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Tipping the Scale: Bringing the Disequilibrium to the Passive Learning Phenomenon

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Abstract. The passive learning phenomenon, common in teacher-centred classrooms, persists in classrooms globally despite continuous calls for learner-centred pedagogies. The educational landscape is in dire need of a shift to not only promote learner-centredness but also to move towards autonomy-supportive pedagogical approaches. This paper aims to elucidate and explore the potential of the 'Altered Flipped Classroom Pedagogy', a context-specific active learning intervention, to enhance learner engagement and participation in an everyday traditional high school classroom. It originates from Bergman and Sams' seminal work on the topic. It was, however, 'altered' to meet the needs of the South African context, where only an estimated 20,35% of the public high schools in the country have access to technology for teaching and learning purposes. The research is situated within Self-Determination Theory, as the design of the intervention addresses learners' needs for autonomy, relatedness and competence. Using volunteer sampling, high school teachers self-selected to attend an online training session and received a training manual before implementing the intervention. The primary method of data collection was semi-structured interviews. Method triangulation was achieved through merging three alternative qualitative methods following the thematic analysis process. The primary findings demonstrate the potential of the AFCP to promote learner engagement, participation, and motivation. Further findings suggest that learners experienced greater autonomy and displayed more self-determined behaviors. When learners become more autonomous, they grow their ability to think independently, solve problems and take greater ownership of their learning.

Keywords: learner-centred pedagogy; active learning intervention; teacher training; Self-determination Theory; basic psychological needs

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1. Introduction

> *"Memorize the Latin and common names of the fishes of Alberta and their distinguishing characteristics, attend the exam on two cups of coffee and no sleep, regurgitate the mental meal of the previous night like the winner of a pie eating contest, then set about forgetting the whole experience. Learning was not dynamic, it was not interactive, it was not intuitive and it was certainly not in any way self-directed." (Taylor, 2014, p.79)*

Education continues to face a conundrum to which young and old can relate all too well (albeit with slight variations in the finer details). Although the dawn of AI has (re)defined a new era in the landscape of education, for most learners and teachers, Taylor's (2014) anecdote remains an all-too-familiar reality - the focus on learning as a product of the cyclical nature, brought about by traditional pedagogy and subsequently passive learning. Some scholars have even gone as far as referring to whole class teaching and teachers' daily routine as 'playing school', where teachers demonstrate 'limited pedagogical understanding' and have a 'shallow grasp of the pedagogic enterprise' (Potterton, 2025, para.8). Being a former teacher of ten years, I will err on the side of caution to criticise teachers. Yet, the persistence of this pedagogical inertia compels a critical question: *How can the longstanding equilibrium of the passive-teaching, passive-learning cycle be disrupted?*

Although there is a growing emphasis on learner-centred pedagogy (Goodwin, 2024), many scholars continue to highlight the problematic nature of the passive learning phenomenon (see Bristol, 2014; Pretorius, 2025; Shur & Guberman, 2024). Relatively few studies have, however, investigated how participants experienced learner-centred pedagogies that can be meaningfully adapted and implemented in the high school context. Li et al. (2023) concur by stating that although active learning is widely recognised as effective, it is not consistently reflected in everyday teaching practices.

Realising a genuine shift from passive learning requires renewed attention to learner-centred pedagogy. This calls for re-examining established practices and redefining the ways in which learning and teaching are organised (Pretorius, 2025). Active learning pedagogies are increasingly recognised as more effective than passive content delivery (Aricò & Lancaster, 2018; Dubinsky & Hamid, 2024). The flipped classroom pedagogy was therefore selected as it is rooted in both socio-constructivist and cognitivist theories of learning (Abeysekera & Dawson, 2015; Kenwright et al., 2017).

Li et al. (2023) emphasise that, despite variations in design, these approaches "flip" the learning structure by moving passive learning outside the classroom and incorporating active learning into class time since more classroom time is allowed for learner-centred activities (Becker & Birdi, 2018). While the flipped classroom has been extensively studied in higher education and training contexts, studies exploring its application at the school level are emerging slowly (see Bessas et al., 2024; Mokhele-Ramulumo et al., 2024; Paragoo & Sevnarayan, 2024).

