Flinders University | College of Education, Psychology & Social Work

Investigating how an Early Childhood Lecturer (ECL) can foster the growth mindset

By

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Contents

Glossary

BECE	Bachelor of Education (Early Childhood)
ECEC	Early Childhood Education and Care
ECL	Early Childhood Lecturer
ECT	Early Childhood Teacher
EYLF	Early Years Learning Framework
ITE	Initial Teacher Education
PAR	Participatory Action Research

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Declaration

I declare that:

This dissertation entitled: *Investigating how an Early Childhood Lecturer (ECL) can foster the growth mindset* presents work carried out by myself and does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any university.

To the best of my knowledge, it does not contain any materials previously published or written by another person except where due reference is made in the text; and all substantive contributions by others to the work presented, including jointly authored publications, is clearly acknowledged.

Sabina Keppel

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Abstract

Backgrounds: The growth mindset as defined by the Early Years Learning Framework (EYLF) views learning as a continual journey of connection to optimism, resilience and positive attitude to learning that supports children's wellbeing (Australian Government Department of Education [AGDE], 2022). Growth mindset research has influenced how qualified early childhood teachers (ECTs) support children to develop a positive attitude to learning through resilience and optimism. However, there is a lack of evidence how ECTs learn about growth mindsets in their initial teacher education (ITE) from early childhood lecturers (ECLs).

Method: Participatory Action Research (PAR) was conducted in three spirals with one participant at a private higher education provider in NSW. Data was thematically analysed within the perceptions (P) of the growth mindset, implementation (I) and evaluation (E) of the growth mindset principles being - 'embracing challenges', 'persist in the face of setbacks' 'see effort as a path to mastery' 'learn from criticism' and 'find lessons and inspiration in the success of others'.

Results: PAR identified that perceptions, implementation and evaluation of the growth mindset principles are dependent on the self-efficacy of the ECL. Yet, an ECL's self-efficacy is dependent on their self-beliefs, motivation, metacognition and ability to engage in self-regulated learning. Therefore, for an ECL to foster the growth mindset they are required continually grow and develop through the growth mindset principles.

Conclusions: The research highlights the importance of collegial discourse in sharing, reflecting and enacting the growth mindset principles within ECL's teaching practice for student ECTs to have best practice modelled in ITE. Creating a culture within higher education where student ECTs believe that they can grow and develop is best for their teaching practice, and benefits society at large. Future research into student ECTs self-beliefs, motivation and metacognition may provide further insights to how ECLs can further positively impact them within ITE.

Key words: growth and fixed mindsets, early childhood lecturers, student early childhood teachers, incremental theory, higher education contexts, initial teacher education

Chapter 1: Introduction

1.1 Introduction

> Children's early learning influences their continuing educational journeys. Wellbeing and a strong sense of connection, optimism, resilience and engagement enable children to develop **a growth mindset**, and a positive attitude to learning (AGDE, 2022, p.9)

Within the last decade, there has been a sharp increase in the knowledge and application of incremental theory on how children are taught and raised. Dweck's (2000) research has made a global impact on how children are influenced from those around them, which can positively support their learning, development and wellbeing. In Figure 1 Carol Dweck (2024), who coined the term "growth mindset" has explored the principles of growth and fixed mindsets to show how one may demonstrate these self-beliefs in response to challenges, obstacles, effort, criticism and the success of others. The growth mindset is categorised by a person who has a greater sense of will to embrace challenges, use their effort to persist in through setbacks, learn from feedback even if it is in the form criticism and to be inspired by others who succeed. On the other hand, the fixed mindset reveals a person's preference to avoid challenges and give up because the effort is not worthwhile, where they cannot see feedback as a means to grow and can feel threatened by others success. Dweck (2017b, p. 1) advocates for this research to be treated as a work in progress rather than a 'magic bullet'. There are opportunities for further research of growth mindset (incremental theory) to create a long-term collaboration between researchers and practitioners, and there is a need for this research with our youngest learners. Dweck's views from a Harvard University Edcast 'Mindset and Parenting' (2018) asks "Can we create cultures, schools, organisations that embody a growth mindset where every member of that school or organisation believes they can develop their abilities?". My research also asks if ECLs can contribute to this culture in the higher education context.

Figure 1: Fixed and Growth Mindset Comparison 'Principles' (Dweck, 2024)

Figure removed due to copyright restriction.

1.2 Background

The early years (birth to eight years of age) are both a critical and sensitive period of development in a child's life where the growth mindset can have a strong impact (Anning et al., 2008; Center on the Developing Child, 2018; Garvis et al., 2018; Petty, 2016). As substantiated by the Early Years Learning Framework (EYLF) (AGDE, 2022) and research conducted by Harvard University Center on the Developing Child (2018); (2024), the early years is when children's self-beliefs, motivation and mindsets are formed. According to the Australian Children's Care and Quality Authority (ACECQA, 2023) it is vitally important that this period is supported within an environment built on positive relationships within the home and educative contexts (Collier et al., 2020; Goldfeld et al., 2016). However, there is limited related research on how to execute the growth mindset for early childhood lecturers (ECLs)[1] when teaching student early childhood teachers (ECTs)[2] in their Initial Teacher Education (ITE) (Boylan et al., 2018). The focus of my research is about ECL's teaching practice[3].

1.3 Impetus for Research

My research seeks to find an opportunity for the growth mindset to be applied in higher education contexts such as Initial Teacher Education (ITE) within the Bachelor of Education Early Childhood (BECE) degree. Research into the growth mindset demonstrates the transformative change in the way families and communities approach teaching and raising of children (Cologon, 2022; Grace et al., 2017; Munger et al., 2023). Whilst there is some research on how qualified ECTs can seek out ways to incorporate the growth mindset into their teaching practice, there is minimal research into how student ECTs learn

1 Early childhood professionals working as early childhood lecturers (ECLs), this may include qualified early childhood teachers (ECTs), professionals who have undertaken research in early childhood contexts, and a combination of these varied professional experiences representative of the participants

2 Student early childhood teachers (ECTs) refers to higher education students studying Bachelor of Early Childhood Education

3 Teaching practice will imply the ECL's teaching practice as a lecturer, which may incorporate their knowledge of teaching children (pedagogy), teaching adults (andragogy) and/or research experiences but thereafter will only be referred to as teaching practice

about the growth mindset within higher education (Boylan et al., 2024; Kolyda, 2023). Additionally, there is also research on how teachers (primary and/or secondary) can foster the growth mindset with their student ECTs, but this is not as relevant to the Early Childhood Education and Care (ECEC) context (Greenier et al., 2023; Willis et al., 2014).

1.4 Significance of the Study

Research conducted by Boylan et al. (2018) affirms that qualified ECTs believe the growth mindset is crucial to teach but they also believe they are not capable of facilitating it. Boylan et al. (2024) followed this research further which uncovered specific design principles to consider how the growth mindset could be fostered by qualified ECTs. My research delves into how the growth mindset can be fostered within the ITE, that is, prior to students graduating. A part of this research explores how ECL's experience, knowledge, perception and understanding of incremental theory can impact the execution of teaching the growth mindset principles. The significance of this research is that ECL's teaching practices can benefit student ECTs, children and society at large. When ECLs engage in PAR it enables them to share, reflect and enact growth mindset teaching strategies for collaboration, professional learning and reflexivity. Ultimately, this research reveals how an ECL can foster the growth mindset in their teaching practice, which will support student ECT's prior to graduating which is vital for how understanding children's learning and wellbeing through the growth mindset (Dweck and Yeager, 2020).

1.5 The Research Question

By focusing on ECLs, this research can benefit the teaching practice of both ECLs and the student ECTs who will teach children. My research seeks to explore how an ECL utilises the growth mindset and how they can further foster the growth mindset in their teaching practice.

1. How does an ECL **perceive** the growth mindset in their teaching practice?

2. What factors influence an ECLs **implementation** of growth mindset principles in their teaching practices?
3. What factors influence an ECLs **evaluation** of the application and effectiveness of growth mindset principles in their teaching?

The first research question seeks to explore the perspectives and understanding of the growth mindset and the relationship to an ECLs teaching practice. The second research question focuses on identifying individual factors that impact how ECLs implement growth mindset principles (in relation to Figure 1) to support student ECTs through strategies and interventions. The third question expands on these factors to investigate the connection to how ECLs evaluate the application and effectiveness of growth mindset principles in their teaching. The research results seek to uncover the practical insights that can inform improvements in how growth mindset is assessed and integrated into teaching practices.

1.6 Presumptions and Expectations

My research sought to understand how an ECL's perceptions of the growth mindset impacts how they implement and evaluate the growth mindset principles within student ECT's ITE. It can be surmised that ECLs require a range of teaching strategies, in addition to knowledge and understanding of the growth mindset to be able to meet this research objective (Masaki, 2021). Utilising the PAR process explored the connection between an ECL's teaching practice and how the growth mindset is fostered for the individual ECL. The responses were detailed and reveal the deep collegial discourse that was enabled with a reduction of ECLs participating. It was expected that the ECL would demonstrate high self-efficacy, but the research enabled the collegial discourse to explore the how and why this impacts their teaching practice.

1.7. Dissertation Structure

The structure of this dissertation will include 5 more chapters including: Chapter 2 literature review, Chapter 3 methodology, Chapter 4 Findings, Chapter 5 Discussion and finally Chapter 6 Conclusion, followed by the Appendices and references.

1.8 Methodology

As articulated by Creswell (2021), Participatory Action Research (PAR) is about empowering individuals. My research used PAR to investigate ECLs through the process of fostering growth mindset strategies in their teaching practice. This research sought to investigate how an ECL utilised the growth mindset in their current teaching practice and explored further teaching strategies that evolved from this research. ECLs are a marginalised group due to the absence of literature on how they can foster the growth mindset in their practice. Marginalisation impacts their student ECTs who go on to teach children. PAR sought to explore how an ECL can share, reflect and enact the growth mindset through agreed actions (Creswell, 2021; Huffman, 2017). This research proposed how ECLs can develop greater understanding of how to implement the growth mindset through combining theoretical understanding with teaching strategies (Baumfield et al., 2008; Yeager & Dweck, 2020). The research in turn supports student ECTs during their higher education studies (Lauermann, 2023; Lauermann & Berger, 2021; Lauermann & Butler, 2021).

1.9. Conclusion

As a researcher, colleague and insider to this research, it has been a valuable experience where I have been privy to develop my own understanding of the growth mindset within the PAR process. Participation in the meetings was interesting as facilitator and guide to the ECL's decisions, actions and reflections as the driving factor of the research. The PAR process allowed for the research to evolve

with the participant's choices and challenged me to reflect before, during and after the meetings when I was becoming familiar with the data.

Chapter 2: Literature Review

2.1 Introduction

Whilst the literature on incremental theory (growth mindset) has substantially increased in the past decade, there is a lack of literature on growth mindset and ITEs within early childhood degree programs. As Figure 2 shows, there is a lack of current research on growth mindset within early childhood initial teacher programs as per the Scopus database. There was a total of ten articles produced from this search. Most articles related to social sciences (55%), followed by computer science (18%), arts and humanities (9%), engineering (9%) and psychology (9%). There were no articles focused on the growth mindset in early childhood ITEs.

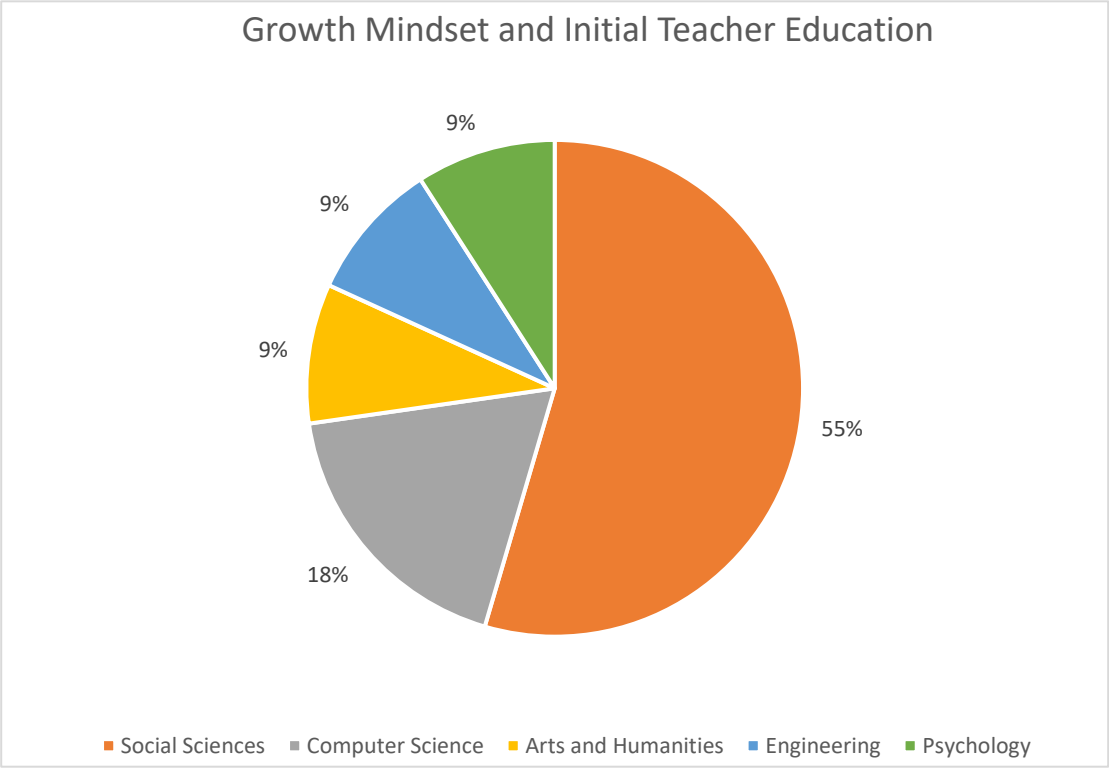


Figure 2 Growth Mindset and Initial Teacher Education from 2014 - 2024 (Data generated from the Scopus database on 19th June 2024)

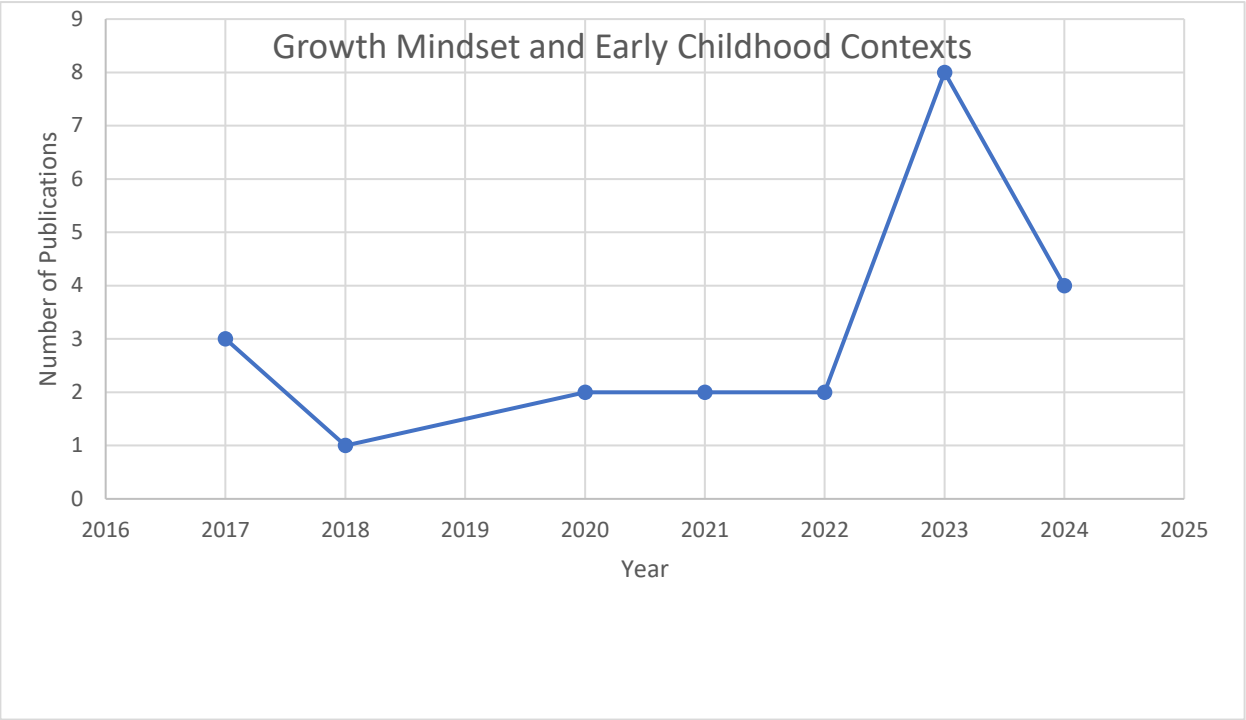


Figure 3 Growth Mindsets and Early Childhood Contexts from 2014 - 2024
(Data generated from the Scopus Database on 19th June 2024)

As Figure 3 further details, there is more literature on the growth mindset and early childhood contexts, but these do not include any research related to ITE or higher education related to the early childhood degree in Australia. Therefore, psychological concepts that form the principles of the growth mindset have been explored within the context of early childhood ITE for this literature review.

