Structured Reflective Practice and Teacher Professional Development in Generation Alpha Classrooms: A Theory U-Based Case Study

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ABSTRACT

The emergence of Generation Alpha students who start using digital technologies at an early age and show different learning behaviours has created a demand for teachers to adapt and innovate teaching methods to sustain student engagement. Research shows that reflective practice has become a vital tool in developing teachers' professional development, yet there is limited research on how structured reflective frameworks assist teachers in improving their pedagogical growth and improvement, specifically in Generation Alpha classrooms. This study uses a multiple case study method to examine how primary school teachers from a Malaysian school used Scharmer's Theory U framework toolkit as their reflective thinking guide during a six-week research period. In total, 168 structured reflective entries together with follow-up dialogues and researcher field notes were gathered as the data set throughout the study. Analysis was conducted by using both deductive and inductive methods to identify reflective themes based on the Theory U stages. Data triangulation of the dataset was also conducted to enhance analytical rigour. Findings show that as teachers progressed from one stage to the next, their reflections moved beyond surface level observations to deeper levels of meaningful thinking. Structured reflection also helped teachers regulate their emotions better (Xu, Zhang, and Chen, 2024) while enhancing their professional confidence as they start innovating teaching methods to match the learning needs of Generation Alpha students. The study suggests that Theory U offers a practical and transferable framework for structured reflective development. By guiding teachers through progressive levels of self-awareness, the framework can help educators navigate increasingly complex and contemporary classrooms.

Keywords: Generation Alpha; reflective practice; teacher professional development; Theory U; digitally mediated classrooms

INTRODUCTION

The emergence of Generation Alpha (Gen Alpha)—the first generation to grow up fully immersed in algorithm-driven and multimedia-rich environments—has introduced new pedagogical demands in contemporary classrooms. Generation Alpha learners demonstrate learning behaviours and expectations that differ markedly from those of previous generations (Höfrová et al., 2024; Cimene et al., 2024). While their digital fluency enables access to vast learning resources and interactive materials, it also presents instructional challenges, including heightened sensory engagement with shorter attention spans, and evolving socio-emotional development patterns (Schawbel, 2024). As digital natives, Gen Alpha learners respond more positively to visually interactive and student-centred approaches, whereas traditional teacher-centred methods often result in decreased engagement (Chan & Lee, 2021). These shifts compel teachers to reflect, and re-adjust their pedagogical practices, and to remain responsive and professionally adaptive in classrooms comprising young modern learners.

More recently, reflective practice has emerged as an important dimension of professional development to develop self-awareness, regulate strategies, and engage more critically with individuals' personal development (Pandey & Mohanty, 2025; Li, 2025; Chen et al., 2024; Moon, 2013). Despite the established benefits of reflective practice in areas of personal and professional development, research examining how structured reflection influences teachers' views, assumptions, understanding and practices in today's contemporary classrooms is still very limited.

Reflective practitioners are individuals who constantly "think about the doing", and who actively work towards improving their professional growth (Moon, 2013; Scharmer, 2007; Podsakoff et al., 2003). In other words, reflective practice is a critical process of self-awareness that links thoughts with actions, and motivates practitioners to consciously think about what worked and what didn't. More importantly, within the context of teacher development, a structured reflective framework can be a foundation to teachers' development of critical reflection which, in turn, acts as a catalyst to help them focus positively on their teaching environment and practices (Chan & Lee, 2021). It is a process that is not an end in itself but leads to further action which may include "new ways of doing something, the clarification of an issue, the development of a skill or the resolution of a problem" (Li, 2025; Reis, 2018; Boud et al.,1985).

An educational system that involves learners like the Gen Alpha, teaching pedagogy has transformed from a conventional instructional method into an interactive educational activity. This calls for a paradigm shift- for teachers to reflect and adjust their teaching methods based on current needs of the students. This is where reflective practice comes in as a practical tool, vital in enhancing professional competency. Reflective frameworks prompt teachers to develop critical self-assessment skills, to assess their teaching choices and help them adjust and improve pedagogical skills (Ezezika & Johnston, 2022).

Unfortunately, educational systems do not provide time for meaningful reflection to occur. Balancing teaching and administrative workloads, and handling fast-paced technology-driven learners, present time restrictions which create challenges for teachers to perform meaningful reflection. This limitation leads to teachers, in general, to conduct basic observations of their classroom contexts. However, for reflection to have a positive impact, reflective thinking should go beyond surface level to higher levels of meaningful understanding, encompassing points of keen observations while making sense of the current situation, and advancing towards critical reflection that leads to realisation or transformation. According to Moon (2013), the stages of reflection are not rigid stages but rather a continuum of increasing complexity in thought and self-awareness.

In many aspects of society, individuals tend to reflect on the past without bringing the future into the present which have resulted in the same patterns of thinking when tackling issues that occur (Chan & Lee, 2021; Scharmer, 2009; Moon, 2013). Prior knowledge and skills are part of our credible selves that exist to assist us but are somehow hidden when we try to retrieve them to explain to others. Thus, reflective practice acts a trigger to consciously consider our own experiences in applying knowledge to practice and bring about positive outcomes. However, in many cases professionals, including educators do not know how to reflect or have the time and space to practice meaningful reflection. Thus, this study aims to re-emphasise the beneficial role of structured reflective practice in guiding teachers through a process of critical self-examination, reinterpretation of student behaviours, and intentional instructional adjustments to improve instructional methods.

Therefore, the purpose of this study is to find out how teachers handling Gen Alpha students use a reflective thinking toolkit to facilitate meaningful reflection and enhance their pedagogical development. It employs a reflective thinking toolkit adapted from Scharmer's (2009) Theory U framework. Based on the Theory U toolkit, teachers are prompted to go through the dynamic stages of Theory U which allow teachers to stop and observe (Stage 1: *Downloading & Seeing*), increase awareness (Stage 2: S*ensing*) of current practices that were effective and those that needed adjustments (Stage 3: *Presencing*), and in moving forward, make informed decisions to adapt (Stage 4: *Realising*) and evolve to enhance classroom engagement (Stage 5: *Evolving*).