The present paper forms part of a broader study titled *An altered flipped class pedagogy (AFCP) as an intervention strategy to address passive learning in a teacher-*

centred classroom. In this paper, I specifically explore (i) the perceived advantages for teaching and learning when teachers introduce a context-specific, learner-centred pedagogy, and (ii) how this intervention influences learners' motivation to learn.

2. A review of the literature

2.1 Active Learning: A Call to Action

In 2015, the South African Department of Education outlined 27 goals for the Schooling 2030 initiative. The first 13 focused on educational outcomes and the remainder on strategies to achieve them (Department of Basic Education, 2015). These goals aim to improve learner performance in literacy and numeracy at key grade levels (3, 6, 9) and increase the number of Grade 12 learners who pass Mathematics and Physical Science. However, the initiative had one critical gap: it lacked a focus on pedagogy. There is no emphasis on how teachers should teach or how to support learners in developing critical and creative thinking skills.

This is problematic as teachers play a key role in introducing strategies to enhance the quality of teaching and learning (Bertram et al., 2021). This shortcoming has been addressed in a recent publication by the World Bank (2025) in its report titled *South Africa Economic Update: Learning - Overdue Reforms and Emerging Priorities in Basic Education*. Within this report, attention is drawn to pedagogy as it clearly states "…evidence shows that it is pedagogy that makes the most difference to learning" (p. 38). Elsewhere in Africa, a call has been made to shift from a predominant teacher-centred to a learner-centred pedagogy (Kerkhoff et al., 2025).

In this paper, I intend to respond to this call for action by demonstrating the potential of the flipped classroom pedagogy to enhance learner engagement and motivation when it is implemented within a traditional high school setting. Taking into account the unique challenges of the South African context, a tailored intervention was developed, given that only an estimated 20,35% of public high schools in the country have access to technology for teaching and learning purposes (Department of Basic Education, 2023). The Altered Flipped Classroom Pedagogy thus adapts the traditional flipped classroom approach by excluding its technology-based component.

2.2 Why does 'The Call' still exist?

The aim of this paper is not to make a case for active learning, as its successful implementation dates back many years (Reinders, 2010) and its effectiveness over the passive delivery of content has been proven (Aricò & Lancaster, 2018; Dubinsky & Hamid, 2024). What persists as an issue is that what is known is not always reflected in teachers' contemporary educational practices (Li et al., 2023; Chi, 2021). Also, the teacher-centred classroom seems to remain the most prevalent teaching approach in developing countries (Samaila & Al-Samarraie, 2024). One reason for the prior may be the effectiveness of the traditional classroom to convey foundational knowledge (Bhardwaj et al., 2024).

2.3 Active Learning: The Teacher's Position

Having a better understanding of what is required of teachers in the move towards a more active learning pedagogy may shed light on the slow move to fully or partially integrate this into their teaching repertoire. Active learning necessitates a shift toward a more learner-centred approach, which by implication will require greater flexibility concerning teachers' curriculum design and the structure and/or organisation of classroom activities. Teachers need to come to an understanding that a move is required from standing central to the production of knowledge, having high levels of control and prediction of learners' experience, to teacher actions such as guidance and creating a nurturing environment which promotes a deeper understanding of what learners know and have experienced (Geduld & Sathorar, 2016).

Strategies such as cooperative learning, experiential learning and problem-solving are a few that they can draw on (Aldridge et al., 2004). Additionally, the activation of prior knowledge (Pretorius, 2023), the provision of authentic learning activities (Dennick, 2012) and higher levels of differentiation to accommodate diverse learner needs (Spreen & Vally, 2010) are also important considerations. Teachers need to cultivate an awareness of learners' roles in the educational process while supporting their adaptation to this new and unfamiliar learning environment (Taylor, 2014). This includes exercising patience as learners navigate through the initial struggle and progress at their own pace to develop autonomous learning.