2.2 Growth Mindsets and Early Childhood Teaching in Australia

The most relevant research that investigates growth mindset within early childhood in Australia, pertains to how qualified ECTs can develop their teaching practice. Boylan, Barblett and Knaus (2021) conducted a study of 95 Western Australian ECTs from Kindergarten to year 2 to examine what teachers believe about mindset. The majority of ECTs believed that the growth mindset is both valuable and integral to their teaching. However, only 14% of teachers believed in their own ability to foster the growth mindset. A key finding reveals that even upon completion of a qualification, beginning and teachers with over 25 years experience believe that this is not part of their role. As Dweck (2017)

acknowledges that the growth mindset is poorly understood and research shows that they do not know how to include this in their practice.

Boylan et al (2024) followed this research with design research and conducted three focus groups with ECTs who teach children between three and half and six and a half years. This research also included video diaries and the development of nine principles to foster children's growth mindset. This research was part of a wider PhD but provided interesting insights which are also mirrored in this research. Boylan et al (2024) supported the need for ECTs to have knowledge of their own beliefs around intelligence, mindsets and how this affects their own expectations of themselves, children and their teaching practice. This research aims to empower student ECTs through ECLs teaching practice.

There is some research for growth mindsets within higher education in Australia, however these are not applicable to student ECTs studying the Bachelor of Education (Early Childhood) degree (Ng et al., 2020; Nurani, 2022; Rubin et al., 2019). There was only one article on how student ECTs are taught within the Bachelor of Education (Early Childhood) program, but was related to cultural competence, work burnout and teaching efficacy rather than growth mindsets (Siskind et al., 2023). To contribute further to early childhood contexts, my research proposes that further investigation into ITE would provide opportunities for ECLs to empower student ECTs. As Yeager et al. (2013) implore, more research into early childhood needs to be advocated to bolster our youngest learners. My research aims to consider how ECLs could possibly support student ECTs within their higher education that has potential to transfer to their teaching practice in the classroom.

2.3 Concepts in Early Childhood teaching and higher education contexts

In the Early Years, the interaction between a child's genetics and early experiences actually shapes their brain architecture (Center on the Developing Child, 2018, 2024). These interactions are known as "serve and return interactions", which also support the foundation for encouraging children to develop positive or growth mindsets (Center on the Developing Child, 2004, p. 1). According to the Center on

the Developing Child (2018, 2024) this is an early opportunity to invest in a child's development through an environment of positive relationships of serve and return interactions and exposure to positive stress. Implicit theories are core assumptions that one makes about the malleability of qualities such as intelligence and personal attributes (Murphy & Dweck, 2010; Murphy & Benton, 2010). It is therefore conceivable, that children are developing their core assumptions in the earliest years of their life (Center on the Developing Child, 2004; Collier et al., 2020; Dweck, 2016; Goldfeld et al., 2016). ECLs have an opportunity to empower student ECTs to firstly examine their own core assumptions, but to also develop their own pedagogy with incremental theory in mind to support future generations of children as our future global citizens (Center on the Developing Child, 2018, 2024; Darling-Hammond et al., 2020).

A proponent of implicit theory is incremental theory; the belief that intelligence is changeable and not fixed (Bruning, 2011; Dweck, 2013b). Therefore, incremental theory can promote resilience through growth. Intelligence as an intellectual ability can be nurtured and can grow with time and effort - these experiences are impacted by various factors. It is the ability to interpret challenge and failure as opportunities for mastery by learning to believe that effort rather than talent is the driving factor (Yeager & Dweck, 2012). The view of intelligence as part of the growth mindset means that ECLs can nurture ability, skills and knowledge, and can see their own practice as opportunities to encourage student ECTs (Kolyda, 2023). Conversely, if ECLs have the view that intelligence is fixed, they may not have the belief their practice has any, and/or limited impact on student ECTs (Boylan et al., 2018; Dweck, 2013b, 2016; Kolyda, 2023). Seaton (2018) conducted research on teachers perceptions of intelligence, which showed the that specific training that was offered helped teachers to gain a better understanding of implicit theory. Seaton (2018) noted that for teachers to make sustained change, it is necessary that teachers evaluate their existing knowledge to be able to bridge to new knowledge. Conversely, Yeager and Dweck research (2020) found that growth mindset interventions did not make sustained change for teacher's practices. Is the perception of intelligence a more flexible concept for teachers to make a sustained change than targeted growth mindset teaching strategies? My proposed

research explored the connection between an ECL's self-beliefs, views of intelligence and their understandings of teaching practice in how they support student ECTs.

Incremental theory impacts how one attributes meaning to an outcome, where hurdles and setbacks are interpreted as evidence to work harder, rather than evidence of a lack of intelligence or talent (Dweck, 2013b; Dweck, 2017a). From an incremental theory standpoint, attributions are more likely to be seen as controllable through effort, which in turn can support developing mastery rather than performance goals. Performance goals are about measuring your ability whereas mastery goals are about learning and growth (Dweck, 2013b; Yeager & Dweck, 2020). As Bruning (2011) explains "attributions are judgements about past events" whereas "self-efficacy beliefs are judgements about future events" (p.132). When ECTs are educating children, it is vital that they are encouraging them to strive for the effort that is required to meet their goals. In early childhood contexts, Masaki (2021) explains educators can struggle with how to provide appropriate feedback and praise to children, where the use of language that encourages the growth mindset was an example of how to support cooperative behaviours.

The way we attribute meaning to events in our lives determines courses of action, which will either enable or disable people reaching their goals (Zimmerman et al., 1992). The ways a person perceived the causes of a past event and resulting intention to persist through effort or to believe that the outcome is a product of a lack of ability (Graham, 1991, 2020) determines potential action. How people attribute success and failure to ability, effort, difficulty and luck is relevant to how self-beliefs are formed. Attributions using incremental theory, performance and mastery goals are examined further to establish how ECLs attributions affect how they make decisions which impacts their practice (Bandura, 1977, 1978; Weiner, 1985). The understanding of attributions has potential for ECLs to interpret the multitude of responses to how they teach student ECTs. For example, if student ECTs attribute the most meaning to performing in assessments as their performance goal, they will most

likely struggle with the wide variety of skills and knowledge of what is required to master becoming an ECT.

Bandura (as cited in Zimmerman, 2000) defines self-efficacy as personal judgements of one's capabilities to "organise and execute courses of action to attain designation goals" (p.2). Therefore, our self-beliefs and the way we attribute meaning to them impacts the goals we set for ourselves. Self-beliefs are people's causative capabilities that form the belief in their ability to achieve their goals (Brownlee et al., 2011; Brownlee et al., 2016; O'Keefe et al., 2018). The level of self-efficacy refers to the dependence on the difficulty of a task, where the generality pertains to the ability to transfer the self-efficacy to other tasks. The strength of self-efficacy measures the certainty of meeting the task requirements, as a measure of one's own self-beliefs, capabilities and outcome expectations (Lauermann, 2023; Lauermann & Berger, 2021; Lauermann & Butler, 2021). The inexplicable link here is that self-efficacy substantially benefits from having an incremental belief of intelligence, capabilities and outcome expectations (Bruning, 2011; Dweck, 2013a; Zimmerman & Campillo, 2003). In my research, through participation in action research ECL's will reveal their self-beliefs, attributions and self-efficacy in why, how and when they make certain decisions in their teaching practice.

2.4 Motivation, Autonomy and Agency effects on student ECTs and ECLs

How ECLs choose to motivate themselves and student ECTs provide interesting insights to how they utilise what they know about themselves and their student ECTs. Motivation empowers an individual to participate in learning, through internal and external mechanisms. Internal motivation represents the behaviours associated with a person's internal desires which may include joy, satisfaction or interest (Boeren et al., 2012; Mayer, 1998). External motivation refers to behaviours connected to external reasons which may include reward, obligation, threat or punishment (Boeren et al., 2012; Bruning, 2011; Deci & Ryan, 2012). Motivation is inherently connected to attributions and self-beliefs in how people's past impacts their future engagement, learning and development. It is inexplicably

linked to perceptions about oneself through personal, behavioural and environmental factors (Bandura, 1982). Additionally, motivation is also evolved from past and future determinants which fuel our desire to participate in learning that is either self-determined or controlled (Deci & Ryan, 2010, 2012; Ryan & Deci, 2000).

The impact of behavioural and environmental factors informs how our self-beliefs are made and how our attitudes to events are constructed. Behavioural factors are the response patterns that occur in certain contexts or situations (Bandura, 1982; Zimmerman et al., 1992). Environmental factors include the roles that peers, family and teachers have on the individual. Bandura (1982) further explores the connection between these factors and the two means that self-beliefs can promote autonomy. One way is through a high level of self-efficacy where individuals feel a greater sense of control, they experience less anxiety, persist more and use feedback to improve further. This option implores the individual to develop implicit beliefs of intelligence and ability (Lauermann, 2023; Lauermann & Berger, 2021).

Individuals with low self-efficacy perceive the environment and their traits as fixed, so another way to promote autonomy is by modifying the learning environment (Struyven et al., 2006; Yeager & Dweck, 2012). Individuals with low self-efficacy may tend to believe their intelligence and ability is fixed. Therefore, people's response patterns to learning are highly motivated by their self-beliefs – particularly those around intelligence and ability (Bjork et al., 2013; Callan & Shim, 2019). For example, how ECLs factor in people's responses to situations such as receiving feedback into their practice may be something to reflect and build on (Popova & Margrain, 2019).

When one experiences success or failure, these personal, behavioural and environmental factors impact the motivation of individuals to execute courses of action that can promote autonomy, incremental beliefs, infer new attitudes or coping strategies that support greater agency (Darling-Hammond et al., 2020; Dweck, 2013b; Rogers, 2005). Additionally, past experiences also impact the various judgements that develop attributions which impact these future courses of action. Vicarious

and enactive experiences also influence learning and courses of action (Bandura, 1997). Enactive learning is a powerful tool for learning by doing, where one can receive feedback about performance in real time. Vicarious learning occurs when learning from others through observation and/or discussion (Bruning, 2011; Ryan & Deci, 2000).

As Ryan and Deci (1985, 1987) explain intrinsic and extrinsic motivation are not the only determinants to purport an outcome or action that encourages autonomy. As Ryan and Deci explain (as cited in Bruning, 2011) for one to be autonomous, a behaviour must be determined as one's choice, not through pressure or obligation. Therefore, the perception of choice drives behaviour within a certain context or situation where this is internally desired rather than externally controlled. Consequently, personal, behavioural and environmental factors can be perceived as self-determined or controlled when one has experiences that either re-enforce attributions or self-beliefs (Bandura, 1978; Deci & Ryan, 2010, 2012).

Ryan and Deci explain (1985,1987) vicarious and enactive learning can nurture intrinsic motivation when teaching and learning work together in a reciprocal manner, so too can the structure of the learning environment when teachers consider the powerful nature of the perception of choice in creating incremental self-beliefs about intelligence and ability (Dweck, 2016; Dweck & Yeager, 2019). Therefore, considerations about motivation, autonomy and agency should be considered when trying to establish self-efficacy that supports engagement and learning (Lawson et al., 2019; Louws et al., 2017). For example, how ECLs plan a choice of activities to support autonomy, enactive and vicarious learning can enable student ECTs to make choose the type of learning which can drive their motivation to seek other challenging opportunities (Kolyda, 2023).

2.5 Meta-cognitive processes, Self-Regulated Learning (SRL) for student ECTs

Metacognition aptly known as 'thinking about thinking' also reveals one's own knowledge and regulation of cognition, not as a fixed state, but rather an evolving one (Flavell, 1985 as cited in Bruning,

2011). Knowledge about cognition requires declarative knowledge about the factors which impact our performance. These factors can be procedural and conditional knowledge in nature – what strategies will be chosen and utilised (procedural); when and why (conditional). Metacognition is heavily influenced by one's ability to reflect and regulate when, how and why these processes or strategies will be utilised (Callan & Shim, 2019; Lai, 2011). Therefore, metacognitive processes are ways in which monitoring of cognition requires an ability to know how and what to monitor (Darling-Hammond et al., 2020). Monitoring is not connected to intellectual aptitude, but rather knowledge of task difficulty and prior knowledge. The active learning environment can substantially influence metacognitive processes, where self-checking and asking for assistance (peers and ECL), goal setting, planning, reviewing and organising information are some strategies that can be reinforced by the ECL to support student learning (Hoffman & Spatariu, 2008; Lai, 2011; Mayer, 1998).

Therefore, ECL's might demonstrate, plan and implement metacognitive practices to support their student ECTs to become more metacognitive learners. As Pressley (1995) discusses, a "good thinker: has a large repertoire of strategies and awareness of knowing when and where to use these strategies requires continual monitoring of the usefulness of these strategies. Additionally, knowledge from prior learning lends itself to support metacognitive processes. Pressley (1995, p. 5) further explored that "not so-good thinking" strategies will undermine a learner's capacity to know when, how and why strategies are used. ECL's awareness of their own metacognitive practices will elicit a balance of teaching strategies to support student's metacognition. Instruction is key to supporting metacognitive awareness, and thus the development of strategies (Dweck, 2013a, 2013b; Pressley, 1995).

Approaches to instruction that support metacognitive practices include direct and guided teaching, scaffolding and modelling (Bruning, 2011; Dignath & Veenman, 2021). As previously mentioned, teaching approaches can support the active learning environment in vicarious and enactive ways (Schön, 1987, 1995; Struyven et al., 2006; Volet et al., 2009). For example, the ECLs may role model and scaffold a task for the student to discuss in groups and then perform the task – firstly within the

group and then independently. This can support enactive learning by doing but is also supported by feedback during the process (both in the form of teacher and peer feedback). The student ECTs learn by discussing and observing each other in the group, before independently performing the task. How ECLs provide feedback within their learning environment can support student ECTs to understand how they learning, self-monitoring and evaluating their learning (Hattie, 2023; Hattie & Timperley, 2007).

Metacognitive practices and processes involve monitoring which is both reflective and evaluative to support self-regulation. As Kolb (1984) explains "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (p.41). Using multiple interwoven concepts of metacognition and self-regulation, it is possible to investigate the reflective and evaluative judgements that ECLs make before, during and after instruction (Louws et al., 2017; Schön, 1987, 1995). Within the PAR process the participation of an ECL encourages self-reflection on their experiences in fostering the growth mindset. Through collegial dialogue between the ECL and researcher, my research will explore the connection between how an ECL understands, implements and evaluates teaching decisions.

2.6 Self-Regulatory-Learning (SRL) as a tool for developing ECL's teaching practice

Learning is a self-regulated process (SRL) (Zimmerman & Schunk, 2001). As Alvi-Gillies (2020, p.2) states:

> teachers are encouraged to understand their own abilities, as learners as well as educators of SRL, be aware of the importance of SRL within their pedagogical framework, plan lessons accordingly and evaluate SRL related practices as reflective practitioners.

Teaching practice requires ongoing self-regulated learning processes of the development of skills, abilities and knowledge which overlaps with the incremental belief of intelligence, in that growth occurs from reflecting on the meaning behind one's actions, decisions and perceptions (Dweck, 2013a; Sternberg, 1999). SRL requires levels of cognition and metacognition which support an ECL's motivation

to learn, which is incumbent on the ability to reflect, create goals, strategies and plans (Schunk & Zimmerman, 1997; Zimmerman & Schunk, 2006). Cognitive processes are required to learn what aspects of teaching practice are worth noticing, and impacts metacognitive processes such as problem recognition and definition, strategy formation, monitoring and evaluating (Lawson, 2000; Mayer, 1998; Zimmerman & Campillo, 2003).