In response to the evolving and digitally-enhanced classroom conditions, this study examines how structured reflective practice can support teachers in adapting their pedagogical approaches in teaching and managing Gen Alpha learners. Using a Theory U-based reflective toolkit, the study investigates how teachers engage in

structured reflection and how they perceive its influence on their professional development. The following research questions guide the inquiry:

RQ1: How do teachers engage in reflective practice when using a Theory U-based reflective thinking toolkit in teaching Generation Alpha learners?
RQ2: How do teachers perceive the influence of structured reflective practice on their pedagogical awareness and professional growth?

LITERATURE REVIEW

The literature review examines three interconnected research areas which include (1) the learning characteristics of Gen Alpha, (2) teacher reflective practice in contemporary classrooms, and (3) Theory U as a framework for deep, structured reflection. The three strands of the study establish the foundational concepts which explain the growing importance of reflective practice in teaching Gen Alpha learners and the role of Theory U in facilitating this practice.

2.1 Generation Alpha as Learners in Digital Classrooms

The current research shows that Gen Alpha learners develop their learning styles through their experience with digital systems that rely on algorithms which control their online interactions (Höfrová et al., 2024; Cimene et al., 2024). Gen Alpha learners display strong reactions to new experiences which provide them with direct feedback and multiple sensory experiences. Hence, they respond better to active learning methods rathe than traditional teaching methods which use standard educational delivery methods (Butville et al., 2021; Schawbel, 2024). The research shows that students become more responsive to visual learning and exploratory learning methods while showing less ability to handle long periods of passive classroom instruction (Cimene et al., 2024; Ezezika & Johnston, 2022).

The study conducted by Cimene et al. (2024) found that Gen Alpha students show more learning engagement through visual and kinesthetic methods, unlike previous generations who learn effectively through auditory methods. This view is supported by Höfrová et al. (2024), whose systematic review of existing research about Gen Alpha demonstrate essential differences between this generation and others. Their findings indicate that Gen Alpha classroom instruction now employs a variety of digital tools and blended learning methods, but their implementation and effectiveness remain incomplete as limited knowledge exists about how best to capture and sustain engagement among Gen Alpha students. Schawbel (2024) concurs that Gen Alpha, though still young, will be markedly different from previous cohorts due to their lifelong immersion in advanced digital technologies. These students display unique learning patterns which require educators to execute deliberate assessment processes. Thus, educators should study Gen Alpha student behaviours and learning patterns as this knowledge will help them create effective teaching strategies that maintain student interest and concentration throughout the learning process.

Past studies indicate that these learners succeed when teachers use adaptable methods to develop tailored teaching solutions for their students (Cimene et al., 2024; Höfrová et al., 2024). Teachers need to develop a habit of regularly reflecting and assessing their teaching methods to discover which approaches succeed with specific students during particular situations. Teachers who lack formal reflection processes will respond to student disengagement by using more technology instead of solving fundamental teaching problems. This style of teaching may enable teachers to gain basic engagement skills but fails to support or sustain student engagement in the long run. Therefore, the use of reflective practice can create opportunities for teachers to observe and assess Gen Alpha student behaviour which helps them develop instructional methods that match actual student requirements (Fatawi & Abidin, 2024; Cole et al., 2022; Butville et al., 2021).

The predicted traits of Gen Alpha lead to the conclusion that traditional instructional methods will not be as effective. The modern educational landscape requires teachers to continuously reflect and assess student progress while adapting their teaching methods to match the learning patterns of their young learners. Hence, Scharmer's (2009) Theory U reflective framework functions as a practical instrument to assist teachers to

examine their current teaching practices and make necessary adjustments to manage young students who exhibit varying engagement patterns.

2.2 Reflective Practice in Contemporary Teaching

Professional teaching requires reflective practice as its essential foundation. The process of reflection requires people to assess their current behaviour, beliefs and results which will guide their future work (Schön, 1983; Moon, 2013). The practice of critical reflection enables teachers to evaluate their present teaching methods and help them understand how their educational decisions impact student outcomes. In a study on the teaching of reflective practice among pre-service teachers, Li (2025) found that this approach provides a more in-depth understanding of instructional methods and improves teachers' ability to apply these strategies in diverse educational contexts. The study's findings reinforce the vital role that structured reflective engagement plays in developing critical thinking skills and supporting teachers' development from their pre-service training into their professional work (Diseth, 2025).

According to Pandey and Mohanty (2025) reflective practice plays a central role in shaping teacher identity and professional self-concept. Teachers in today's educational context face complex challenges which require them to rethink and reshape their roles while addressing the different needs of Gen Alpha learners and achieving school performance goals which have to be completed within short periods. Kross et al. (2023) observe that teachers under such pressure choose to stick with their normal methods instead of doing extensive reflective work. Due to stress and time constraints, the process of reflection, if it does occur, often plateaus at the surface level, and little progress is achieved as teachers' focus is often distracted by completing lesson plans, marking and finishing administrative duties instead of reflecting on substantial educational results (Fatawi & Abidin, 2024).

The need for reflective capacity becomes even more pronounced under conditions of rapid instructional change. The study of millennial teachers during the COVID-19 pandemic by Fauyan (2021) showed that effective teaching in disrupted environments compelled teachers to use their professional judgment and contextual understanding more than their technical skills. The findings from this crisis create a parallel to modern classrooms Since teaching Gen Alpha students presents new challenges for educators, teachers need to develop fresh teaching methods to help them understand the changing needs of their students. Reflection, therefore, is an ongoing process which enables them to take notice and understand evolving classroom dynamics while identifying differences between their teaching goals and student feedback which leads to creating better education materials (Diseth, 2025). Therefore, reflection cannot be confined to post-lesson evaluation alone; it must also occur during teaching and assist teachers in making real-time decision-making (Chan & Lee, 2021).