2.4 What is potentially being overlooked?

The benefits of active learning in research are not scant. Already in 2011, Brüssow and Wilkinson's meta-analysis identified active learning as one of the three most effective educational strategies for enhancing learning outcomes and fostering greater learner effectiveness. However, this encompassing account by Peterson (2018) provides a deeper insight:

> "*The more students understand themselves and others, the more they can engage in complex learning activities; incorporate multiple perspectives; and reflect on and develop their own knowledge, beliefs and abilities… without a sense of identity as a learner and supportive peer relations, students may not be receptive to teaching and learning opportunities.*" *(p. 36-37)*

This perhaps highlights a key construct within the discourse, which may be overlooked by teachers, namely promoting the development of learners' identity. In a traditional classroom, learners are taught collectively, and by implication, their identity is largely situated within a group. Whereas with learner-centred pedagogy, there is a shift in focus to individuality. For learners, this provides opportunities to enable higher levels of autonomy, competence and efficacy. As noted by Peterson (2018), this can be moulded and refined via peer interactions.

2.5 The Altered Flipped Classroom Pedagogy

Systemic interventions significantly contribute across various levels, as they highlight the inherent complexity of education systems while offering in-depth insights into both their sub-systems and overall structure (Khoza, 2013). The

'Altered Flipped Classroom Pedagogy', a context-specific active learning intervention to enhance learner engagement and participation in an everyday high school classroom, is one such example. It draws on the seminal work by Bergman and Sams (2012). To use it within the South African context, it had to be 'altered' as an estimated 80,65% of the public high schools in the country do have access to technology for teaching and learning purposes (Department of Basic Education, 2023). Work by fellow South Africans Chakawodza et al. (2024) further demonstrates the importance of considering technological resources when introducing a flipped pedagogy.

Their study found that teachers were eager to adopt the pedagogy during the COVID-19 pandemic; however, interest seemed to fade afterwards due to prevailing challenges related to technological resources. The Flipped classroom was selected as an instructional pedagogy because it is founded on socio-constructivist theories of learning that increase the potential for active engagement and motivation (Mugadza et al., 2024). This is important because disengagement of learners remains unaddressed, mainly due to the continued use of traditional teaching methods, which are still widely employed by teachers (Samaila & Al-Samarraie, 2024).

These authors continue by highlighting the need to modify the traditional flipped classroom to address challenges that teachers experience, specifically regarding technological resources. The authors Ölmefors and Scheffel (2023) echo a similar sentiment. From a more holistic perspective, Chi (2021) argues that teachers should be given autonomy, flexibility and ownership regarding active learning interventions as this may help bridge the gap between theory and practice.

2.6 Theoretical Framework: Basic Psychological Needs Theory

Self-Determination Theory (SDT) (Deci & Ryan, 1985) is broadly regarded a macro-theory of motivation. Basic Psychological Needs Theory (BPNT), a sub-theory of SDT, forms the framework of this study. BPNT focuses on three psychological needs, which are viewed as essential 'nutriments' for optimal functioning, psychological growth, and overall well-being. These three are: competence, autonomy, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2020).

Empirical research has demonstrated the relevance of the theory in exploring learner motivation, classroom engagement, and academic performance (Yu & Levesque-Bristol, 2020). Two lines of reasoning are evident throughout the body of SDT literature. The first suggests that higher levels of autonomous motivation are associated with greater learner engagement, improved learning outcomes, and enhanced well-being. The second indicates that supporting individuals' basic psychological needs facilitates autonomous motivation, whereas the absence of such support has an opposite outcome. These hypotheses have been validated across different developmental stages, subject areas, and educational contexts (Ryan & Deci, 2020).

From a global perspective, they highlight the problem with persisting traditional modes of teaching (high-stakes testing, grading, and external rewards) that undermine learners' basic psychological needs. Consequently, education becomes less pluralistic (Ryan & Weinstein, 2009), which negatively impacts the support of developing learner identity.

BPNT was employed as a lens to explore whether a pedagogical intervention intended to promote learner engagement and participation can enhance learner motivation and foster active engagement in the learning process by activating learners' self-determined behaviours. Given that the intervention takes place in a high school setting, the developmental significance of adolescence must be acknowledged, as this period is crucial for the formation of identity (Field et al., 1997). Existing research suggests that the Flipped Classroom Pedagogy has the potential to support learners' psychological needs for competence, autonomy, and relatedness within the high school classroom (Muir, 2021). When learners' basic psychological needs are considered, teachers adjust their practice to account for learners' needs, preferences and interests (Adi Badiozaman et al., 2020).

