' expectations of themselves?
- Were their expectations coherent with other student's expectations?
- Were their expectations contradictory or split?
- What information had the students never contemplated before?
- What ideas or stories claimed students' attention, and what was gripping about them?

Focusing on the facilitator:

- What assumptions were embedded in the ideas that you were presenting and/or the materials that you were using?
- Which assumptions were likely to be compatible with those of the students?
- Which ideas presented alternative frames of reference?
- What ideas or stories claimed your attention, and what was gripping about them?

2. Working with triggers for transformative learning:

Focusing on the students:

- What were the differences in perspective among the students?
- What evoked students' curiosity?
- What evoked students' anxiety?
- What hopes did they express?
- Did students experience any contradictions between who they want to be and who they were?

Focusing on the facilitator:

- What in the unit of study evoked your curiosity – what were you thinking and wondering about?
- What evoked your anxiety?
- What were you surprised by?

3. Acknowledging a time of retreat or dormancy:

Focusing on the students:

- What doubts were students having?
- What were students avoiding?
- What provoked anger or defensive responses from students?
- What unlearning might have been required for students to move forward?
- What aspects of the learning would require significant courage?
- What did students say is impossible for them?
- What do you think students needed more time with?

Focusing on the facilitator:

- Were there points at which you experienced anger or defensiveness?
- What do you think you needed more time with?
- What doubts have come to your mind?

4. Developing the new perspective:

Focusing on the students:

- What capabilities were beginning to emerge in the students?
- How were views shifting over time?
- How can the learning in the program be continued?

Focusing on the facilitator:

- What aspects of the program were creating a mood of possibility?

- What barriers do you see in your usual environment?
- How can we take notice of the results that flow from the new possibilities?

Appendix 3 – Student Follow Up Interview Questions



THE UNIVERSITY OF
SYDNEY

ABN 15 211 513 464

JIMMY NORTHWOOD
PhD Candidate

Email: jimmy.northwood@sydney.edu.au

DR LILIA MANTAI
*Senior Lecturer, Academic Lead, Course
Enhancement*

Room 5154
Abercrombie Building (H70)
The University of Sydney
NSW 2006 AUSTRALIA
Telephone: +61 2 9357 7617
Email: lilia.mantai@sydney.edu.au
Web: <http://www.sydney.edu.au/>

Transformative Learning Experiences in Australian Higher Education: Associated Factors and Perceptions

FOLLOW UP INTERVIEW

This interview is part of a research project about the experiences of adult learners at the University of Sydney. These questions will explore your general learning experiences as well as your answers to the Learning Activities Survey that you completed. Some questions may sound familiar, but they are designed to gather further information about your learning in the unit of study.

Verbal Consent Questions

- Do you consent to participating in this research project, having this interview audio recorded and transcribed, and the data used for research purposes only?
- Are you aware that you can stop the interview at any point and withdraw from the study?

Interview Questions

1. Thinking about your educational experiences in this unit of study, have you experienced a time when you realised that your values, beliefs, opinions, and expectations had changed?
2. Can you describe those experiences in more detail?
3. If you have experienced any change, think back to when you first realised your views had changed:
 - a. When did you first realise the change had happened? While it was happening, mid change, or retrospectively after it had happened?
 - b. What made you aware that this change had happened?
 - c. What did being a student in this unit of study have to do with it?
 - d. What will you do differently now because of this change?
 - e. How do you feel about the change?
 - f. Did anyone support you as you went through this change?
4. Why did you choose to enrol in this unit of study?
5. What do you think you were expected to learn in this unit of study?

6. What did you personally expect to learn in this unit of study and why?
7. In which aspects of your learning were you successful or unsuccessful?
8. Did anything in this unit of study evoke your curiosity, anxiety, surprise, or hope?
9. Do you think of yourself as a reflective person? Do you usually reflect on the meaning of your studies?
10. Did completing the learning activities and assessments in this unit of study help you to reflect on your experiences and learn from them?
11. What could have been done differently in this unit of study to have helped your learning? For example, what specific activities?
12. Would your educational experience have been different if you had more time?
13. Tell me about your academic experiences more broadly during this degree.
 - a. Did you do well in your other units of study?
 - b. How did you feel about these other units of study?
 - c. Have you taken much personal meaning from any other units of study in this degree?
 - d. How would you describe the overall learning experience during this degree?