Ezezika and Johnston (2022) found that reflective writing helped individuals learn better but many lack the capability to reflect efficiently. Thus, scaffolding reflective practice with a structured reflective toolkit can increase this ability and make reflective thinking more beneficial. This pattern matches existing problems in reflective education research which shows that teachers need specific guidance to develop advanced reflective skills. Diseth (2025) discovered that reflective writing motivates teachers to set goals and engage with material, thus enhancing their professional growth. However, many lack the understanding to tap into the power of purposeful reflection. Therefore, in many cases, reflective practice ends up as being an after-thought or at the basic level at most.

Russell (2018) explains that teachers need to engage in critical analysis of their teaching methods and classroom practices because this process enables them to achieve authentic professional development which extends beyond basic event assessment. Slade et al. (2019) discovered that structured reflective activities helped teachers establish stronger connections between theoretical knowledge and their practical teaching methods while they assessed their instructional performance. The research shows that professional development needs structured reflection to help trainees advance their abilities beyond regular evaluation techniques.

Undoubtedly, today's educational system demands teaching methods that adapt to the needs of Gen Alpha, while providing space for teachers to perform self-reflection and build self-awareness (Schawbel, 2024). Teachers who reflect on their work become active learners who grow with their students instead of merely following a

structured set of educational programs which include teaching materials and technological tools. In Gen Alpha classrooms, this educational method becomes essential as teachers face constant changes and unpredictable situations. The current academic research implies that teachers require structured reflection periods to develop their professional teaching skills (Fernandez, 2021). Through the use of reflective practice, teachers learn to deal with uncertainty while developing creative teaching methods in response to the changing needs of students (Cole et al., 2022; Butville et al., 2021).

Taken together, the literature review underscores the increasing requirement for teachers to use adaptive and reflective teaching methods to enhance pedagogical development. These academic findings suggest that a thinking toolkit that supports or facilitates reflection is required to help teachers internalize and progress through the various processes of reflective thinking. In the context of this study, Theory U is used as the primary reflective toolkit to enhance higher teacher awareness and purposeful teaching and instructional transformation.

2.3 Theory U as a Framework for Deep Reflective Practice

Theory U (Scharmer, 2009) conceptualises reflective transformation as a progressive movement from habitual reactions to intentional action. The framework comprises five stages: *Downloading & Seeing* (recognising habitual responses), *Sensing* (developing empathetic awareness), *Presencing* (critically examining beliefs and assumptions), *Realising* (translating insights into action), and *Evolving* (integrating new practices into professional routines).

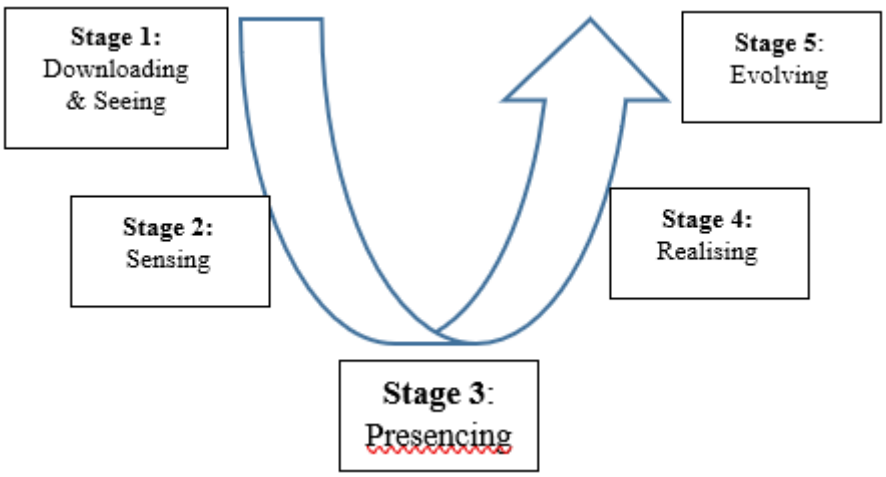

Figure 1. Adaptation of Scharmer's (2009) Theory U Framework for Teacher Development

Theory U provides teachers with a systematic framework that helps them to analyse student behaviour and learning patterns while evaluating their own teaching methods, and adapting customised teaching methods which focus on student needs and specific classroom conditions.

In practice, as illustrated in Figure 1 above, teachers begin the reflection process by moving down the left side of the U framework, where they start making observations of their students' learning behaviours (Stage 1: *Downloading & Seeing*), and as they move further downwards, they start recognising their habitual teaching responses and observing classroom dynamics more openly This stage is an important start as teachers learn to observe, see, listen and take note of how Gen Alpha students behave and how they interact with the lessons. Subsequently, as they move to the next phase (Stage 2: *Sensing*), the toolkit facilitates a deeper empathetic understanding of student engagement and learners' needs, prompting them to evaluate their core beliefs and consciously think about "the what, the how and the why".

As they progress towards Stage 3 (*Presencing*), which functions as the central component of the U-framework, it enables teachers to reach a deeper understanding about their teaching and learning activities (Chang, 2019). It is a process that is not an end in itself but leads to further action which may include discarding conventional methods, adopting new ways of doing something, clarifying an issue, developing a new skill or creating solutions

to resolve existing problems (Scharmer, 2009). This stage of *Presencing* spurs them to progress to higher levels of critical reflection as they move upwards the right side of the U. They begin making necessary adjustments to current practices (Stage 4: *Realising*) and adopt innovative methods to meet students' learning needs (Stage 5: *Evolving*).

The practice of reflection via the Theory U framework enables educators to implement successive teaching modifications based on their reflective insights. As they move from each stage to the next, they are prompted to continuously interpret engagement cues, adjust instructional pacing, and integrate digital tools in pedagogically meaningful ways. In the context of this study, the adapted Theory U structured thinking toolkit includes questions that prompt and supports teachers' reflective thinking from one level to the next (see Appendix 1), particularly, in facing and overcoming teaching and learning challenges in modern classrooms.