The measure of success can be defined by one's own ability to self-regulate and therefore inform future practices for becoming a more reflective practitioner (Schön, 1987; Zimmerman & Schunk, 2001). Examining the connection between self-beliefs, intelligence, motivation and SRL could be a vital tool for executing the growth mindset in an ECL's teaching practice (Schunk & Zimmerman, 1997; Zimmerman & Schunk, 2006). One's understanding of motivation, self-beliefs and self-efficacy through being a self-regulated learner (Bandura, 1977, 1982; Bruning, 2011; Zimmerman, 2002; Zimmerman & Campillo, 2003; Zimmerman & Schunk, 2012). This research proposes that an ECLs will engage in SRL as part of the research process and engaging in collegial dialogue; which include sharing, reflecting and enacting teaching strategies to execute the growth mindset (Lave & Wenger, 1996; Masaki, 2021).

Participatory Action Research (PAR) creates the conditions for the research to be conducted from within the practice, where participants share the language of their practices and are not objective bystanders (Kemmis et al., 2014; Mackay, 2016) (Figure 4, Figure 5, Table 1). According to Kemmis (2014) PAR allows for the research to be guided by those within the practice to "enlighten practitioners so they can act more wisely and prudently" (p.24). ECLs will engage in self-reflection individually, but PAR also supports collective self-reflection (Mackay, 2016). When ECLs and I participated in PAR, we are reflected on how the growth mindset is explored and what actions and decisions will be made within each spiral, as part of our teaching practice (Kemmis et al., 2013). ECLs are the participants who plan, act and implement on the agreed decisions (spirals) which enables changes to be determined by their decisions rather than the research process (Mackay, 2016; Mahon et al., 2017). The methodology

of PAR is to remain open to the changing conditions of where the research will lead, depending on the decisions from within each spiral (Huffman, 2017; Kemmis et al., 2013).

2.7 Conclusion

This literature has considered psychological concepts that may be embedded in the growth mindset and principles that this PAR research uncovered. The ECL has participated in this research shared their own self-beliefs that influenced the way they attribute meaning to their perceptions of the growth mindset. The participant's own self-efficacy is a foundation of these self-beliefs that influence how they have motivated themselves and their student ECTs and their decision making on how they implemented the growth mindset principles. This process of reflection on self-beliefs and questioning decisions and actions is both metacognitive and part of SRL when the ECL evaluated the application and effectiveness of their teaching practice. The PAR process supported the empowerment of the participant, in providing space to share, enact, reflect and evaluate their teaching strategies when they implemented the growth mindset principles.

Chapter 3: Methodology

3.1 Research Design

My research included purposeful sampling based on an ECL who voluntarily participated within the Australian context of a private Higher Education Institute. This research required access to an ECL within this learning environment, where discussions and reflections occurred (Creswell, 2021; Huffman, 2017; Stringer, 2019; Stringer, 2007). This research process has contributed to the scholarly literature and pedagogical change for ECLs through the PAR process - through the participation, collaboration and exploration of teaching strategies (Stringer, 2019). Insights gained from the research have potential to contribute to the professional learning of ECLs and support further research in early childhood teaching within higher education contexts (Leavy, 2022). This research utilises PAR to include the participant in the process of investigation itself (Walker & Boni, 2020).

3.2 Research Questions

By focusing on ECLs, this research benefited the teaching practice of both ECLs and student ECTs who will teach children. My research explored how an ECL utilised the growth mindset and how they can further foster the growth mindset in their teaching practice.

1. How does an ECL **perceive** the growth mindset in their teaching practice?
2. What factors influence an ECLs **implementation** of growth mindset principles in their teaching practice?
3. What factors influence an ECLs **evaluation** of the application and effectiveness of growth mindset principles in their teaching practice?

The first research question explored the perspectives and understanding of the growth mindset and the relationship to an ECLs teaching practice. The second research question focused on identifying individual factors that impact how ECLs implemented growth mindset principles (in relation to Figure

1) to support student ECTs through strategies and interventions. The third question expanded on these factors to investigate the connection to how ECLs evaluate the application and effectiveness of growth mindset principles in their teaching. The research results uncovered the practical insights that can inform improvements in how growth mindset is assessed and integrated into teaching practices.

3.3 Participatory Action Research (PAR)

In Figure 4, this research utilised the dynamic PAR process and the steps that were adopted. In Figure 5, the PAR process is detailed where the characteristics of PAR – Participation, Action and Collaboration are key features of this research. In Table 1, The roles for the participant and researcher are then further explained to demonstrate the rigour of this research

Figure 4 The PAR Dynamic Process:

1. ***Call for research participants*–** ECLs can participate on a volunteer basis to support the research aim of uncovering how ECLs can foster the growth mindset. An email calling for participants explained how the research would be conducted. This process was democratic- where all participants from the Sydney team (who have worked at the higher education institute for more than one trimester) were invited to participate. This process was equitable where all participant's views and decisions were fairly regarded as equal in value to the research. The researcher explained this process aims to support an ECL to share, reflect and enact their practice in ways they mutually agree on (Kemmis et al., 2014; Stringer, 2007). N.B: although a call for participants was sent to the entire Sydney team, 1 participant confirmed and volunteered to participate.
2. ***Growth mindset fact sheet* (Appendix C)–** key information about what the growth mindset is was provided as pre-reading in preparation for the first meeting (Boylan et al., 2018; Claro et al., 2016; Dweck, 2016; Kolyda, 2023; Yeager & Dweck, 2020). The ECL was asked to share existing challenges they have experienced within the first meeting which may or may not become the actions that are reflected on within the spirals.

3. ***First meeting–*** ECL and researcher met and discussed their understanding, knowledge, existing practices and challenges associated with the growth mindset. The participant was asked to share their experiences from their face-to-face classes. At the end of the meeting the ECL determined what actions would be chosen for their face-to-face classes to foster the growth mindset. This research was open to how this discussion may develop – the discussion may focus on solving a commonly experienced challenge or practicing a new strategy they have learned as a product of this first meeting. The ECL will drive the actions which will then be agreed upon for the first spiral (Huffman, 2017; Stringer, 2019).
4. ***Begin First and Second Spiral–*** ECL and the researcher met again to share and reflect how they explored the growth mindset. The participant shifted in their focus of actions with their year 4 (Y4) class when a new challenge was presented (M2). This research was open to how the ECL guided the chosen actions of the participant. This research is life-enhancing where the participant was free to make choices and/or improve the quality of those choices as they see fit (Huffman, 2017). ECL and the researcher met after teaching strategies are explored within their classrooms. The participant and the researcher determined three spirals was a natural and logical end to the research (M3). However, the ECL and researcher discovered there were more questions and area of exploration beyond the scope of this research that would also prove to be interesting insights into the growth mindset which will be further discussed in the conclusion (Huffman, 2017; Kemmis et al., 2014). The participant reflected, shared, implemented and evaluated experiences that have occurred within this research (Ashwin et al., 2020; Simoncini et al., 2014).
5. ***Third Spiral and Final Meeting (end of research and spirals)–*** ECL and researcher agreed to complete the final meeting and the third spiral in a longer final meeting. The participant shared how the teaching strategies that have been shared have impacted their practice including, but not limited to how they plan, implement and interpret the growth mindset for their teaching practice.

The final meeting was an opportunity to reflect on how their choices have impacted their practice for both the ECL and researcher (Huffman, 2017; Stringer, 2007).

Figure 4 Participatory Action Research Dynamic Process (Adapted from Creswell, 2021; Kemmis, 2014; Huffman, 2017; Stringer, 2019, 2007)

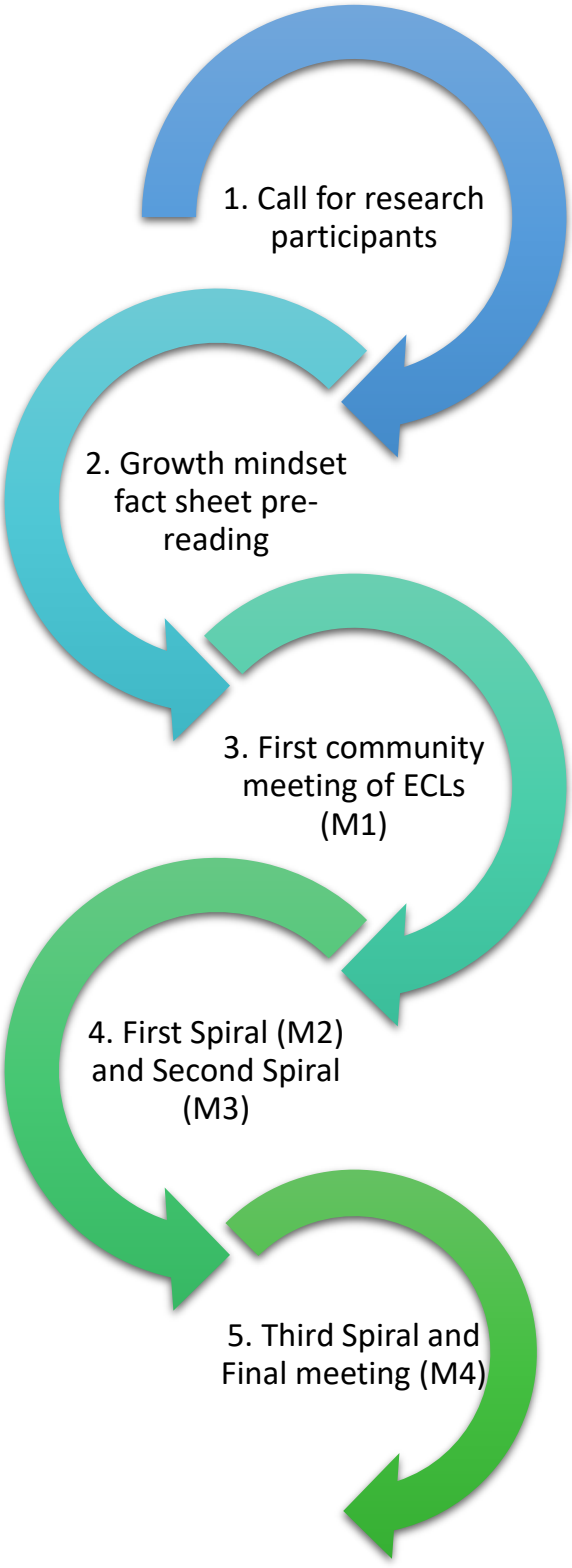
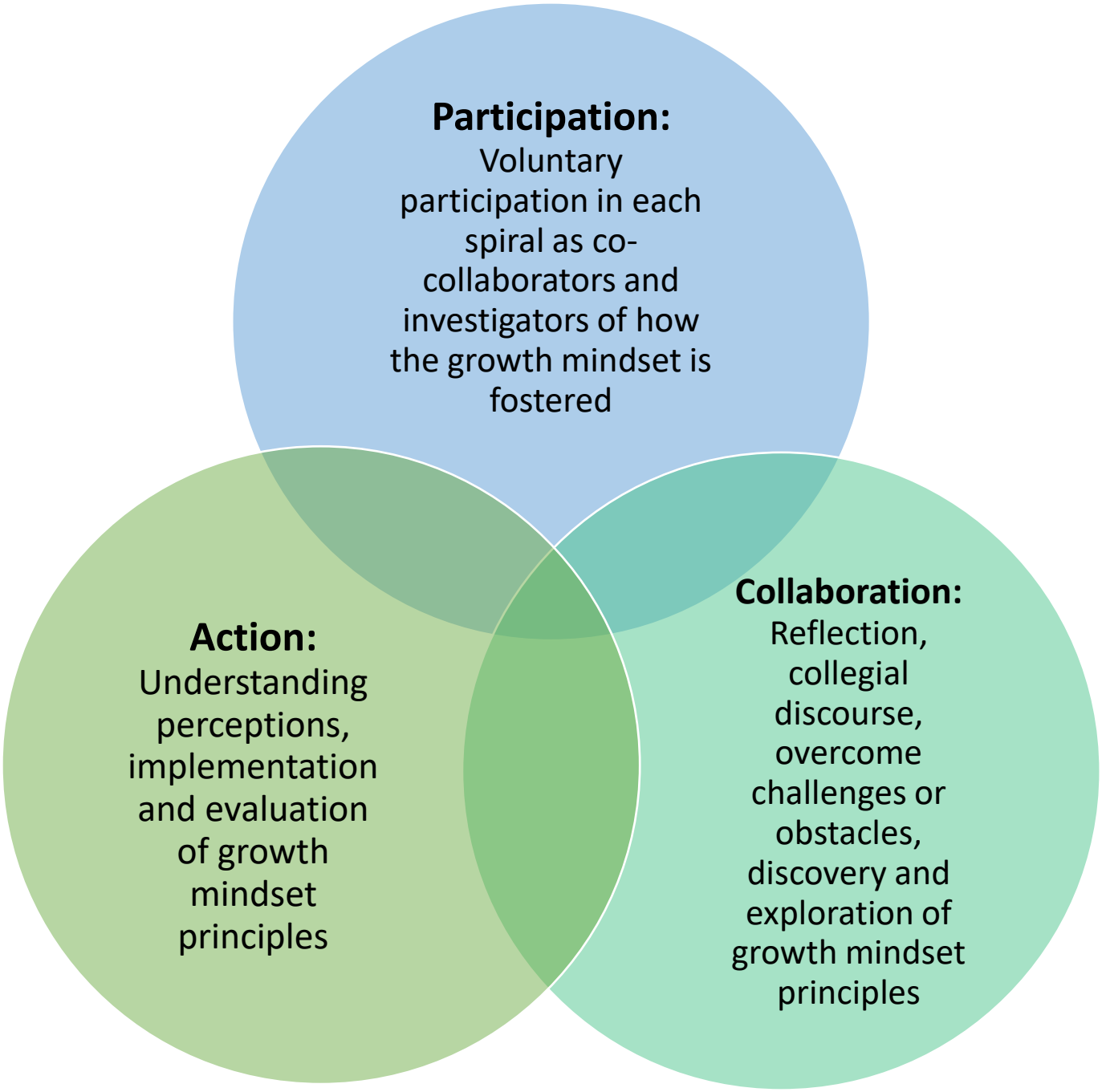


Figure 5 Characteristics of Participatory Action Research in a Private Higher Education context (Table 1)



As Figure 4 and Figure 5 demonstrate how the dynamic PAR process was employed in this research, the below table further explains how the role of the participant and researcher varied. Table 1 states how the PAR characteristics of participation, action and collaboration maintain the rigour of this research through the individual roles of the participant and researcher.

Table 1 Roles of participant and researcher in Participatory Action Research

PAR Characteristic	Role of Participant	Role of the Researcher
Participation	• Voluntary participation in the research and participant could withdraw at any time • Shared key information about teaching experiences (e.g. years of teaching with children, in higher education, other professional experiences) • Prepared for meetings e.g. pre-reading of the growth mindset fact sheet, considering personal experiences to share in first meeting • Reflected on what actions were agreed on for implementation and evaluation for each spiral • Participant shared their experiences from their face-to-face classes and final reflections in final meeting	• Organised call for participants where growth mindset factsheet is provided, and research is outlined clearly for participants • Prepared possible 'themes' for facilitation of dialogue, and actions to facilitate focus on fostering the growth mindset through meeting the growth mindset principles
Action	• Reflected on what actions were agreed on for implementation and evaluation for each spiral • Shared experiences from an individual standpoint for the mutual benefit of the ECLs and student ECTs to learn from each other	• Facilitated and guided dialogue around understanding perceptions of the growth mindset, implementation and evaluation of the growth mindset principles • Clarified any questions • Ensured spirals were focused on the research and used member checking to ensure accuracy and validity
Collaboration	• Shared experiences to understand the perceptions of the growth mindset, implement and evaluate how the growth mindset principles can be fostered • Reflection, professional dialogue, addressed challenges and exploration of growth mindset teaching strategies	• Facilitated and guided dialogue around understanding perceptions of the growth mindset, implementation and evaluation of the growth mindset principles • Clarified any questions • Ensured spirals are focused on the research and used member checking to ensure accuracy and validity • Encouraged ECL to understand their opinions are equally valued when compared roles of researcher, and colleague

3.2 Positioning of the Researcher

As stated in Table 1, I engaged in proactive critical self-reflection from within the practice of my research as an ECL, fellow colleague and researcher. I considered myself to be on equal footing with the ECLs, and as such engaged in professional dialogue around the sharing of how an ECL can foster the growth mindset in their practice (Huffman, 2017; Mahon et al., 2017). This involved being required to interrogate my own practice, uncover new practices, and capture existing practices of the ECL's from an 'insider' perspective (Kemmis et al., 2014). As supported by Simoncini et al. (2014); Welsh and Dehler (2017) this investigation of practice played a key role in consolidating the concepts such as how the growth mindset can be fostered and does so within a professional capacity and dialogue (i.e. between researcher and ECLs). PAR empowers participants to collaborate through dialogue and make decisions for taking action. Therefore, the role of the researcher was to act as facilitator of the dialogue (Simoncini et al., 2014) .