Autonomy refers to the capacity of individuals to self-regulate (Deci & Ryan, 2012), and to experience choice regarding how behaviour is initiated and regulated (Luyckx et al., 2009). Learners' need for autonomy is cultivated when teachers create opportunities for reflection (Kutluer & Mentiş Köksoy, 2020), controlling behaviour is minimised (Deci et al., 1991), attempts are made to acknowledge learners' perspectives (Ryan & Deci, 2020) or when room is made for curious exploration (Stroet et al., 2015).

Relatedness generally refers to the development of relationships, feeling connected and experiencing a sense of belonging (Kutluer & Mentiş Köksoy, 2020). Stroet et al. (2015) identified three key aspects that teachers can draw on that support relatedness: affection (warmth and fairness), 'attunement', (deepened understanding of learners' interests and accessibility), and dependability (continued support and commitment to learning). A study by Wang et al. (2019) identified relatedness as having the most influential role on autonomous motivation.

Competence is usually defined in terms of one's ability to achieve various outcomes (Deci et al., 1991), with efficacy being a foundational characteristic. This includes a sense of mastery over individual actions and one's drive to grow and attain success (Ryan & Deci, 2020), whilst actively seeking optimal challenge (Legault, 2017). This, however, does happen spontaneously and requires specific actions from teachers, such as effective scaffolding (Ryan & Deci, 2019), to enable them to embark on personalised learning activities (Pretorius, 2023).

Ryan and Deci (2020) also caution that the repeated thwarting of one's need for competence may result in amotivation. Work by La Guardia (2009) emphasises the universality of basic psychological needs to "…cut across developmental epochs and culture to explain why identities are adopted, how they are maintained…" (p. 91), thereby linking the potential role of basic psychological

needs in the formation of learner identity. Alternatively, a study by Luyckx et al. (2009) found that college students who developed a sense of personal identity by actively engaging in exploratory strategies scored the highest on all three psychological needs.

The selection of Basic Psychological Needs Theory as a Theoretical Framework can therefore be justified as it primarily emphasises the individual potential of learners from a motivational point of view. When teachers provide learning activities that promote interesting, enjoyable, self-valued activities (autonomy), opportunities for existing capacities and skill levels (competence), and pursue a sense of meaningful connection with their peers (relatedness) (La Guardia, 2009), learners are provided with the opportunity to grow their individual potential through active, conscious participation.

3. Methodology

This study employed Sandelowski's (2000) 'qualitative description', elsewhere referred to as 'pragmatic qualitative research' (Savin-Baden & Howell Major, 2013). The rationale behind this approach stems from its central aim, namely, to bridge the gap between theory and practice (Savin-Baden & Howell Major, 2013).

This approach is adopted when a researcher seeks a distinctive means of understanding a phenomenon or when a more practice-oriented inquiry is required to generate practical solutions and/or approaches. It is particularly suited to studies where established qualitative traditions (e.g., case study, ethnography, phenomenology) prove insufficient for the research context (Sandelowski, 2000). Conducting a pragmatic qualitative study, therefore, involves striving for a nuanced understanding of the phenomenon, its underlying processes, and the lived perspectives of those participating in the research (Merriam, 2002).

As this study is qualitative in nature, it does not seek to generalise the findings to other South African contexts. Rather, its purpose is to provide a rich, in-depth description and contextualised understanding of the phenomena under investigation within South Africa, a developing country.

3.1 Sampling

An invitation to participate was distributed to all public and private schools that offered Grades 8–12 across the Western Cape Province of South Africa. Schools were excluded if they could not be reached telephonically or electronically. The study employed volunteer sampling, a non-probability technique where individuals choose to participate in the research on their own initiative (Mukherji & Albon, 2018). An advertisement was circulated to schools to inform teachers, who then registered for online training via the link on the advertisement if they were interested in participating (Alvi, 2016).

Thirty-one teachers attended their scheduled session. Out of these full-time in-service teachers, nine agreed to take part in the study. The final group consisted of two male and seven female teachers, including two from private schools.

Teachers had between 0 and over 30 years of teaching experience, distributed as follows: one with 0–3 years, two with 4–7 years, three with 8–12 years, two with 21–30 years, and one with more than 30 years of service. The participants taught a range of subjects: Afrikaans, English, French, Social Science, Geography, Mathematical Literacy, Natural Science, and Engineering Graphics Design. Participation was voluntary, and no incentives or rewards were offered.