RESEARCH METHODOLOGY

This study adopts a qualitative multiple-case study design to explore how teachers engaged with an adapted Theory U-based reflective thinking toolkit while teaching Gen Alpha learners in digitally-enhanced classrooms.

3.1 Research Design

A case study approach was selected to capture teachers' authentic classroom experiences in depth and to understand how reflective practice unfolded over time within a real instructional context.

The study focused on three primary school teachers working within the same educational setting. Examining multiple cases within one school enabled the identification of both shared reflective patterns and individual variations in how teachers engaged with structured reflection. Rather than seeking statistical generalisation, the study aimed to generate rich, context-sensitive insights into professional teacher development in handling Gen Alpha classrooms. By prioritising depth over breadth, the study sought to provide nuanced insights into teacher professional development within contemporary classrooms.

3.2 Participants and Research Context

Three teachers from a Malaysian primary school voluntarily participated in the study. Their teaching experience ranged from 6 to 15 years. All teachers integrate digital classroom tools which include interactive whiteboards and online learning platforms, and multimedia instructional materials to teach upper primary students.

The teachers work in a cluster school which is one of the top-performing, high-achieving primary schools in Malaysia. The Ministry of Education (MOE) selects cluster schools based on the schools' exceptional academic performance and success in co-curricular activities, and their specific subject areas. The school provides digitally-enabled smart classrooms which allow teachers to combine traditional teaching methods with digital and platform-based learning activities. The hybrid environment enables researchers to study how teachers reflect on their teaching practices when teaching Gen Alpha students whose learning patterns are greatly influenced by digital device usage.

The three teachers were selected purposively based on three criteria:

1. Active engagement in technology-supported teaching
2. Willingness to implement the Theory U reflective toolkit
3. Commitment to submitting structured weekly reflective entries over six weeks in one school term.

To protect confidentiality, pseudonyms were assigned (Teacher A, Teacher B, Teacher C).

3.3 Data Collection Method

The Theory U-based reflective toolkit was implemented over a six-week period within one school term. At the outset of the study, participants were introduced to the five stages of Theory U (Scharmer, 2009): *Downloading*

& Seeing, Sensing, Presencing, Realising, and *Evolving*. Structured reflective prompts aligned with each stage (see Appendix A) were provided to scaffold teachers' reflective writing and ensure conceptual alignment with the framework.

Teachers submitted weekly reflective entries through a shared Google Drive folder. They were requested to use the toolkit as a guide to document classroom episodes or narratives that describe how their young learners behave, interact and participate in the lessons, as well as the teaching challenges they face in engaging GenAlpha learners. More importantly, to note down why and how teaching methods were adjusted based on their classroom interactions. The teachers submitted about 12 to 15 entries during the six-week period which resulted in 168 reflective narratives. The length of each entry varied between 150 to 250 words.

The study also included two semi-structured dialogue sessions which took place at Week 3 and Week 6. The conversations served two purposes. Firstly, to gather new reflective findings that teachers may have overlooked in their reflective entries, and secondly, to gauge how these teachers perceive the reflective thinking toolkit in enhancing their professional development. The researchers also kept informal field notes to record contextual details which enhanced their understanding of the study.

3.4 Data Analysis Procedures

As illustrated in Figure 2 below, data were analysed using a hybrid deductive–inductive thematic analysis approach.

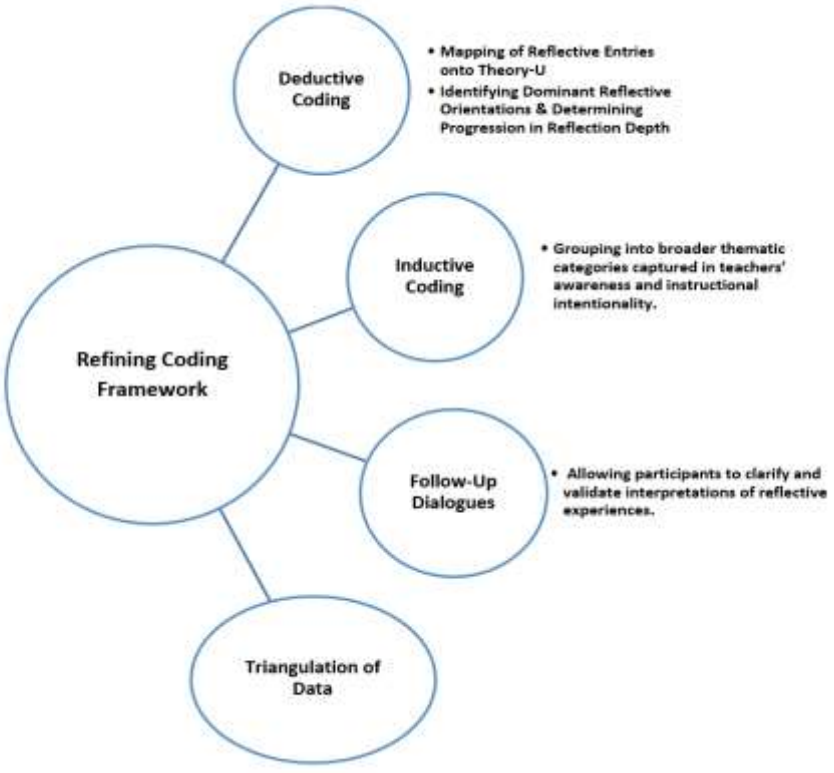

Figure 2. Data Analysis Procedures

The research team achieved analytical excellence by conducting independent coding on 30% of the dataset. Coding differences were resolved through discussion until a unified agreement was achieved which resulted in better coding practices. The remaining data were then coded deductively and inductively, using the agreed and refined framework. The collaborative work helped protect against individual interpretation errors while increasing the study's reliability.