As Donovan, Meyer and Fitzgerald (as cited in Walker & Boni, 2020 p.5) purport "dialogue coupled with reflection and moved to action creates the conditions for transformative learning". I acknowledged that conducting my research from within the practice meant that there are biases that impacted how the research will be interpreted (Kemmis et al., 2014; Kunter & Baumert, 2006; Wagner et al., 2016). I critically reflected from an individual and collective position which pertained to my roles of researcher, fellow colleague and ECL where I acknowledged any specific circumstances or challenges faced. I have liaised with my research supervisor to manage these situations should they arise (Kemmis et al., 2014; Kemmis et al., 2013; Mahon et al., 2017) (Table 1). By being an ECL and fellow colleague, I may occupy self-serving biases from within those roles that will inevitably shape this research before, during and after its inception. To monitor this bias, I have utilised the following key features of PAR throughout my role (Table 1, Figure 4, Figure 5) (Leavy, 2022; Walker & Boni, 2020):

1. Way of understanding- within this participatory reality consider how my role as researcher, colleague and insider for when I facilitated, guided and answered any questions during the research.

2. Way of understanding knowledge- used the growth mindset principles (Figure 1) and themed topics of exploration as guiding points to ensure brevity as well as remaining on topic to the research.

3. Collaboration, participation and action- uphold the participant's understanding, implementation and evaluation of how they foster the growth mindset drove the research process. I became part of the situated knowledge and changing conditions through PAR (Baumfield et al., 2008; Huffman, 2017).

3.3 Recruitment Site

This research was conducted within the Sydney based Higher Education Institute based on face-to-face classes, where the ECL participated in the research.

3.4 Recruitment of Participants

After obtaining the Flinders University HREC Approval (Appendix C), the call for participants was sent via email (Figure 4, Appendix C). This email details the voluntary nature of this research, where participants can participate if it is reasonable and practical for them to do so. The first four participants to respond to this call would be accepted and any further participants would be waitlisted to allow for any withdrawals. The response to the call for participants would dictate who participates, to limit bias and coercion. One participant confirmed, and I sought advice from my research supervisor that I could continue this research. Instead of four ECLs, one participant engaged within the PAR process for three spirals, engaging in reflection and dialogue with the researcher/fellow colleague based on their chosen a6!#cqH;S9Q..

6!#cqH;S9Q..

ctions within their teaching practice.

3.5 Participant

A pseudonym has been used to protect confidentiality of the participant. Thadeus has over decade of experience in early childhood education and child development. He has experiences varying from executive leadership in early intervention services, advocacy groups and committees to sessional lecturing

at Higher Education providers. Thadeus has professional experiences within early childhood settings as an Early Childhood Teacher where he has mentored educators, which he also utilises in his current capacity as a sessional lecturer at various providers. He has co-founded and pioneered a wrap-around transdisciplinary model that offers comprehensive support across home, education, and community settings for supporting vulnerable children with the resources and support they need to flourish. Thadeus has been recognised and nominated for his excellence in teaching through National awards. Whether he is leading professional development, mentoring educators, or advocating for policy change, Thadeus is driven by the belief that every child deserves access to high-quality, inclusive education and support. Thadeus aims to continue creating and leading initiatives that transform the lives of children, their families, and the communities they are part of.

3.6 Data Collection

This research entails three spirals associated with the PAR process (Figure 5), where an ECL participated in meetings that were recorded by teams and transcribed by Turboscribe (TurboScribe Copyright, 2024). This qualitative data was checked by the researcher, transcribed and provided to the participant for member checking (Creswell, 2021). Transcripts were shared with the ECL to enable further reflection, accuracy and validity of how the information is represented. PAR Meetings were 20 minutes and were completed for three spirals (Kemmis et al., 2014; Stringer, 2007). The researcher played the role of facilitator by welcoming the ECL, introducing the topic, establishing that the PAR meetings are a space for reflection, collaboration and learning where the participant's views are valued and respected (Baumfield et al., 2008). The researcher also clarified any questions, asked pre-set open ended and probing questions (Creswell, 2021).

3.7 Data Analysis

The data was analysed using Xu and Zammit's (2020) hybrid approach to interpreting data. As cited in Xu and Zammit's work (2020), Braun and Clark's approach (2006) to thematic analysis was adapted based on inductive and deductive coding. As Table 2 and 3 show, the ECL's self-reflections and understanding and

perceptions of the student ECT's experience formed part of the inductive research, which connected to the review of literature on psychological concepts. Within Table 2 and Table 3, the researcher has interpreted the ECL's reflections, understandings and perceptions by aligning to growth mindset perceptions (P), implementation (I) and/or evaluation (E) of growth mindset principles. Table 4 extends the knowledge, skills and abilities associated with the growth mindset into a deductive code book based on the growth mindset principles as stated in Figure 1. Please note, it is not within the scope of this study to collect student ECT reflections from them directly but may be possible in future research opportunities.

Data analysis was conducted in five steps using Xu and Zammit's (2020) hybrid approach. The first step was to become familiar with the data sources. Once Turboscribe had transcribed the recordings, the researcher added the participant pseudonym and researcher name into each paragraph, and looked for any errors and made any necessary adjustments to correctly reflect what was discussed. This transcript was then shared with the participant for member checking. Once the participant had given the final approval then second step commenced. The second step involved the transcripts being analysed, and initial codes were aligned within the transcripts which captured the essence of the data. Please note, these are not the final code(s). These are the initial themes based on the researcher's immediate thought processes.

The third and fourth step, involved the researcher highlighting key data from the transcripts which were then copied into mind-mapping software named Xmind (Figure 6) to more easily enable the researcher to search and review themes (Xmind Limited Copyright, 2024). The software easily allowed for the branches to be added to, and subbranches established some patterns that began to emerge. The software allowed for any questions to be documented and if any further clarification was needed with the participant more readily than searching through the transcripts.

In step five, whilst further reviewing the data in Xmind, table 2,3 and 4 became more apparent. Table 2 represents how the data sources have uncovered one ECL's reflections, understanding and perceptions of student ECTs experiences across the meetings. Table 2 also shows how the researcher has interpreted the data within the transcripts, generating initial thoughts for codes and themes for later tables. Table 3

displays how this data was firstly aligned to themes identified within the literature review that underpin the growth mindset. Further, Table 3 shows the data was then aligned to PIE: Perceptions of the growth mindset, Implementation and/or Evaluation of growth mindset principles from the three research questions and Figure 1. PIE forms the context for which the principles of the growth mindset can be further analysed. Table 4 articulates how the ECL's actions, beliefs, reflections and perceptions of the student's experiences was consistent/coded with the most likely growth or fixed mindset principle. This data was then sent to the participant for additional member checking to ensure validity in the interpretation of how an ECL can foster the growth mindset.

Table 2 Overview of Data Sources

Data Collected	Types of Data Sources	Code/Reference
ECL's reflection of their own teaching practice, understanding and perceptions of student ECTs experiences	MP4 Video and Audio Recordings Transcriptions	Meeting 1 (M1) Meeting 2, Spiral 1 (M2) Meeting 3, Spiral 2 (M3) Meeting 4, Spiral 3 and final meeting (M4) Year 2 class (Y2) Year 4 class (Y4)
Researcher's interpretations	• Initial theme identified within transcripts (after member checking) when familiarising with data • Generate initial codes and searching for patterns • Review, define and named themes (Table 3, Table 4)	

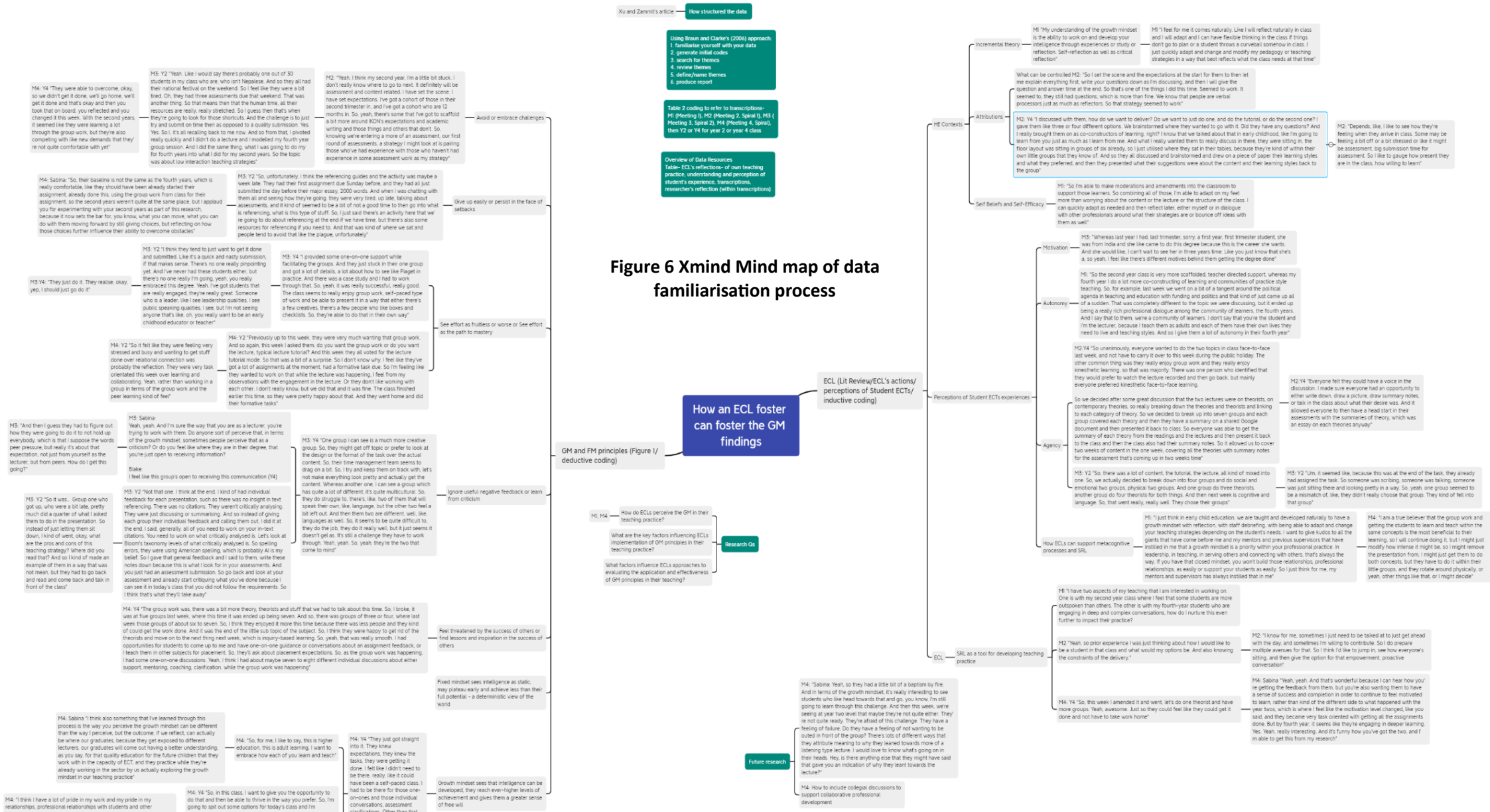


Figure 6 Xmind Mind map of data familiarisation process

Table 3 Summary Table of Codes

Emerging Psychological concepts from meetings	Code	Type of Codes
Incremental theory, attributions, self-beliefs and self-efficacy	Perceptions (P) of the growth mindset	ECL's Perceptions (Inductive) Growth mindset (Deductive)
ECL's motivation, autonomy and agency ECL's perception of student ECTs' motivation, autonomy and agency	Factors influencing the Implementation (I) of growth mindset principles (Figure 1)	ECL's identification of factors influencing implementation (Inductive) Growth mindset principles (Deductive)
ECL's engagement with SRL: SRL drives growth and mastery of being an ECL through challenge and obstacles SRL drives growth through the success of others and self-criticism SRL requires metacognition and cognition to meet growth mindset principles	Factors influencing the Evaluation (E) of growth mindset principles (Figure 1)	ECL's identification of factors which influence approach for evaluation (Inductive) Growth mindset principles (Deductive)

Table 4 Deductive Codebook 'Growth and Fixed Mindset Principles' (in relation to Figure 1)

Growth mindset label	Participant's actions or perceptions of student experiences	
	Growth Mindset Principles Code	Fixed Mindset Principles Code
Challenge	Embrace challenges (Ch+)	Avoid challenges (Ch-)
Obstacles	Persist in the face of setbacks (O+)	Give up easily (O-)
Effort	See effort as the path to mastery (E+)	See effort as fruitless or worse (E-)
Criticism	Learn from criticism (Cr+)	Ignore useful negative feedback (Cr-)
Success of others	Find lessons and inspiration in the success of others (S+)	Feel threatened by the success of others (S-)

3.8 Rigour of study

Utilising Creswell's (2021) PAR characteristics have been embedded in this research to ensure its design, implementation and evaluation are valid. This PAR shares the data within a dynamic process which was detailed in Figures 4, Figure 5 and Table 1:

Collaboration and Participation

In Figure 5, collaboration includes the reflection and collegial discourse to overcome challenges or obstacles. In Table 1 collaboration is explained in more detail where the role of the participant is to share experiences to understand the perceptions of the growth mindset, implement and evaluate the growth mindset principles based on agreed actions for each spiral. In Table 1, the role of the researcher involved facilitating and guiding the dialogue and discourse around the growth mindset principles.

Action

In Figure 4 and Figure 5 the actions of understanding perceptions, implementation and evaluation of growth mindset principles shared within four meetings across three spirals. In Table 1, the PAR process is explained further to demonstrate the participant's agreed actions were reflected and shared within each spiral. In Table 1, the role of the ensured these spirals were focused on the growth mindset principles, but also was life enhancing as the actions pivoted from what was agreed to reveal the participant's decisions drove the PAR process.

3.9 Conclusion

The data analysis procedure follows Xu and Zammit's (2020) hybrid approach to interpreting the data. The data sources were assigned codes (M1 to M4), utilising Y2 and Y4 respectively to represent the two face to face classes that were reflected on in this research. Upon familiarisation of the data, the perceptions (P) of the growth mindset, implementation (I) and evaluation (E) of the growth mindset principles became more obvious and some emerging themes of the psychological concepts began to align with these inductive and deductive codes. Growth mindset labels of challenge, obstacles, effort, criticism and success of others was then interpreted against all the actions and perceptions for the Y2 and Y4 classes.

Chapter 4: Findings

4.1 Introduction

The coding (Table 2) of the data sources is based on four meetings (coded M1 to M4) which have been aligned to the perceptions of the growth mindset (4.4), implementation (4.5) and evaluation (4.6) of the growth mindset principles (Table 3) in these respective sections. The data was collected over 3 spirals, plus an initial and final meeting. These findings demonstrate the ECL's reflection of their own teaching practice and understanding and perceptions of student ECT experiences. The researcher has integrated their pro-active self-reflections into these sections from the perspective of colleague and insider to the practice, in addition to researcher. The below table outlines how excerpts and the researcher's understanding/self-reflections of these findings have been allocated to perceptions, implementation or evaluation (PIE) of the growth mindset. PIE is identified from the research questions and is explored in more detail within the discussion section.