3.2 Data Collection

The data collection phase lasted approximately a month. Teachers were asked to implement the intervention for three consecutive lessons and keep a diary of their experiences. Four different data collection methods were used: semi-structured online interviews, qualitative feedback questionnaires (which mirrored the interview questions), research diaries, and an unplanned spontaneous response. The online semi-structured interviews were used as the primary dataset, with the remaining data sources serving as secondary datasets.

An interview protocol comprised of nine open-ended questions. Six interviews were initially conducted; however, one participant withdrew the following day for personal reasons. The five interviews lasted between 50 and 78 minutes. Interviews were conducted in the preferred language of the participants, namely Afrikaans (one), English (two), and a combination of Afrikaans and English (two). Microsoft TEAMS was used to generate automatic transcripts, though verbatim transcription was required for the Afrikaans interviews due to limitations in the automated system.

The spontaneous response arose due to the adaptable and evolving nature of qualitative research (Merriam, 1998). Specifically, the 'response' consisted of two voluntary emails from a Grade 7 teacher who participated in the online teacher training but was excluded initially due to the scope of the study. The emails provided the researcher with detailed and valuable narrative data, leading to their inclusion in the dataset and final analysis. The qualitative feedback questionnaires were also introduced at a later stage in the research process. Two participants were unable to introduce the intervention in their classes due to time limitations, while a third was unable to proceed as the school principal withheld permission.

Consequently, the teachers were asked to provide feedback on the potential of the intervention, drawing on information from the online training and the comprehensive *Altered Flipped Classroom Pedagogy* teacher manual, which was designed to support them in implementing the intervention. The flexible nature of qualitative research enables researchers to adjust their approach and use various types of data to answer the research question (Flick, 2018).

3.3 Data Analysis and Verification

A strong alignment between analytical methods, research questions, and the study's theoretical framework is essential (Braun & Clarke, 2006). Thematic analysis, conducted via the six-step process outlined by Braun and Clarke (2006), was employed in this study, with the use of Atlas.ti (CAQDAS) to streamline the coding and organisation of data. Thematic analysis is well-suited for individual

and cross-sectional datasets, as it allows researchers to explore participants' behaviours, experiences, and perspectives in ways directly relevant to the study's research aims (Clarke & Braun, 2017). This approach has similarly been used by authors such as Xu and Zammit (2020), who applied thematic analysis to classroom-based data.

In the original study, four overarching themes emerged: self-determined behaviours (2 sub-themes); systemic/external factors (3 sub-themes); teacher (8 sub-themes), and learner (5 sub-themes). Four of the five sub-themes under 'Learner' were used to answer the research questions that pertain to this specific paper. These sub-themes with their corresponding categories were: (i) *Learner positive* (increased levels of interaction/participation, learning, thinking, perspective, emotions and other benefits); (ii) *Learner negative* (passivity, non-participation, negative emotions); (iii) *Autonomy* (prior exposure, benefits of autonomous learning/behaviour, learner action); (iv) Skills (socio-emotional, other, skill development) and (v) Other (Introducing the intervention, GenZ).

To enhance the study's validity, several measures were implemented: (i) presenting a holistic and in-depth account of the phenomenon under study; (ii) method-triangulation through semi-structured online interviews, feedback questionnaires, research diaries, and a spontaneous response; (iii) member checks were conducted, with two of the five participants verifying interview transcripts (three of the participants did not respond to the request); (iv) the data demonstrated connections between key concepts, the theoretical framework, and the research questions.

Ethical clearance for this study was granted by UNISA's Research Ethics Committee and the Western Cape Department of Education. Additionally, informed consent was obtained from all participating teachers and the principals of schools involved in the post-training intervention.

4. Discussion of the Findings (SRQ 1)

From the teachers' perspective, what advantages do students gain through the use of an AFCP?

SRQ1 sheds light on educational and developmental benefits that learners experience through the implementation of the AFCP. Teachers reported that AFCP enhances overall learning by fostering increased engagement, autonomy, and the growth of essential skills. Notably, learners developed stronger thinking and socio-emotional skills, which better equip them for life after school. In certain instances, noticeable positive changes in learners' physical demeanour were observed, indicating improved emotional well-being.