The data analysis started with a deductive coding phase after the team accepted the final version of the coding framework. The researchers analysed each reflective entry to map reflective entries that corresponded to the five

stages of Theory U. They identified main reflective tendencies, using deductive methods to track how participants moved between different stages which resulted in their data collection that created Tables 1 and 2.

The researchers conducted an inductive coding process to examine how teachers understood their teaching methods and educational objectives. Main themes from the reflective entries were identified to track the teachers' adaptation of content delivery methods and their classroom management practices including their personal teaching styles and their emotional states. The research team used an iterative process to create major theme categories which demonstrated how teachers developed their understanding of content and their teaching goals.

In addition, follow-up dialogues conducted in Weeks 3 and Week 6, functioned as informal collaborative checking, allowing participants to clarify and validate interpretations of their reflective experiences.

The research findings received additional support through data triangulation which included three sources: (1) written reflective entries, (2) follow-up dialogue transcripts, and (3) researcher field notes. The trustworthiness of the findings improved because themes from various data sources showed common patterns. The research team applied a systematic analytic method which established clear guidelines for coding actual research material while maintaining consistent research methods throughout the study.

3.5 Ethical Considerations

The research maintained ethical standards throughout its entire duration. The study required participants to give their voluntary consent after they received complete information about the research process. The teachers received assurance that their reflective entries would remain confidential and would only be used them exclusively for research and professional development activities.

RESULTS

Table 1 shows distribution of reflective entries across the Theory U Stages over the Six-Week Period.

Table 1. Distribution of Reflective Entries Across Theory U Stages (6-Week Period)

Theory U Stage	T-A	T-B	T-C	Total Entries
Downloading & Seeing	14	12	12	38
Sensing	13	12	10	35
Presencing	9	8	8	25
Realising	18	12	10	40
Evolving (Integrated Practice)	10	9	11	30
Total Reflective Entries				168

The findings in Table 1 show that initial reflections during the first stage of their reflective journey fell under Stage 1 - *Downloading & Seeing*, which had 38 entries, while the *Sensing* stage had 35 entries. The teachers advanced from these two stages of reflection to the central component of the reflective framework which is the *Presencing* stage with 25 entries before advancing to the higher levels of reflective thinking which include *Realising* with 40 entries and *Evolving* with 30 entries during the subsequent weeks.

To show reflective depth and progress, Table 2 displays the main reflective stages that occurred during the six weeks of observation. The chronological mapping system shown in Table 2 provides a representation of the teachers' reflective progress developmental changes throughout the six weeks. The reflective entries through the five stages of the framework indicate how teachers developed from reacting to classroom situations into planning and adjusting their teaching methods during the entire study. The implementation period shows a gradual development of reflective orientation through its six-week duration which is displayed in Table 1 and 2. Table 2. The initial entries of the study showed most content to belong to *Downloading & Seeing* and *Sensing*

stages but subsequent reflections showed users to engage with their work through *Presencing* and *Realising* and *Evolving* stages.

Table 2. Progression of Reflective Depth Across 8 Weeks

Weeks	Dominant Stages Observed	Number of Entries
1-2	Downloading & Seeing	38
1-2	Sensing	35
3-4	Presencing	25
5-6	Realizing	40
5-6	Evolving	30
Total		168

Moving forward, the teachers' reflective depth and development are described in the following sections.

4.1 Moving Beyond Habitual Responses: From Downloading to Seeing

At the initial stage of reflection, the teachers described recognising how frequently they relied on habitual teaching routines when managing digitally oriented learners. Several reflections revealed automatic responses to disengagement, particularly when students displayed short attention spans or shifted focus to digital devices.

The teachers reflected:

"I realised that when students became distracted, my first reaction was to increase control rather than examine why the activity wasn't holding their attention." (T-A: **Downloading**)

"From my observations, the students seemed very hyperactive. I found it very frustrating trying to get their attention especially after fifteen minutes of teaching. So I tend to be very strict and that made it even harder to connect with them." (T-B: **Downloading**)

They also noted:

"I assumed they were not serious about learning because they were constantly looking at their screens, fidgeting or requesting permission to go out of class. But I did not question my teaching methods. Instead I felt these Gen Alpha are very distracted and impossible to teach." (T-C: **Downloading**)

"My initial conclusion was Gen Alpha are just too entitled and pampered. They can't concentrate during class and don't have interest in learning. They are not rude but just very restless in class and although they cannot stay still,, I still considered them as passive leaners." (T-A: **Downloading**)

As teachers started "downloading" based on their observations, they progressed to the "**seeing**" stage. Their reflections became more reflective and less reactive. Rather than focusing solely on student behaviour, they began to examine classroom dynamics more openly.

For example, Teacher C observed that:

"It was very tiring dealing with Gen Alpha so when I paused and tried different styles of teaching, I realised the students were actually getting more focused. So I started to include short video clips accompanied by verbal explanations and they seemed more engaged. Suddenly I see some interest in learning." (T-C: **Seeing**)

Similarly, Teacher A felt that:

"After a few lessons, I stopped focusing on correcting their behaviour, and instead I tried to observe what triggered the disengagement. It usually occurred when the task required prolonged listening. So I realised I needed to keep the verbal explanations shorter. Instead I got them to do more task-based assignments or group work." (T-A: **Seeing**)

These reflections suggest that the structured prompts encouraged teachers to suspend immediate judgement and examine classroom interactions more attentively. This shift marks the beginning of deeper reflective awareness aligned with Theory U.

4.2 Deepening Awareness: Sensing and Presencing

The teachers developed better empathy skills and critical self-awareness through their work with the reflective toolkit. Participants in the *Sensing* stage developed methods to comprehend what students experienced instead of focusing solely on their behaviour.