Findings Section	Themes that align with Research Questions (PIE)
4.3	Summary table of participant's actions and perceptions of student ECT experiences that developed over the three spirals of this PAR
4.4	Perceptions (P) of the growth mindset. N.B. M1 and M4 perceptions were the focus, but in the discussion section this will be explored further
4.5	Factors influencing the Implementation (I) of growth mindset principles
4.6	Factors influencing the Evaluation (E) growth mindset principles

4.2 The data collection

Table 4.3. summarised the participant's actions and perceptions of student ECT experiences against the growth mindset principles coded from Table 4, to demonstrate how the growth mindset principles were attributed to each action or perception. Each of these meetings have been discussed further within (4.4) perceptions of the growth mindset (P), (4.5) implementation (I) or (4.6) evaluation (E) of the growth mindset principles.

Please note: In the findings, 'group work' has been replaced with 'group presentations' to simplify that student ECTs presented to the whole class in the findings. For clarity, 'student(s)' has been referred to as 'student ECT(s)' and Y2 or Y4 has been added in brackets within the exerpts.

4.3 Summary Table of Coded Actions and Perceptions

Y2 CLASS		Y4 CLASS	
Action	Perception	Action	Perception
M1			
Explore teaching practices around how to engage with all student ECTs more fairly and equally	Some student ECTs who were more outspoken than others appear to dominate the discussions	Explore how to further nurture those deep and complex conversations to support his student ECTs	Student ECTs were engaging in deep, complex professional dialogue in class
Ch+ O+	Cr-	E+	S+ E+
M2			
Participant decided a more direct approach of explicit teaching of content and asked for questions at end of explanation	Some student ECTs to were continuously interrupting his explanations and needed to wait for questions at the end	Action changed to presenting challenge of condensing two classes into one (due to public holiday) and pre-recording was possible	Agreed action was group presentations of two weeks of content with summary notes to support their upcoming assessment
O+	Cr-	Ch+ O+	Ch+ O+
M3			
Action evolved from student ECTs not meeting group presentation expectations. Participant decided to ask reflective questions during presentations and prompted groups to re-present once they could answer questions	Participant decided next week's class should focus on academic referencing and writing given the challenges that were evident this week. The researcher offered for some resources to use for rotating table experiences	Participant decided to ask student ECTs how they would like to progress with delivery of the lecture. Upon agreement to continue with self-paced group presentations this action also facilitated individual discussions pertinent to the student ECTs who sought advice	Student ECTs agreed that they wanted to continue self-paced group presentations and asked participant specific questions and sought advice
E+ Ch+	E-	E+ S+	Ch+ O+
M4			
Participant explained decision to focus on academic referencing and writing was a week late given the student ECTs had already been through a weekend of submitting assessments	Participant thought student ECTs were fatigued from assessment writing, and did not want to be reminded of possible errors they made. Student ECTs opted out of self-paced group presentations in favour of the traditional lecture and tutorial tasks	Participant decided to continue with students' learning preferences with group presentations, but adjusted structure to limit work the student ECTs had to complete in their personal time (more student ECTs in each group but less groups)	Group presentations were adjusted to allow for more work to be achieved within class time, and student ECTs felt a greater sense of achievement
Ch+ O+	E- Cr- Ch-	Ch+ O+ S+	Ch+ O+ S+

4.4. Perceptions of the growth mindset

M1

Thadeus was asked about his understanding of growth mindset and the relationship to his teaching practice. Thadeus responded "My understanding of the growth mindset is the ability to work on and develop your intelligence through experiences or study or reflection. Self-reflection as well as critical reflection. I feel for me it comes naturally. Like I will reflect naturally in class and I will adapt and I can have flexible thinking in the class if things don't go to plan or a student [student ECT] throws a curveball somehow in class. I just quickly adapt and change and modify my pedagogy or teaching strategies in a way that best reflects what the class needs at that time."

Thadeus was prompted to reflect on his current face to face classes regarding how his teaching approach may or may not vary between them, and why. The participant replied “So the second year [Y2] class is very more scaffolded, teacher directed support, whereas my fourth year I do a lot more co-constructing of learning and communities of practice style teaching. So, for example, last week we went on a bit of a tangent around the political agenda in teaching and education with funding and politics and that kind of just came up all of a sudden. That was completely different to the topic we were discussing, but it ended up being a really rich professional dialogue among the community of learners, the fourth years. And I say that to them, we're a community of learners. I don't say that you're the student and I’m the lecturer, because I teach them as adults and each of them have their own lives they need to live and teaching styles. And so I give them a lot of autonomy in their fourth year [Y4].”

M4

Thadeus explained his Y4 class embraced the group presentations. This week Thadeus decided to structure the groups differently so that the student ECTs would not have to take any tasks to finish in their own time. This enabled the task to be completed within class time, but also supported student ECTs to ask specific questions where Thadeus could have that one-to-one consultation time, depending on their needs. When discussing what teaching strategies worked the most consistently, the participant felt his approach to

higher education is that “This is adult learning, I want to embrace how each of you learn and teach…I want to give you the opportunity to do that and then be able to thrive the way you prefer.”

When asking Thadeus to reflect on what may have helped or hindered the implementation of the growth mindset in his practice, he stated “I just think I naturally have a positive growth mindset, and so, as I've said in the first interview, I naturally do it. It's just a formal process instead of just me doing it internally within myself, I think.”

The researcher aptly inquired, how being naturally inclined to the growth mindset began in the first place. The participant recalled that “I think I have a lot of pride in my work and my pride in my relationships, professional relationships with students [student ECTs] and other lecturers, so I think when I know I've hindered that pride, I reflect on how I can do it better, and similarly, if I've done really well, I can walk away going, okay, that was a skill or a strategy or a response that was good, so I'll try that on other groups of students [student ECTs] or groups of lecturers in different subjects and different situations, because I know that's going to be an embedded skill that I should keep using, so I think that's that, and then my passion and advocacy for good quality education for children means that I want to make sure that the delivery of the content is then going to relay into the children and the services once they have that content delivered in a way that they are responding well to.”

4.5. Factors influencing implementation of the growth mindset

M1

The researcher probed Thadeus further to ask what aspects influence how the growth mindset is fostered or implemented within his teaching practices and/or approaches. The participant keenly replied “Naturally, I am a people pleaser. So if I feel like my students [student ECTs] or communities of learners are struggling or not able to get what the content or the strategy I'm doing better, like it's not processing enough, I'm able to empathise and change that according to needs. I feel like I've got a above average emotional intelligence, so I'm able to pick up on people's cues, engagement, and I'm naturally aware of an inclusive and diverse environment. So I'm able to make moderations and amendments into the classroom

to support those learners. So combining all of those, I'm able to adapt on my feet more than worrying about the content or the lecture or the structure of the class. I can quickly adapt as needed and then reflect later, either myself or in dialogue with other professionals around what their strategies are or bounce off ideas with them as well."

M2

The focus of the first spiral became more about understanding and interpreting student needs. Thadeus was asked to reflect on what actions he implemented, so that we could share the evaluation process within the scope of these PAR meetings. The participant mentioned this week, that a new action for the Y4 class became a new challenge that warranted more attention (than nurturing further complex discussions). Thadeus and his Y4 class had the challenge of condensing two classes into one, given a public holiday would occur on their normal scheduled class and pre-recording the lecture was not an option given the provider's policy. The participant made the decision to take this challenge to his Y4 class to solve together. Thadeus explained "I discussed with them, how do we want to deliver? I gave them like three or four different options. We brainstormed where they wanted to go with it. Did they have any questions? And I really brought them on as co-constructors of learning, right? I know that we talked about that in early childhood, like I'm going to learn from you just as much as I learn from me. And so they all discussed and brainstormed and drew on a piece of paper their learning styles and what they preferred, and then they presented what their suggestions were about the content and their learning styles back to the group. So we decided after some great discussion that the two lectures were on theorists, on contemporary theories, so really breaking down the theories and theorists and linking to each category of theory. So we decided to break up into seven groups and each group covered each theory and then they have a summary on a shared Google document and then presented it back to class. So everyone was able to get the summary of each theory from the readings and the lectures and then present it back to the class and then the class also had their summary notes. So it allowed us to cover two weeks of content in the one week, covering all the theories with summary notes for the assessment that's coming up in two week's time."

Thadeus used various teaching strategies to solve the problem of condensing two week's content into one as this challenge presented in the week of the first spiral. The participant took this challenge to the Y4 class and chose to collaborate with them to find a mutually acceptable solution. This required Thadeus to firstly enlist the Y4 student ECTs as co-constructors of the learning and asked them to present what solutions they would like to proceed with once given some options. The participant made use of his knowledge of the student ECTs' preferences for group learning, to pose this as one of the possible options. Once the student ECTs chose a mutually agreed option, Thadeus continued with supporting their choice with additional learning resources such as a shared google document to present and communicate their learning which was a tool for their upcoming assessment. This strategy alleviated the Y4 concerns for preparing for assessment tasks and supported their agency.

Thadeus' Y2 class required a more direct approach of explicit teaching of the content and expectations. He decided that he needed to be clear in what was required in the lesson which elicited more of the student ECTs to listen and ask questions at the end rather than the outspoken student ECTs continuously interrupting his explanations. The participant decided to ask the student ECTs to write down their questions so that they could focus on the content of what was being discussed rather than feeling the need to interrupt to have their learning needs met.

M3

With Thadeus' Y2 class student ECTs were under pressure to manage their time when the group presentations depended on the first group being ready with their slides. This was further impacted when student ECTs arrived late, missed the instructions and were not assigned to groups at the beginning of class. The participant's understanding was that the student ECTs had only completed a quarter of what they had been asked to do, impacted also by the late arrivals. Thadeus explained normally in presentations, each group will present and at the end he would give overall feedback. However, on this occasion he made the decision to ask reflective questions during the presentation. The participant reported "So instead of just letting them sit down, I kind of went, okay, what are the pros and cons of this

teaching strategy? Where did you read that? And so I kind of made an example of them in a way that was not mean, but they had to go back and read and come back and talk in front of the class."

Thadeus used group presentations again as a teaching strategy again for Y4. An unexpected positive outcome was that as groups were focused on their learning, individual discussions and questions were also facilitated within this same class. The participant reflected "The class seems to really enjoy group work [group presentations], self-paced type of work and be able to present it in a way that either there's a few creatives, there's a few people who like boxes and checklists. So, they're able to do that in their own way." When prompted to consider if there are any challenges to group presentations for his Y4 class, Thadeus explained that one group can get off topic and require some re-direction. The participant reported that his Y4 class do seem to be open to criticism and learn from that criticism to focus on their task. Thadeus decided to employ the strategy used with the Y4 class with his Y2 class for managing the course content and associated learning tasks. The participant modified the normal delivery of: lecture then associated learning tasks - to be an integrated class by combining these tasks together.

Thadeus reflected that some groups found this quite challenging within his Y2 class, and the feedback that had been explained about what is required in assessments was continued in their group presentations. For example, American spelling and lack of in-text citations. Thadeus chose to highlight these discrepancies as a whole class, at times some groups had to return with improvements and at other times overall feedback was also given. The participant decided to focus the following action for the next spiral to be focused on referencing and academic writing in assessments. It was agreed in the next spiral, that Thadeus would use some resources provided by the researcher (the EYLF as an APA reference puzzle that they had to put in correct order, APA 7 fact sheet supporting resource) and provide rotating table experiences in addition to some ideas he also had planned for class that week.

M4

Thadeus revealed that when Y2 student ECTs were offered the more traditional approach to teaching in terms of lecture and associated learning tasks vs group presentations which consolidated these varied tasks – the student ECTs opted for the traditional approach. This was interesting, as it was the week

following week after the group presentations. When prompted, the participant replied that he felt the student ECTs were stressed and seeking independent learning, over group or peer learning. He further stated that student ECTs wanted opportunities to work independently rather than seeking that relational connection from group presentations. Thadeus mentioned that the Y2 student ECTs elected to not participate much in the rotating table experiences, and he felt this idea was a week late because the student ECTs had already submitted major assessments the Sunday (and class was the following day Monday). The participant perceived that the student ECTs were fatigued and did not want to know about any referencing or academic writing mistakes they had likely submitted in their assessments the day prior.

4.6. Factors influencing evaluation of the growth mindset

M1

The researcher clarified with Thadeus what has impacted him to evaluate his teaching practice. The participant answered “I just think in early child education, we are taught and developed naturally to have a growth mindset with reflection, with staff debriefing, with being able to adapt and change your teaching strategies depending on the student's [student ECTs] needs. I want to give kudos to all the giants that have come before me and my mentors and previous supervisors that have instilled in me that a growth mindset is a priority within your professional practice. In leadership, in teaching, in serving others and connecting with others, that's always the way. If you have that closed mindset, you won't build those relationships, professional relationships, as easily or support your students as easily. So I just think for me, my mentors and supervisors has always instilled that in me”

Thadeus discussed that he felt enabling the student ECTs to be co-constructors in the learning for his Y4 class meant that all student ECTs could have a voice in their learning and allowed them to demonstrate their agency and autonomy. The constraints of delivery became a new action that the participant wanted to reflect on in this week’s spiral as it showed the student’s drive to meet their own learning goals and participate in the solution of a mutual issue. Thadeus’ Y2 class required more scaffolding, as he further explained this class tended to ask questions before full explanations are given. The participant decided his

action was to set the scene and expectations at the start of class, so that the student ECTs had their questions answered at the end to limit the flow of the explanation being interrupted. Thadeus clearly explained his teaching approach as “Write your questions down as I'm discussing, and then I will give the question-and-answer time at the end. So that's one of the things I did this time. Seemed to work. It seemed to, they still had questions, which is more than fine. We know that people are verbal processors just as much as reflectors. So that strategy seemed to work.”

M3

Thadeus explained that whilst group presentations mostly worked for his Y4 class, at times when student ECTs were speaking in their home language there were some obstacles. A couple of student ECTs did not understand the home languages spoken, and the participant’s perception was they felt left out. However, once Thadeus questioned how they could work through this, it seemed apparent that all group members began to persist through this obstacle once they had to learn from this criticism. For the participant’s Y2 class, when the group presentations were already underway, some student ECTs arrived late and therefore put additional pressure on their group to present within the time frame. Thadeus felt that the student ECTs had missed vital instructions and the effort they applied to the group presentations did not meet the expectations. The student ECTs were challenged to overcome this set back, and then be open to criticism within the whole class presentation.

M4

For Thadeus’ Y2 class, the referencing and academic writing table experiences was one week late, as the student ECTs had explained they already had their major assessments due, and the activity felt like they were being reminded of all the mistakes they had made. When reflecting on the Y2 class, Thadeus advised the referencing and academic writing table experiences were not planned well. The participant reflected during class “When I was chatting with them all and seeing how they're going, they were very tired, up late, talking about assessments, and it kind of seemed to be a bit of not a good time to then go into what is referencing…So I feel like they were a bit tired. Oh, they had three assessments due that weekend. That

was another thing. So that means then that the human time, all their resources are really, really stretched. So I guess then that's when they're going to look for those shortcuts. And the challenge is to just try and submit on time then as opposed to a quality submission. So, I just said there's an activity here that we're going to do about referencing at the end if we have time, but there's also some resources for referencing if you need to. And that was kind of where we sat and people tend to avoid that like the plague, unfortunately."

Thadeus indicated he was not sure how to set expectations with the Y2 class as co-learners. The participant reflected that although he is a strong believer of group presentations, he may structure it differently moving forward so that it he rotates to the groups so he can give specific feedback instead of a whole class format. Thadeus perceived the student ECTs reluctance when whole class feedback was provided. Thadeus hypothesised that perhaps the student ECTs perceived the feedback as not constructive, which led to the hesitation to participate in group presentations again when they were given the choice. Perhaps the discomfort of receiving the feedback in the whole class scenario led to the student ECTs seeking a safer solution by the more traditional approach to the class. Additionally, when some student ECTs arrived late, this also impacted the groups who were requested to return to edit their presentations and re-present. Thadeus surmised "Yeah, I think also when I question them about in their presentations about critical analysis and the pros and cons of that particular teaching strategy, etc., maybe they didn't want to do that again."

The researcher further discussed this Y2 class regarding the aversion to group presentations "So they had a little bit of a baptism by fire. And in terms of the growth mindset, it's interesting to see student ECTs who like head towards that and go, you know, I'm still going to learn through this challenge. And then this week, we're seeing at year two level that maybe they're not quite either. They're not quite ready". Upon further consideration during data analysis, the researcher asked some follow up questions about the participant's evaluation of providing whole class feedback. Thadeus had some additional time to reflect and answered "I noticed a reluctance from the students [student ECTs] following the whole-class feedback. It's possible they perceived the feedback as more critical than constructive, which might have made them hesitant to

engage with the open-ended, less structured activities the next week. It could be a mix of feeling challenged but lacking the resilience to navigate the discomfort, leading them to prefer a more traditional, safer approach."