One teacher explained:

"I began to think and question myself about my lesson plans – how I can make the lessons fit more to my students' learning patterns. I sense they enjoy interactive lessons, more questions and answers, short video clips and designing the topics into visuals using Canva, for example.. So I started integrating more videos into my lessons and also getting them to complete tasks using the computers" (T-A: **Sensing**)

Teacher B noted:

"As I reflected and even started talking to my colleagues who faced similar challenges, I realised I was expecting them to adapt to my teaching style. So, instead I started adapting my approach to their learning habits. Gen Alpha are more visual and hands-on so giving them group tasks to complete was more engaging for them." (T-B: **Sensing**)

Teacher C also sensed that:

"These Gen Alpha are actually very good in doing presentations like using Canva, for example. They just love using Canva. They are used to fast, visual content, so my static slides probably felt slow and borng for them. That's why they feel disconnected to my teaching So I decided to give them group tasks to prepare presentations on a specific topic and they actually enjoyed it." (T-C: **Sensing**)

The "*presencing*" stage revealed even deeper reflective engagement, where teachers examined their own beliefs and instructional identities.

For instance, Teachers A and C shared respectively that:

"*I am used to a regimented and quiet classroom. But for this group of kids, it was really loud and out of control at times. Then I realised that meant they were engaged. So I need to adjust my teaching methods to capture attention, navigate their energies and sustain their interest."* (T-A: **Presencing**)

"*Facing my own uneasiness with the technology was hard, but it helped me to be more confident in working with digital tools. It's a learning process for me but it becomes rewarding when I can see how attentive and engaged the students are."* (T-C: **Presencing**)

The teachers advanced their classroom management skills beyond basic routines as they consciously conduct in-depth self-evaluation. The teachers began questioning their existing teaching beliefs initiating the need to adapt their methods to match their Generation Alpha students' learning patterns.

4.3 Translating Reflection into Pedagogical Action: Realising and Evolving

The teachers in the "*realisation*" stage of their work with the Theory U framework began to implement teaching changes through their purposeful yet optional teaching method experiments. Teachers reported modifying lesson

structures, incorporating more interactive elements, and varying instructional pacing to better align with students' engagement patterns. This view is supported by Teacher A in her reflection:

"I redesigned my lessons after reflecting on my teaching methods. The students used interactive activities after every short explanation throughout the entire lesson. I saw immediate results because I increased student participation through this change. This is something I could work with in the future to sustain engagement in future classrooms." (T-A: **Realising and Evolving**)

Teacher B reflected:

"I started using visual prompts together with collaborative activities. I worked to include their digital habits through my digital activities instead of maintaining digital boundaries. I found working with them to be enjoyable. Our work together progressed from teaching to collaborative learning, as we completed the lesson together. This is definitely a great transformation for me as a teacher, I get a sense of new learning and I'm not stuck in my old habits of teaching." (T-B: **Realising and Evolving**)

The structured reflection process brought about intentional educational improvements, which resulted in changes beyond standard classroom teaching adaptations according to these specific instances. The teachers established a direct connection between their reflective understanding and their classroom teaching activities when they shifted from responding to situations to purposefully redesigning their educational methods.

4.4 Teachers' Perceptions of the Reflective Thinking Toolkit

The findings showed that teachers found the Theory U-based reflective toolkit useful in providing them with the professional support and help they required to make their thoughts visible and tangible. The structured reflection process enabled teachers to examine and adjust their instructional patterns while developing their professional understanding and self-assurance, while managing their emotions.

The teachers described their previous reflective practices as informal methods which they used to respond to situations when they occurred. In the past, they conducted their reflection process through making brief mental notes which they jotted down like a mental note or an afterthought, after class instead of thinking about the how and the why as explained by Moon (2013).

Teacher A explained:

"Before this, I would just reflect if I didn't feel very satisfied with a lesson that I just completed. I would just make a mental note but then it's quickly forgotten then I find myself having the same feeling again. Now, I don't wait until something feels wrong. Instead, I would think about trying something different in the next lesson. So the toolkit has helped me become a better thinker and lesson planner." (T-A: **Perception**)

The toolkit also prompted the teachers to move slowly but meaningfully through the stages of reflection. Teacher B commented:

"The structured framework encouraged slower and more deliberate thinking. So I was doing more thinking and learning more about my own teaching strategies. It also helped me understand my young learners better. They just have a different learning style so I need to adapt my lessons to their learning styles." (T-B: **Perception**)

Teachers reported that moving through defined reflective stages with the assistance of the thinking prompts helped them uncover assumptions underlying their instructional decisions. As perceived by Teacher C:

*"The stages in the toolkit forced me to pause and think. It helped me realise I was reacting to behaviour instead of understanding it. I wasn't really analysing why it happened, what types of students am I dealing with and what adjustments I can make to engage them better in my next lesson."(T-C: **Perception**)*

Teacher B also noted that the framework helped distinguish between student disengagement as a behavioural issue and disengagement as a pedagogical signal:

"I used to see short attention spans as a discipline problem. Now I see it as feedback about how I structure my lessons." (T-B: **Perception**)

The teachers were able to use the structured prompts to achieve progress beyond their standard self-evaluation practices. As perceived by Teacher C:

"Normally I do reflect on my classwork immediately after class especially how to make my lessons more interesting for these students. Sometimes if I think hard enough, I get some ideas but I don't really think further or take actions. With the toolkit, it did make me work at a slower pace and forced me to think about my present situation more carefully and what actions to take in future encounters with the students. The questions really prompted me to think more deeply about my teaching methods." (T-C: **Perception**)

Teacher C emphasised in her reflection that:

"The study provided me with a framework which I needed - to learn how to reflect meaningfully. My lesson plans started to progress beyond basic observations of students' behaviour. Rather, I started thinking more about what I can do to grab their attention or even sustain their focus in class." (T-C: **Perception**)

Further, teachers also said that this toolkit is largely responsible for their higher confidence in changing instruction. Rather than feeling overwhelmed by digitally mediated classroom challenges, they felt more equipped to interpret and respond constructively. As described by the teachers in the following:

"It gave me a clearer way to think through classroom challenges. I felt less frustrated and more in control of my decisions if I decide to incorporate more technology into my lesson plans." (T-A: **Perception**)

"I developed a more deliberate approach to my lesson plans. The toolkit helped me to examine the before and after class situations, and made ponder on the reasons behind successful and failed outcomes. Before that I usually make random guesses about potential solutions, I also don't take actions to analyse more or sometimes everything becomes an afterthought and I forget about following up later. Then it's back to square one." (T-C: **Perception**)

Importantly, the toolkit appeared to support emotional regulation alongside pedagogical insight. Teachers expressed that structured reflection reduced impulsive decision-making and fostered a more measured response to unexpected situations:

"Instead of immediately correcting or reprimanding students, I started analysing my lesson plan. I decided to change my teaching style to add in open discussions in between activities with my students. I was surprised at how they reacted in my next class. They were so interactive asking many questions and giving feedback. I also enjoyed my interactions with them." (T-B: **Perception**)

As Teacher A summarised:

"Instead of seeing them as distracted, I now see them as learners who need different types of engagement. That shift changed how I plan my lessons." (T-A: **Perception**)

By the later stages of reflection, all the teachers described a shift from problem-solving orientation to intentional instructional design. Reflection became integrated into their planning routines rather than occurring only after difficulties emerged. As Teacher C indicated:

*"Now I plan with reflection in mind. I think about how students might respond before I teach." (T-C: **Perception**)*

Based on the qualitative findings, the study established a definite connection between deeper reflection practices and improved teaching methods which educators used in their work. Teachers participated actively in all reflection activities which resulted in their selection of major teaching changes instead of selecting minor adjustments. The process of reflection brought about changes in teachers' mind-sets which they held about teaching Gen Alpha students. Teachers began to see Gen Alpha learners' behaviours as indicators of the learning

methods that need to be incorporated to increase their engagement. The study demonstrates that these teachers who used the Theory U structured reflective practice experienced positive advancements in their approach of teaching and handling Gen Alpha learners in today's modern classrooms.

Throughout the six weeks of implementation, teachers progressed from basic understanding to deeper knowledge during the first two weeks of teaching and continued to develop and progress as they move along the Theory U continuum of reflective stages. The developmental change enabled teachers to recognise their teaching beliefs during their learning process while they built better self-awareness and confidence in teaching highly interactive students with shorter attention spans compared to previous cohorts. The findings will be discussed in the following section in relation to the specific research questions and existing studies about reflective practice and digital teaching methods.

DISCUSSION

5.1 Addressing RQ1: How Teachers Engaged in Structured Reflective Practice

The findings demonstrate that teachers' engagement with the Theory U-based reflective toolkit progressed systematically from surface level description to intentional pedagogical redesign. As illustrated in Tables 1 and 2, reflective entries in the early weeks were predominantly situated within the *Downloading & Seeing,* and *Sensing* stages, indicating reliance on habitual interpretations of classroom events. Over time, entries increasingly reflected deeper engagement through the *Presencing*, *Realising*, and *Evolving* phases.

During the initial stages (Weeks 1–2), teachers interpreted student disengagement through established classroom management frameworks. Distraction, restlessness, and shortened attention spans were viewed primarily as behavioural issues requiring control. This aligns with Scharmer's (2009) concept of "*Downloading* &Seeing", in which individuals rely on existing mental models to interpret new experiences. The high frequency of entries in the *Downloading & Seeing* stage (Table 1) reflects this early reliance on routine responses.

As reflection became more structured and sustained (Weeks 3–4), teachers moved into the *Sensing* stage. Here, disengagement began to be interpreted not as student deficiency but as feedback on instructional design. Teachers increasingly connected student responses to lesson pacing, modality, and the need for interactive and visually supported strategies. This shift corresponds with research indicating that Gen Alpha learners respond more effectively to active and multimodal approaches (Cimene et al., 2024; Höfrová et al., 2024). Table 2 shows this developmental transition through the growing concentration of entries within the *Sensing* and *Presencing* phases.

The *Presencing* stage marked a deeper level of reflective engagement. Teachers critically examined their beliefs about authority, silence, and control, reconsidering what constitutes meaningful engagement in digitally mediated classrooms. This movement reflects Moon's (2013) notion of critical reflection, where practitioners interrogate underlying assumptions rather than merely adjusting techniques.

By Weeks 5–6, reflections increasingly aligned with the *Realising* and *Evolving* stages. Teachers implemented deliberate instructional redesign, incorporating shorter explanation segments, collaborative tasks, visual prompts, and digital tools aligned with students' learning patterns. Reflection moved beyond retrospective analysis and became embedded in forward planning. This progression mirrors Schön's (1983) conception of reflective practitioners who integrate reflection-on-action with reflection-in-action. As reflected in the higher number of entries in the *Realising* and *Evolving* stages (Table 1), teachers transitioned from reactive classroom management to intentional pedagogical adaptation.

Overall, the data suggest that structured engagement with Theory U did not simply increase the frequency of reflection; it deepened its quality. Teachers demonstrated progressively more analytical, self-aware, and action-oriented engagement with classroom complexity. The staged progression observed across Tables 1 and 2 provides empirical evidence of reflective development over time, directly addressing RQ1.

5.2 Addressing RQ2: Teachers' Perceptions of the Reflective Toolkit and Professional Growth

In addressing Research Question 2, the findings indicate that teachers perceived the Theory U-based reflective toolkit as both professionally developmental and emotionally stabilising as supported by Diseth (2025) and Ezezika & Johnston (2022). Structured reflection was not viewed as a routine evaluative task but as a deliberate mechanism for refining instructional practice and strengthening professional identity.

Participants reported that the staged progression of Theory U enabled them to examine classroom challenges at multiple levels. Rather than responding immediately to student disengagement through behavioural correction, they began interrogating lesson design, pacing, modality, and underlying assumptions about engagement. This shift from reactive response to analytical interpretation suggests that structured reflection enhanced teachers' pedagogical intentionality.