4.7 Conclusion

The findings reveal insights into Thadeus' self-beliefs through the perceptions of the growth mindset, and how he attributes meaning to the decisions and actions he takes. The participant has implemented and evaluated the growth mindset principles based on his Y2 and Y4 classes, where he prioritised group presentations and self-paced learning to support agency and autonomy for the student ECTs. Whilst Thadeus employed different actions and his perceptions varied across the classes, it was interesting to see what motivated him to continue to reflect before, during and after these classes. The participant holds high expectations for himself, where he looks for evidence of successful relationships in how he continued to adjust or be flexible around his student ECTs needs. Thadeus's pride in his capacity to teach adults was prevalent in how he approaches learning, teaching and planning for the growth mindset principles in his practice.

Chapter 5: Discussion

5.1 Introduction

This exploratory study/ PAR aimed to report on how an ECL can foster the growth mindset in their teaching practices, within student ECT's ITE. The participant was highly engaged in collegial discourse and reflection with the researcher, about how our actions within the spirals supported or undermined growth mindset principles. This participant discussed how he utilised the growth mindset and how he can further foster the growth mindset in their teaching practice. The three research questions were:

1. How does an ECL **perceive** the growth mindset in their teaching practice?
2. What factors influence ECLs **implementation** of growth mindset principles in their teaching practice?
3. What factors influence ECLs **evaluation** of the application and effectiveness of growth mindset principles in their teaching practice?

Please note: In the Discussion section the principles of growth and fixed mindsets are bolded to further highlight the connection between perceptions, implementation and evaluation of the participant's actions and reflections.

5.2 Perceptions of the growth mindset and principles

Incremental and entity theory

Thadeus has demonstrated a sound understanding of the growth mindset and made the connection between the ability to grow and the relationship to reflective practice when he aptly says "It's just a formal process instead of me just doing it internally within myself I think" (M4) (Dweck, 2016; Yeager & Dweck, 2020). The participant understands that intelligence can be nurtured, and associated this through his use of the word 'develop' and 'work on'. When questioned further on the connection to his teaching practice,

Thadeus focused on that it 'came naturally' (M4). Interestingly in incremental theory, the aspect of nurturing one's talents is also prominent which seems to be a re-occurring theme in this research for the participant, where Thadeus continues to prioritise nurturing your own strengths (O'Keefe et al., 2018). Thadeus explains that being 'flexible' means the ability to adapt or modify what was previously planned by ***embracing challenges*** and ***persisting in the face of setbacks***.

The participant noted the ability to be flexible is not regarded as a failure which is consistent with the fixed mindset or entity theory (Yeager et al., 2022). Thadeus goes on to further surmise that "This is adult learning; I want to embrace how each of you learn and teach…I want to give you the opportunity to do that and then be able to thrive the way you prefer" (M4). Thadeus reveals his values of how he approaches teaching at higher education level is linked to how his student ECTs can learn through various ways that meet their own needs, rather than one single approach. The participant ***openly embraces challenges*** and encourages his student ECTs to ***persist*** and apply ***effort*** to achieve their goals as a ***path to mastery*** in adult education (Dweck, 2024; Yeager & Dweck, 2012).

Attributions

Incremental theory relates to how Thadeus attributes meaning to an outcome, where he can see what elements of his teaching practice are controllable through ***efforts*** and form part of the reflectivity to continually grow and develop (Graham, 1991; Weiner, 1985). For example, the participant openly discusses with student ECTs and sets the expectations of learning within a higher education context, where his student ECTs can thrive when lecturers and student ECTs work together (M4). This reveals Thadeus' intent to show student ECTs that you can find lessons and inspiration in the ***success of others***, particularly in his belief in peer learning (Deci & Ryan, 2010; Dweck, 2013a). In M3, Thadeus attributes that the ***effort*** required in collaboration impacts the goals he sets for himself when examined our interpretation of student ECTs responses when feedback is provided. The participant and I engaged in collegial discourse within M3 and when follow up questions were asked, Thadeus had admitted that he had reflected and agreed with my observation, that perhaps student ECTs aversion to the group presentations, may be related to feeling a sense of failure whether this was individual, collective or a reflection of feeling the

effort required to overcome obstacle and embrace challenge was an undesirable choice. Although agency and autonomy was prioritised for the student ECTs, their own responses to this discomfort outweighed the benefits of ***mastering skills*** like working collaboratively which would support them in their paid roles in the ECEC sector.

Throughout the research, Thadeus reflected on the prior actions from previous meetings, where we considered how these actions impacted student ECTs motivation, agency and autonomy. Within these spirals, the participant sought to consider how his initial perceptions of the student ECTs' experiences could impact his future decisions within the remaining spirals. Thadeus' ability to interpret these past events and make judgements or decisions in the following spiral shows how he has set goals to ***persist*** through ***challenges*** and ***obstacles*** whether it required an alternative skill, knowledge ability or more ***effort*** (Louws et al., 2017; Zimmerman et al., 1992). This was evident when the participant realised the action of implementing a referencing and academic learning experience did not meet the intended learning outcomes (M4). As student ECTs expressed, they were fatigued from completing assessment submissions - Thadeus reflected that this action was a week late, and considered how he could plan this to align with upcoming assessments instead. This action was in his control, and he did not interpret this as failure or luck (Graham, 2020; Lauermann, 2023). The participant took responsibility for his actions and reflected on how this could more positively impact his practice in the future.

Self-Beliefs and Self-Efficacy

The participant's judgements or actions taken within the spirals reveal Thadeus' self-beliefs and self-efficacy. The participant consistently demonstrates his capability and belief in himself that he can positively impact the student ECTs in his class and the lecturers on any unit he teaches, through the ability to reflect which in turn empowers him to ***embrace challenges***, overcome ***obstacles*** and instils a passion for continual ***effort*** (Ashwin et al., 2020; Kolyda, 2023). Thadeus believes that working alongside peers within groups enables student ECTs and lecturers to develop the skills, knowledge and abilities required to work in the ECEC context- including seeing ***criticism*** as an opportunity for growth (Chen & McDunn, 2022). For example, the participant's view of how he learned to have a growth mindset is because he has "a lot or

pride in my work and pride in my relationships, professional relationships with student ECTs and other lecturers, so I think when I know I've hindered that pride, I reflect on how I can do better, and similarly, if I've done really well, I can walk away going, okay, that was a skill or a strategy or a response that was good, so I'll try that on other groups of students or groups of lecturers" (M4).

Underlying Thadeus' self-efficacy is the "passion and advocacy for good quality education for children means that I want to make sure that the delivery of the content is then going to relay into the children and services once they have that content delivered in a way that they are responding well to" (M4). The participant weaves his purpose for teaching into how he delivers his classes, his relationships with student ECTs and lecturers and the continual process of ***mastering*** skills and finding lessons and ***inspiration from others*** to become more proficient as a lecturer and colleague (Hodgkinson-Williams et al., 2008). As a colleague of the participant, it is evident that Thadeus has a strong teaching philosophy that inclusive practice is the foundation for his high self-efficacy as an ECL (Harfitt & Mei Ling Chow, 2018; Langelaan et al., 2024).

5.3 Factors influencing the implementation of growth mindset principles

How the participant chose to motivate themselves and their student ECTs provided interesting insights to how they implemented the growth mindset.

ECL's motivation, autonomy and agency

When Thadeus considered what factors influence how he implemented the growth mindset, he revealed how he is motivated to meet his student's needs (Dweck, 2018; Ryan & Deci, 2000). The participant identified that this requires him to be empathetic to their needs to ensure he establishes an inclusive and diverse learning environment. Thadeus makes moderations and changes during class, without this causing him concern. The participant shows he is empowered to continually learn, through the attribution of applying ***effort*** and overcoming ***challenges*** and ***obstacles*** by quickly adapting to how the student ECTs present through their cues and engagement (Deci & Ryan, 2012; Mayer, 1998). In M1, Thadeus recognises that the past events where he has been motivated to meet student needs and be flexible, means he has

developed the self-belief that his has an “above average emotional intelligence, so I am able to pick up on people’s cues”. Interpreting student learning needs is an important driving factor for how Thadeus implemented the growth mindset. So, when the participant can interpret his student’s learning needs, he feels he is more attuned to their motivations. As a colleague of Thadeus, he demonstrates his empathy when you may need assistance, support or advice and understands your vulnerability in asking for help (Brown & Weber, 2019; Dweck, 2013a).

Thadeus embraces how his student ECTs have diverse learning needs, and he can make moderations or adaptations to cater to these needs as they grow and evolve over time. The participant subsequently uses these past events, to continually support his self-beliefs which fuel his motivation to reflect on the behavioural and environmental factors that impact how he implements the growth mindset (Bandura, 2001; Zimmerman et al., 1992). For example, in M1 Thadeus’ behavioural pattern of observing student behaviour directly impacts the learning environment, where he can demonstrate his own autonomy and agency of how the classroom will feel. Thadeus controls how the learning environment is a space for learning, as he also feels he can ask other peers or professionals around him for ideas and grow from those interactions to “bounce off ideas with them as well” (M1). The participant reflects on the learning environment he creates, and even after completion of the research Thadeus has continued to adjust the learning environment in his future teaching when student ECTs lacked “the resilience to navigate the discomfort [of group presentations]” (M4).

The participant has a high level of self-efficacy where he believes his abilities can be nurtured by learning from student ECTs or other professionals he works with (Bandura, 1977; Zimmerman et al., 1992). Thadeus’ choices and actions are determined by his past experiences, where the prior judgements he has made re-enforce his self-beliefs and self-efficacy (Zimmerman et al., 1992). The participant is highly motivated through internal motivation, where these choices, decisions and actions occur and continue to provide feedback to how he will respond in his classroom (Hoy, 2021). It is interesting to note that Thadeus is both motivated to use his agency and autonomy to make decisions and actions for the best interests of his student ECTs, but also prioritises their input which enables the participant to role model how they can

also use their agency and autonomy for their internally motivated choices and decisions (Melasalmi & Husu, 2019).

ECL's perception of student ECTs' motivation, autonomy and agency

Thadeus regards student's motivation as a factor he considers when implementing the growth mindset. With his Y2 class, the participant was providing feedback to each group after their presentation to motivate the future groups to adjust their presentations to meet the requirements. Thadeus shared that "So I kind of made an example of them in a way that was not mean, but they had to go back and read and come back and talk in front of the class" (M3). However, when given the choice of delivery in the following week, student ECTs elected not to participate in group presentations where they would present to the whole class their learning. Thadeus' understanding of his student's motivation in the Y2 class did not support them to seek group or peer learning (Langelaan et al., 2024). The participant was asked follow up questions after the research, and it was evident that Thadeus had additional time to reflect and consider alternative explanations. Initially, the participant's perceptions were that he was unsure, or thought they wanted to avoid peer learning and engage in individual work with impeding assessment deadlines (M4). Upon follow up, the participant advised "In terms of the feedback session, I agree with your observation. I noticed a reluctance from the students following the whole-class feedback. It's possible they perceived the feedback as more critical than constructive, which might have made them hesitant to engage with the open-ended, less structured activities the next week. It could be a mix of feeling challenged but lacking the resilience to navigate the discomfort, leading them to prefer a more traditional, safer approach".

There are possible explanations. Perhaps Thadeus did not meet their learning needs and as such, the student ECTs had a sense of failure and could not overcome the ***criticism*** and chose to ***ignore the useful negative feedback*** and ***avoid the challenge*** (Yeager & Dweck, 2020). Were they overwhelmed with assessment tasks and as such did not want to ***persist*** through the ***challenges/obstacles*** of group presentations? Or did they feel the ***success*** of others could be a threat to their own sense of competency or perception of intelligence? (Yeager & Dweck, 2012). Were the group presentations a scenario that they could not see the lesson in the ***success of others*** whether it was for the individual or collective? It is

possible that they perceived their ***effort*** did not warrant the feeling of inadequacy or ***success***? (Dweck, 2017a). Therefore, a logical desire for the student ECTs would be to seek a more explicit and scaffolded approach to control their own learning outcomes.

Conversely, for Thadeus' Y4 class they sought the opportunity to use the self-paced nature of group presentations to achieve their learning needs. The participant's interpretation of this anomaly is that perhaps the student ECTs in Y4 have developed stronger bonds, abilities and knowledge to overcome the ***challenges*** of group presentations and can manage their workloads more successfully (Dweck, 2017b; Yeager & Dweck, 2012) . Even when Y4 student ECTs were getting off topic and required re-direction, the student ECTs could respond to the ***criticism*** and ***embraced the challenge*** of presenting as a group to the class. Although both the Y2 and Y4 class were motivated to meet assessment deadlines, the Y4 class were more likely to embrace challenges/obstacles than the Y2 class when both were offered group presentations as a solution to becoming more proficient in ***mastering*** the skills, knowledge and abilities required for meeting assessment requirements. The critical factor that is a vital pre-requisite that impacts the student's ability to respond to ***challenges*** or ***obstacles***, is if the ECL can first meet the student learning needs (Dweck, 2013b; Yeager & Dweck, 2020).

5.4 Factors influencing the evaluation of growth mindset principles

SRL drives growth and mastery of being an ECL through challenge and obstacles

The participate cites "I just think in early child education, we are taught and developed naturally to have a growth mindset with ***reflection***, with staff debriefing, with being able to adapt and change your teaching strategies depending on the student's needs. I want to give kudos to all the giants that have come before me and my mentors and previous supervisors that have instilled in me that a growth mindset is a priority within your professional practice" (M1). Thadeus reported that in his career, he feels that the growth mindset is embedded in our teaching practice and relationships with others which can include colleagues, families and children (Seaton, 2018). When the participant mentions the need to 'adapt and change your teaching strategies' from M1 – this was re-affirmed in M4 where Thadeus reported "that I reflect on how

I can do it better, and similarly, if I've done really well, I can walk away going, okay, that was a skill or a strategy or a response that was good, so I'll try that on other groups of student ECTs or groups of lecturers in different subjects and different situations, because I know that's going to be an embedded skill that I should keep using". The participant is articulating the motivation to ***master*** his abilities as a ECL which involve how he ***embraces challenges*** and ***persist through obstacles***, that has evolved through learning through ***criticism*** (Boylan et al., 2024).

SRL drives growth through the success of others and self-criticism

This is a re-current theme for how the participant evaluates his teaching practice through the ***success of others*** in mentoring, sharing and reflecting about his practice (Langelaan et al., 2024). At times this may have been criticism when he as was being mentored or has been interpreted as ***self-criticism*** when the participant reflects on his own teaching practices. Thadeus believes that teaching practice requires ongoing ***self-reflection*** to continue to nurture your ***own abilities*** to meet student needs and build those professional relationships and to be a ***reflective practitioner*** (Welsh & Dehler, 2017; Zimmerman & Schunk, 2001). Thadeus goes on to expand that in serving and connecting with others "that's always the way" which demonstrates the connection between the incremental belief of intelligence that growth occurs from ***meaningful reflection*** behind examining one's own actions, decisions and perceptions and the participant's motivation to ***reflect*** and learn from others (Nissilä, 2005; Zimmerman & Schunk, 2001).

SRL requires metacognition and cognition to meet the growth mindset principles

The participant used SRL throughout the PAR process to examine his own teaching practice, which was the main proponent for how Thadeus evaluated the growth mindset. Specifically, Thadeus recognised the need for ongoing ***self-reflection*** whether it was before, during or after teaching his student ECTs which demonstrates his levels of cognition and metacognition influence how he measured the principles of the growth mindset within his teaching practice (Bjork et al., 2013; Lawson et al., 2019). The participant thought about both his Y2 and Y4 classes and reflected on what aspects of teaching practice are actions

he wanted to notice over the period of the spirals. Thadeus shared within the PAR process what he noticed in his own practice and the impact of his actions on his student ECTs.