Beyond instructional adjustments, teachers described notable growth in professional self-awareness and confidence. They articulated a stronger sense of agency in their classroom decisions and greater clarity in aligning teaching strategies with students' learning patterns. These findings align with Pandey and Mohanty (2025), who argue that reflective practice contributes to teacher identity formation through experience-based self-reconstruction. Similarly, Miulescu and Tacea (2023) emphasise that structured reflection strengthens awareness of professional actions, while Slade et al. (2019) demonstrate that guided reflection enhances the integration of pedagogical theory and classroom practice. The present study extends these insights by illustrating how structured reflection supports identity development specifically within digitally mediated Gen Alpha classrooms.

Teachers also reported improved emotional regulation as their reflective engagement deepened. Disengagement was increasingly interpreted as pedagogical feedback rather than behavioural defiance. This reframing process resonates with Kross et al. (2023), who demonstrate that reflective distancing in high-pressure environments enhances emotional regulation and cognitive clarity. By interpreting classroom challenges through reflective lens, teachers described feeling more composed, confident, and purposeful in their decision-making.

Follow-up dialogues further reinforced these perceptions. Participants indicated their intention to integrate reflection into lesson planning as an ongoing professional routine rather than treating it as a post-lesson evaluation exercise. Reflection evolved from asking "What went wrong?" to more forward-looking questions such as "What instructional adjustments are needed?" and "How can I enhance student engagement?" This shift towards anticipatory and design-oriented reflection underscores the developmental impact of the reflective toolkit.

Overall, teachers perceived the Theory U framework as both a scaffold for meaningful reflection and a catalyst for sustained professional growth. Consistent with Li's (2025) findings, structured reflective engagement appears to cultivate not only critical thinking but also a continuous commitment to professional self-improvement. In this study, reflection functioned as an embedded developmental practice that strengthened pedagogical awareness, emotional resilience, and professional identity formation.

5.3 Theoretical and Practical Implications

This study contributes to existing literature on Gen Alpha by shifting attention from describing learner characteristics to investigating how teachers can perceive the adaptive use of structured reflective practice. While prior research has documented the digital engagement patterns of Gen Alpha learners (Cimene et al., 2024; Höfrová et al., 2024), fewer studies have explored the use of structured reflective frameworks that scaffold teachers' professional development within contemporary classrooms.

The findings suggest that Theory U provides a transferable and scalable model for teacher professional development. As a structured reflective scaffold, the framework may be integrated into professional learning communities, teacher induction programmes, and in-service training focused on digital pedagogy. By guiding educators through progressive stages of awareness, Theory U supports not only instructional adaptation but also identity development and emotional regulation in complex classroom environments.

These implications highlight the value of embedding structured reflective inquiry within teacher development systems to enhance pedagogical responsiveness in rapidly evolving educational contexts.

CONCLUSION AND FUTURE DIRECTIONS

This study examined how a structured Theory U-based reflective toolkit supported teacher professional development in Generation Alpha classrooms. Across the six-week implementation period, teachers demonstrated a clear progression in reflective depth, moving from habitual interpretations of student behaviour to intentional instructional redesign. Structured reflection enabled participants to interrogate underlying assumptions, reinterpret disengagement as pedagogical feedback, and implement adaptive strategies aligned with Gen Alpha learners.

The study contributes to current scholarship by shifting focus on profiling Gen Alpha learners to determining how teachers can respond adaptively through structured reflective inquiry. Theory U functioned not merely as a conceptual framework but as a practical scaffold for sustained professional growth in contemporary classrooms.

This research is limited by its small sample size and single-institution context, which restrict generalisability. Future studies may extend this work across multiple schools, longer timeframes, and incorporate classroom observations or student outcome measures to strengthen empirical validation.

In increasingly complex educational environments, structured reflective practice offers a sustainable pathway for enhancing teacher adaptability, professional identity formation, and pedagogical responsiveness.

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Conflict of Interest Statement

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

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APPENDIX A

Adapted Theory U-Based Reflective Thinking Toolkit for Teacher Development

Theory U Stage	Reflective Focus	Guided Reflective Questions for Teachers
***Stage 1**: Downloading*	Recognising habitual reactions and assumptions	• What was my immediate response to the classroom situation? • What assumptions did I make about students'

		behaviour or engagement? • Have I handled similar situations in the same way before? • Am I relying on established routines without re-examining their effectiveness?
Seeing	Observing classroom dynamics with openness	• What did I actually observe in students' responses? • When were students most engaged or disengaged? • How did my lesson structure or pacing influence participation? • What patterns do I notice in how Generation Alpha learners respond to different strategies?
***Stage 2**: Sensing*	Developing empathetic understanding of learners' perspectives	• How might this lesson have felt from the students' viewpoint? • How do students' digital habits shape their engagement patterns? • What learning preferences (visual, interactive, collaborative) were evident? • In what ways might my teaching style align or misalign with their expectations?
***Stage 3**: Presencing*	Critically examining teaching beliefs and professional identity	• What beliefs about effective teaching influenced my decisions? • How comfortable am I integrating digital tools meaningfully? • Has this experience challenged my understanding of engagement? • What kind of teacher do I aim to become in digitally mediated classrooms?
***Stage 4**: Realising*	Translating reflective insight into intentional pedagogical action	• What specific instructional changes will I implement? • How can I incorporate more interactive or visual elements? • How can I adjust pacing to sustain engagement?
***Stage 5**: Evolving*	Enacting and adopting new methods for future possibilities	• What specific instructional changes will I adopt for future lessons? • What more interactive or visual elements will I incorporate in my future lessons?

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Authors' Contributions

Dr Irene Leong and Dr Kuldip Kaur are the lead researchers, working closely with the participating teachers. They coded the reflective narratives and also conducted the follow-up interviews to ensure validity and reliability of the data. Dr Yeap Chun Keat, Ms Gan Kiat Chien and Ms Lai Yuh Ying also played significant roles in the writing and revision of the manuscript.