For example, for the participant's Y2 class Thadeus reflected on his class and noticed that more outspoken student ECTs often interrupted his explanations. The participant identified this as a problem, as defined this as in opposition with his value of providing an inclusive learning environment for all his students (Alvi & Gillies, 2021; Dignath & Veenman, 2021). Thadeus recognised the ***challenge and obstacle*** of more outspoken student ECTs and formed the strategy of explicit explanations with questions scheduled post the explanation. To monitor the action, the participant reflected during the strategy to see if he had provided a more inclusive learning environment by limiting the interruptions (Hoy, 2021; Wagner et al., 2016). Thadeus evaluated that this process of problem recognition and definition, strategy formation and monitoring required him to be a reflective practitioner before, during and after teaching (Lauermann & Berger, 2021; Volet et al., 2009). The participant measured the success of his actions by observing the reduction of interruptions, rather than the reduction in questions as he states "Seemed to work. It seemed to, they still had questions, which is more than fine. We know that people are verbal processors just as much as reflectors. So that strategy seemed to work". Thadeus is defining his own actions and ***success*** where he self-regulates how inclusive his classroom is for all student ECTs (Langelaan et al., 2024). The participant continues to be driven by growth mindset principles such as ***embracing challenges*** and ***applying effort*** to ***surpass obstacles*** that presented themselves in his Y2 class (Brownlee & Berthelsen, 2006; Meidl et al., 2023).

5.5 Limitations

The scope of this research did not include associated aspects of an ECL's role such as marking of assessments and is based on face-to-face classes only. This research is not obtaining the student ECTs views and/or opinions at this time but may be possible as future research opportunities. This research collected data where the participant decided the actions for each spiral which was shared and reflected on within recorded meetings, and no observations were collected within the classroom environment (Creswell, 2021). To obtain four ECLs an invitation to the Sydney team was emailed to ECLs which will include Sydney-

based permanent full time and sessional academics. Sydney-based ECLs were invited to participate to minimise logistical requirements such as time difference in other states. To use time effectively, a full explanation of what is required was provided to ECLs so that they can make an informed decision to participate (Figure 4, Figure 5, Table 1) in order for the ECLs to make their own decision whether they would like to participate or not (Huffman, 2017). However, a single ECL volunteered to participate. There is limited generalisability to the wider population of ECLs, as this research is context and situationally specific. To reduce the margin of error, member checking was utilised to accurately capture the participant's experiences (Leavy, 2022).

5.6 Further Research

This PAR has exposed other research opportunities to further the scholarly practice and knowledge of growth mindsets within student ECTs ITE. Further research may consider researching student ECTs thought processes and actions, in follow up to the actions this participant had made within the spirals. The researcher gained insights from this research that could support further research across the whole four years of the BECE degree "I can hear how you're getting the feedback from them, but you're also wanting them to have a sense of success and completion in order to continue to feel motivated to learn, rather than kind of the different side to what happened with the year twos, which is where I feel like the motivation level changed, like you said, and they became very task oriented with getting all the assignments done. But by fourth year, it seems like they're engaging in deeper learning."

These research opportunities may include to investigate first, second, third- and fourth-year student ECTs mindsets based on the various types of verbal and non-verbal feedback they receive which has impact on their mindsets about their learning, self-beliefs and teaching practice. Further, an opportunity may involve gaining insights to how student ECT's mindsets are implemented and evaluated during their practicum experiences within their ITE. The researcher also speculates if the four ECLs were recruited to participate in further PAR research, perhaps this is an opportunity to compare how teaching practices may vary but are all legitimate strategies for perceiving, implementing and evaluating growth mindsets within higher education context "I think also something that I've learned through this process is the way you perceive

the growth mindset can be different than the way I perceive, but the outcome, if we reflect, can actually be where our graduates, because they get exposed to different lecturers, our graduates will come out having a better understanding, as you say, for that quality education for the future children that they work with in the capacity of ECT, and they practice while they're already working in the sector by us actually exploring the growth mindset in our teaching practice."

Chapter 6: Concluding Chapter

6.1 Introduction

The research has revealed one participant's perceptions of the growth mindset, how they implement and evaluate the growth mindset principles as stated in Figure 1 on page 9. Whilst the research contributes to the scholarly literature of how the growth mindset can be fostered by ECLs, further research with a larger number of ECLs would support stronger evidence to support student ECTs in their ITE. This research intended to involve three to four ECLs, however only one participant confirmed. The PAR process, therefore, has focused on the collegial discourse between the participant and the researcher as a collaborative process between sharing, reflecting and taking actions within the three spirals, rather than a group of ECLs.

6.2 Research Question

The research questions centre on perceptions, implementation and evaluation of the growth mindset and principles for one ECL. These are:

1. How does an ECL **perceive** the growth mindset in their teaching practice?
2. What factors influence an ECLs **implementation** of growth mindset principles in their teaching practice?
3. What factors influence an ECLs **evaluation** of the application and effectiveness of growth mindset principles in their teaching practice?

The first research question seeks to explore the perspectives and understanding of the growth mindset and the relationship to an ECLs teaching practice. The second research question focuses on identifying individual factors that impact how ECLs implement growth mindset principles (in relation to Figure 1) to support student ECTs through strategies and interventions. The third question expands on these factors to investigate the connection to how ECLs evaluate the application and effectiveness of growth mindset

principles in their teaching. The research results seek to uncover the practical insights that can inform improvements in how growth mindset is assessed and integrated into teaching practices.

6.3Answer to Research Questions

The participant had exceptional insight into their own perceptions of the growth mindset, which they interpreted and analysed throughout the PAR process. Thadeus associated the growth mindset with continual engagement in self-regulated learning, which in turn impacted how he implemented and evaluated the growth mindset principles. Thadeus utilised his prior experiences within the ECEC sector as a foundation for continual growth and development, which meant he felt comfortable with challenges and obstacles which required him to adapt, be flexible or reflect before, during and after the teaching practice was conducted. The participant cited that effort, persistence and the success of others drove him in his belief in peer learning strategies such as the group presentations. When Thadeus has put effort into relationships where collaboration is vital, he said he felt this is rewarding to see how his own skills, abilities and knowledge grows from the process of learning from others. The participant makes a strong connection to putting in effort and persistence to master skills and abilities when working in the ECEC sector.

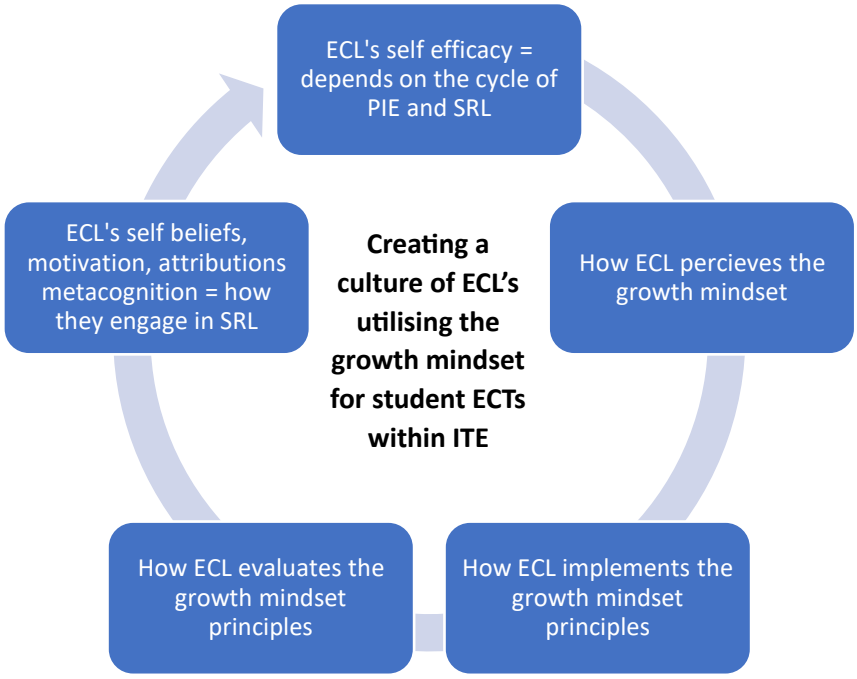
This is testimony to how Thadeus said he chose to implement teaching strategies to support his students to apply effort, overcome challenges and respond to setbacks and obstacles for his Y2 student ECTs. The participant said he implemented teaching strategies which required more scaffolding and were more explicit to further demonstrate how to apply the effort to persist, face challenges and respond to setbacks. However, for his Y4 student ECT his expectations were higher, as he felt these students were already mastering many skills of applying effort and persistence in the face of challenges, obstacles and setbacks. So Thadeus said he felt more inclined to establish a more cooperative partnership with them. Applying the same teaching strategies for the Y2 student ECTs, using group presentations did not yield the intended learning outcome of knowing how to positively respond to challenge, obstacle and setbacks. Thadeus realised that the same teaching strategy, although his intent was to embed the growth mindset principles, did not serve this purpose for both of his classes.

The participant determined that the importance of implementing a teaching strategy to meet the student ECTs needs was more important than his own beliefs in the importance of self-paced learning in the form of the group presentations. It was upon later reflection, after the final meeting, that we engaged in further questions as to why the group presentations were so vehemently avoided, and the lack of interest in developing better academic practices by his Y2 class. This collegial discourse enabled the participant and researcher to further analyse the data and consider if the Y2 students were too early into their journey of mastering skills, abilities and knowledge to see that criticism can be a catalyst for positive change. Instead, the Y2 class chose to avoid the challenge rather than apply effort and persist. We interpreted that they attributed the feedback process as failure and ignored the useful feedback.

This is of interest, as Thadeus even considered at the time that it was not meant to be a 'shameful' or 'mean' feedback process, but perhaps this is what the student ECTs perceived it was. Therefeore, the ECL's perception of the growth mindset is indicative of his own positive mentoring experiences, but is not a precursor for successful delivery if you do not perceive your student ECTs needs accurately. When Thadeus was confident with the perception of his Y4 needs, his teaching strategy, relationships and learning outcomes were achieved. Therefore, for an ECL to foster the growth mindset, they need to not only have knowledge of the principles of the growth mindset, but to know where their student ECTs are before employing the planned teaching strategy. Although the participant was flexible to adapt to his student ECTs needs, he did not see that his Y2 students were struggling beyond their capability. Additionally, when evaluating the application and effectiveness of teaching strategies it is vital to continue this individually and collectively with others to gain a wide range of perspectives and continue the process of growth as an ECL.

In Figure 7, I have created a cyclic model. At the beginning of that cycle, this research of PAR identified that perceptions, implementation and evaluation of the growth mindset principles are dependent on the self-efficacy of the ECL. However, the self-efficacy of the ECL is also determined by their individual self-beliefs in how they are attribute meaning to outcomes and events that change the course of their own thinking. This metacognitive learning is both embedded in the concept of the growth mindset in how the ECL can grow, but also how they engage in self-regulated learning (SRL).

Figure 7 Creating a culture of ECLs utilising the growth mindset



6.4Recommendation for Practice

My research uncovers further questions - What if ECLs do not see the benefit of effort and collegial discourse around constructive criticism from embracing challenges, overcoming obstacles and being inspired by the success of others ECLs? In that case, the ECL's own self-efficacy impacts their teaching philosophy which can be a prominent adversary. Can an ECL with the growth mindset encourage changes in an ECL with the fixed mindset in their perceptions and how they implement and evaluate their teaching practice? As Dweck et al (2016, 2107b, 2020) state, no person uses completely a growth or fixed mindset. We are often using a combination of the two, so I believe it is possible to change (Dweck, 2016; Dweck, 2017b; Yeager & Dweck, 2020).

As a fellow colleague and insider to this teaching practice, I have changed my view of the importance of collegial discourse in sharing, reflecting and enacting the growth mindset principles. It is possible for ECLs with varying professional experiences and perceptions of the growth mindset to implement and evaluate their teaching practice through a different 'lens' as we examined the growth mindset principles and how these impacted student ECTs. This research shows that collegial discourse which empowers can be

repeated with larger numbers of ECLs in higher education contexts, rather than only providing a space for reflection. Creating a culture within higher education where student ECTs believe that they can grow and develop is best for their teaching practice, and benefits society at large.

6.5 Recommendation for Research

There are varied avenues for further research that provide opportunities for student ECTs within their ITE (see 5.6). However, continuing with targeting research for ECLs will enable benefit for both student ECTs and children. Expanding on this study, research that investigates the origins of an ECL's self-beliefs would enable the ECL to delve into why and how they make decisions about how to foster the growth mindset in their teaching practice. This research has indicated the possibility that the fostering of the growth mindset relies heavily on the ECL's self-beliefs which are the foundation of their individual perceptions of the growth mindset and their developing self-efficacy. This has a direct relationship to how ECLs will implement and evaluate the application and effectiveness of growth mindset principles in their teaching practice. Expanding this current research to investigate a group of ECL's self-beliefs might reveal further insights to how these individuals foster the growth mindset. It is also recommended that the group of ECLs cast across a great variability of professional experiences in the higher education context, so that these experiences can also be compared with their self-beliefs, actions and decisions they make in their teaching practice.

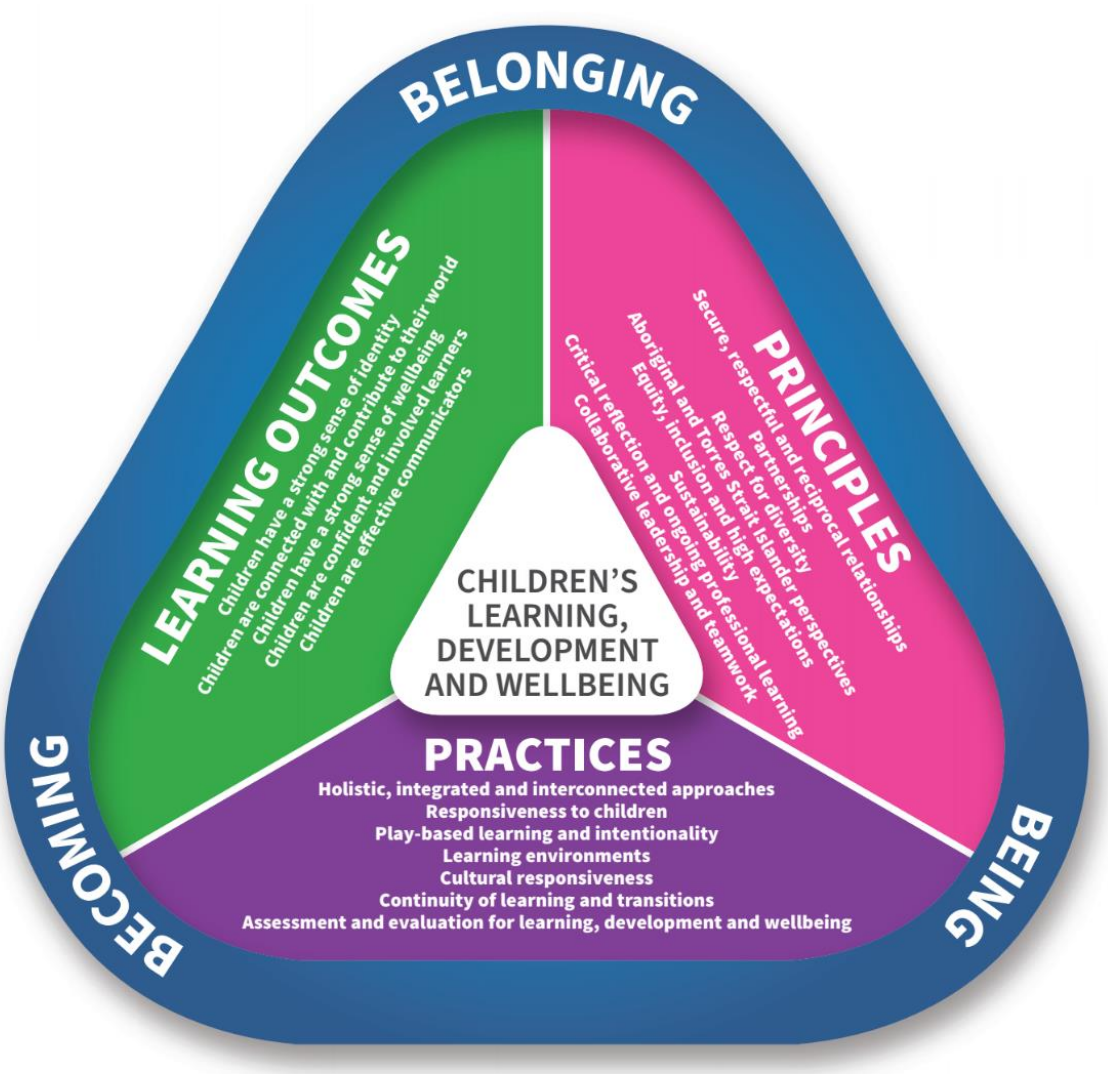
6.6 Conclusion

In summary, this research has enabled me to not only answer the research questions, but also ponder Dweck's (2024) question of whether we can create higher education organisations that embody a growth mindset where ECLs and student ECTs can have positive self-beliefs. However, a precursor to an ECL's self-efficacy is their individual self-beliefs, motivation, metacognition and ability to engage in self-regulated learning (Bjork et al., 2013; Lawson et al., 2019). Therefore, for an ECL to foster the growth mindset they are required continually grow and develop through the growth mindset principles in this ongoing cycle. This PAR research shows that ECLs have the power to embody the growth mindset principles, but this must

be already evident in their self-beliefs, motivation, attributions and metacognition (Bandura, 1977; Zimmerman et al., 1992).

Appendix A

As the Early Years Learning Framework (EYLF) (AGDE, 2022) was created to show the interconnectedness of the vision, principles, practices and learning outcomes for the early years; so too is the growth mindset embedded in each of these. This research will explore how an ECL can foster the growth mindset in their individual practice, and how they can learn from collegial discussions as part of PAR.



Boylan et al (2024) 9 Design Principles for Fostering the growth mindset for qualified ECTs is:

- Principle one: Teachers develop knowledge of their own mindset and model effective learning using a growth mindset
- Principle two: Teachers hold high expectations of students [children] and believe all students [children] can learn and grow
- Principle three: Teachers assist students [children] to set goals and reflect on their learning Principle four: Teachers provide students [children] with strategies for struggle as they work toward achieving a goal
- Principle five: Teachers use a common language to teach students [children] about fixed and growth mindset
- Principle six: Teachers provide feedback for effort rather than talent or ability
- Principle seven: Teachers encourage persistence, effort, and normalise mistakes in a safe and supportive learning environment
- Principle eight: Teachers teach students [children] how the brain works when you learn
- Principle nine: Teachers share mindset practices with parents/carers and the community

Appendix B

The growth mindset is referred in the EYLF (AGDE, 2022) directly and indirectly. The table below lists the most direct and significant associations:

A Vision for Children's learning, Page 9	"Children's early learning influences their continuing educational journeys. Wellbeing and a strong sense of connection, optimism, resilience and engagement enable children to develop **a growth mindset**, and a positive attitude to learning"
Introduction to Learning Outcome 4: Children are confident and involved learners, Page 50	"Children use active mental processes such as exploration, experimentation, questioning, collaboration and problem solving across all aspects of curriculum. Thinking and learning are interrelated and developed through interactions and experiences with others, materials, objects and places. Such learning and thinking processes assist in the development of executive function and neuro-connectivity in the brain. Knowing about how their brain works, the language of learning and strategies to develop **a growth mindset** assist children in life-long learning"
Learning Outcome 4: Children are confident and involved learners, Page 51	Sub-learning outcome: "Children develop **a growth mindset** and learning dispositions such as curiosity, cooperation, confidence, creativity, commitment, enthusiasm, persistence, imagination and reflexivity"
	This sub-learning outcome is then broken down further into how "Educators promote this learning for all children when they, for example: • recognise and value children's involvement in learning • provide learning environments that are flexible and open-ended • respond to children's displays of learning dispositions by commenting on them and providing encouragement and additional ideas • model strategies such as positive self-talk to assist children to manage struggles and cope with challenges or setbacks • provide feedback to children focused on effort and process over outcome or product • encourage children to engage in both individual and collaborative explorative learning processes • listen carefully to children's ideas and discuss with them how these ideas might be developed • include **a growth mindset** model in their everyday activities • find out how to talk to children about how their brains work and how it grows as they learn • provide opportunities for children to revisit their ideas and extend their thinking • model inquiry processes, including wonder, curiosity and imagination, try new ideas and take on challenges • reflect with children on what and how they have learned • build on the funds of knowledge, languages and understandings that children bring to their early childhood setting"

Glossary, Page 66	"**Growth mindset:** is where individuals believe their intelligence and abilities can be improved by effort and actions. This is a necessary part if becoming an effective learner can create a love of learning and understanding that persistence with increased motivation and effort leads to improvement"
The growth mindset is evident in the below principles and practices, but the term is not specifically referred to.	
Principles (8), Pages 14-19	• Secure, respectful and reciprocal relationships • Partnerships • Respect for diversity • Aboriginal and Torres Strait Islander perspectives • Equity, inclusion and high expectations • Sustainability • Critical reflection and ongoing professional learning • Collaborative leadership and teamwork
Practices (7), Pages 20-25	• Holistic, integrated and interconnected approaches • Responsiveness to children • Play-based learning an intentionality • Learning environments • Cultural responsiveness • Continuity of learning and transitions • Assessment and evaluation for learning, development and wellbeing

Appendix C

HUMAN ETHICS LOW RISK PANEL

APPROVAL NOTICE

Dear Dr Bev Rogers,

The below proposed project has been **approved** on the basis of the information contained in the application and its attachments.

Project No:

7607

Project Title:

Investigating how a community of Early Childhood Lecturers can foster a growth mindset

Chief Investigator:

Dr Bev Rogers

Approval Date: 30/08/2024

Expiry Date: 31/12/2024

Approved Co-Investigator/s:

Mrs Sabina Keppel

The following documents have been approved:

File Name	Date	Version
Participatory Action Research Methodology_BR	25/07/2024	2
Growth Mindset Fact sheet	05/08/2024	1
Draft Email for call for participants_v2	25/08/2024	2
HREC - Information Sheet and Consent Form Template (July 2024) Up to date for BIOETHICS 22.8.24_v2	25/08/2024	2

RESPONSIBILITIES OF RESEARCHERS AND SUPERVISORS

1. Participant Documentation

Please note that it is the responsibility of researchers and supervisors, in the case of student projects, to ensure that:

- all participant documents are checked for spelling, grammatical, numbering and formatting errors. The Committee does not accept any responsibility for the above mentioned errors.
- the Flinders University logo is included on all participant documentation (e.g., letters of Introduction, information Sheets, consent forms, debriefing information and questionnaires – with the exception of purchased research tools)and the current Flinders University letterhead is included in the header of all letters of introduction. The Flinders University international logo/letterhead should be used and documentation should contain international dialling codes for all telephone and fax numbers listed for all research to be conducted overseas.
- the HREC contact details, listed below, are included in the footer of all letters of introduction and information sheets.

This research project has been approved by Flinders University's Human Research Ethics Committee (Project ID 7607). If you have any complaints or reservations about the ethical conduct of this study, you may contact Flinders University's Research Ethics & Compliance Office via telephone on 08 8201 2543 or by email human.researchethics@flinders.edu.au.

2. Annual Progress / Final Reports

In order to comply with the monitoring requirements of the *National Statement on Ethical Conduct in Human Research* an annual progress report must be submitted each year on the approval anniversary date for the duration of the ethics approval using the HREC Annual/Final Report Form available online via the ResearchNow Ethics & Biosafety system.

Please note that no data collection can be undertaken after the ethics approval expiry date listed at the top of this notice. If data is collected after expiry, it will not be covered in terms of ethics. It is the responsibility of the researcher to ensure that annual progress reports are submitted on time; and that no data is collected after ethics has expired.

If the project is completed *before* ethics approval has expired please ensure a final report is submitted immediately. If ethics approval for your project expires please either submit (1) a final report; or (2) an extension of time request.

3. Modifications to Project

Modifications to the project must not proceed until approval has been obtained from the Ethics Committee. Such proposed changes / modifications include:

- change of project title;
- change to research team (e.g., additions, removals, researchers and supervisors)
- changes to research objectives;
- changes to research protocol;
- changes to participant recruitment methods;
- changes / additions to source(s) of participants;
- changes of procedures used to seek informed consent;
- changes to reimbursements provided to participants;
- changes to information / documents to be given to potential participants;
- changes to research tools (e.g., survey, interview questions, focus group questions etc);
- extensions of time (i.e. to extend the period of ethics approval past current expiry date).

To notify the Committee of any proposed modifications to the project please submit a Modification Request Form available online via the ResearchNow Ethics & Biosafety system. Please note that extension of time requests should be submitted prior to the Ethics Approval Expiry Date listed on this notice.

4. Adverse Events and/or Complaints

Researchers should advise the Research Ethics, Integrity & Compliance Office immediately if:

- any complaints regarding the research are received;
- a serious or unexpected adverse event occurs that effects participants;
- an unforeseen event occurs that may affect the ethical acceptability of the project.

5. Recruitment of Flinders University Undergraduate Students

Please note: For all research projects wishing to recruit Flinders University students as participants, approval needs to be sought from the Pro Vice-Chancellor (Learning and Teaching Innovation), Professor Michelle Picard. To seek approval, please provide a copy of the Ethics approval for the project and a copy of the project application (including Participant Information and Consent Forms, advertising materials and questionnaires etc.) to the Pro Vice-Chancellor (Learning and Teaching Innovation) via michelle.picard@flinders.edu.au.

Yours sincerely,

Camilla Dorian

on behalf of

Human Research Ethics Low Risk Panel
Research Development and Support
human.researchethics@flinders.edu.au

Flinders University
Sturt Road, Bedford Park, South Australia, 5042
GPO Box 2100, Adelaide, South Australia, 5001

Email sent 5.9.24

Hello Sydney Team,

As part of my final year of my Masters of Cognitive Psychology and Educational Practice (Flinders University), I am completing a Dissertation on How a community of Early Childhood Lecturers (ECLs) can foster a growth mindset in their teaching practice. I would like to invite you to participate in my Participatory Action Research (PAR). The PAR process requests for voluntary participation in 2-3 'spirals' where ECLs will share, reflect and enact teaching strategies based on the growth mindset. The first four participants will be selected based on whom responds to this email to proceed. Please see attached details for how the PAR process will be utilised.

Details in summary: 4-5 Evening meetings in the below weeks ^

Initial Meeting: Next week of 8th Sept (Orientation Week T3) - This first initial meeting I am anticipating Friday 13th 4pm rather than evening to work around orientation. I will still send a poll^ to those who would like to participate

Second Meeting (beginning of 1st Spiral): Week of 15th Sept

Third Meeting (beginning of 2nd Spiral): Week of 22nd Sept

Fourth Meeting (beginning of 3rd Spiral): Week of 29th Sept*

Final Meeting: Week of 1st Oct

^A poll link will be provided to those participants who confirm they would like to participate in a follow up email to determine as convenient time as possible

Please note:

- Meetings will be 20 minutes each which will be recorded (audio and visual)
- Participants are requested to share, reflect and enact growth mindset teaching strategies that will be mutually agreed on in each 'spiral' and then discussed in the following meeting
- Participants are forming part of a collaborative community of ECLs to investigate teaching practice and the growth mindset together
- In preparation for the first meeting participants will be requested to read the growth mindset fact sheet, reflect on their practice and share in the first meeting
- Meetings will be recorded in teams and saved within Flinders University's One Drive for the purposes of this research only

*Estimation of dates above are based on 2-3 spirals occurring, which the participants will mutually decide on if a natural end of the research occurs at the end of Spiral 2.

Ethical Considerations:

- Participants may withdraw at any time and no change in treatment or service will occur
- Names of participants will be changed to pseudonyms in the final dissertation, but as this PAR process is collaborative team members will know who is participating once they attend any of the meetings
- I will be transcribing the meetings using software which will then be shared with all participants to ensure validity and accuracy
- Please find attached Research Information sheet and Consent form and PAR research model

Thank you, team, for your consideration in participating in my research. I am both thankful and appreciative for your time and effort. If you have any further questions, please do not hesitate to send me an email to my student flinders account.

Thankyou kindly

Sabina Keppel

Figure removed due to copyright restriction.

Key Psychological Concepts related to the Growth Mindset

Self-Beliefs: how we develop these **core self-beliefs** about our intelligence determines what we believe we are capable of (Bandura, 2001)

Attributions: are the way we look at events and assign meaning to that event. **How past events are interpreted** – was the success due to ability, effort, difficulty or luck? (Graham, 2020)

Self-Efficacy: **personal judgements** we make based on our self-beliefs (Zimmerman, 2000; Zimmerman & Schunk, 2012)

Internal motivation: **internal desires** such as joy, satisfaction or interest (Deci & Ryan, 2012)

External motivation: **external desires** such as reward, obligation, threat or punishment (Ryan & Deci, 2000)

Autonomy and agency: certain courses of action can promote autonomy and agency **where these past events** also influence our current and future decisions (Bandura, 1982; Boylan et al., 2018)

Metacognition: reveals our understanding of **how we think** and the regulation of cognition in an ongoing way based on our ability to reflect and monitor (Chen & McDunn, 2022; Lai, 2011)

Self-Regulation: **learning is a self-regulated process** where skills, abilities and knowledge of how we learn can impact our ability to reflect, create goals, strategies and plans (Zimmerman, 2002)

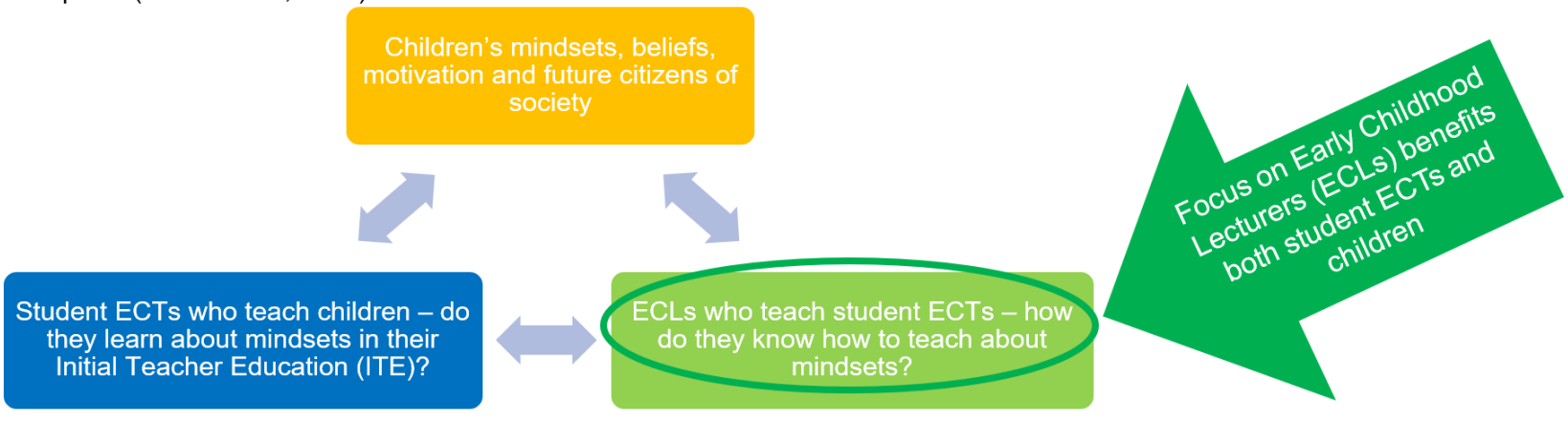
The Growth Mindset is embedded in the Early Years Learning Framework (EYLF) (AGDE, 2022)

In the Vision: "Children's early learning influences their continuing educational journeys. Wellbeing and a strong sense of connection, optimism, resilience and engagement enable children to develop a **growth mindset,** and a positive attitude to learning" (AGDE, 2022, p.9)

In Learning Outcome 4: Children are confident and involved learners "Children use active mental processes such as exploration, experimentation, questioning, collaboration and problem solving across all aspects of curriculum. Thinking and learning are interrelated and developed through interactions and experiences with others, materials, objects and places. Such learning and thinking processes assist in the development of executive function and neuro-connectivity in the brain. Knowing about how their brain works, the language of learning and strategies to develop a **growth mindset** assist children in life-long learning" and "include a growth mindset model in their everyday activities" (AGDE, 2022, p. 50)

In the glossary: "**Growth mindset:** is where individuals believe their intelligence and abilities can be improved by effort and actions. This is a necessary part if becoming an effective learner can create a love of learning and understanding that persistence with increased motivation and effort leads to improvement" (AGDE, 2022, p. 66)

Consider all the EYLF learning outcomes, principles and practices – these also have concepts about the growth mindset embedded in them too.



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