Additionally, the pre-class activities extended to learners' families, encouraging communication and cooperation within their communities. It was, however, noted that learners' fear of failure can sometimes hinder the full potential of the intervention, suggesting that their attitude plays a key role in how the AFCP is received or opposed. The findings are organised into three sub-sections: Overall learning experience, Skills, and Positive emotions.

4.1 Enrichment of the learning experience

Although the FC is recognised for its contribution to enhancing learners' academic performance (Akçayır & Akçayır, 2018; Cheng et al., 2022), this study instead focuses on the potential of the intervention to impact aspects of learning, such as learner autonomy, fostering deep learning, developing skills and increasing engagement. This is ascribed to the brief duration of the implementation and the qualitative nature of the research question.

> *"I find that they can now highlight key concepts without me telling them what those actually are, as they have a basic idea of what they are learning about, so they are reading their work with more understanding."*
>
> *"They embraced the idea, have found lessons more stimulating and have learnt so much more than was in the textbooks."*
>
> *"It takes them out of their comfort zone, especially if they used to the teacher talk uhm, mode of teaching."*
>
> *"Some people came back, and they were like 'Mam, I read this. And do you think this is similar?' And I was like, "What do you think? Why are you asking me? What do you think? Tell me."*
>
> *"But the ones that did watch it and did come up with the questions, they enjoyed it. They actually said how they watched it with their families and stuff like that which was actually pretty cool."*

The findings indicated that participants experience that when learners are given the opportunity, they take on more responsibility for their own learning, which fosters a sense of ownership. This transformation is a crucial element of the FC model, acknowledged by researchers (see Dennick, 2012; Yusuf & Taiye, 2021). It reflected in learners' behaviours, such as showing more initiative, expanding their learning beyond the classroom (micro-systems), and demonstrating greater independence. It can be argued that these improvements activate learners' self-determined behaviours (need for autonomy, competence and relatedness), which are vital for developing intrinsic motivation.

This is a significant benefit because learners not only become more engaged but also begin to take charge of their learning process. Teachers' descriptions using terms like "embraced" suggest positive emotional responses. Research on the FC has similarly shown that learners report increased enjoyment and satisfaction when exposed to the flipped classroom pedagogy (see Cilliers & Pylman, 2022; Yusuf & Taiye, 2021).

4.2 The development of skills

Another advantage, as perceived by teachers, was the development of various skills. Teachers anticipated the cognitive and educational benefits of these skills, acknowledging their potential lasting impact. A study by Patterson et al. (2018) similarly found that while the FC did not impact grades, students reported self-perceived improvements in their understanding, skills, attitudes, and behaviours, both in general and specifically toward the subject matter. Fisher et al. (2020) further emphasise the lasting impact of developing learning skills, noting that the actual value of the FC lies in preparing students for the unpredictable and

complex demands of the future workforce. Additionally, the FC encourages learners to engage with their learning in a more authentic way, enriching the learning experience and better meeting individual needs (Yusuf & Taiye, 2021). Learning skills were grouped into three categories: thinking-, twenty-first century, and socio-emotional skills.

4.2.1 Developing thinking skills

When teachers successfully transition to their facilitative role, it directly impacts their pedagogic actions upon which learners will respond in classroom contexts. Several teachers remarked on improvements in learners' thinking, albeit in broad and varied ways, following the introduction of the AFCP.

> *"Cognitively, I think it's very good because it's, uhm…. especially if they used to the teacher talk uhm, mode of teaching, that's they they're challenged to think on their own."*
>
> *"I'm thinking specifically in South Africa... I think there's a... there's a deficit in… in… uhm, lateral thinking. And I think… altered flipped would give students more opportunity to develop that."*
>
> *"So yes, I think...it will advance independent thinking." (*translated)*
> *"…it allows the learners almost take the instructions and interpret it in their own ways and to think How will I think of a question? How do I understand this video? in their own way."*
>
> *"It's going to develop higher order thinking a lot more."*
> *"They really broadened their minds."*
>
> *"And I must be I must be honest; I was actually very surprised on how intelligent their questions were."*

The flipped classroom has proven its effectiveness in enabling specific thinking processes which cannot be achieved via rote learning (Kloppers & Jansen van Vuuren, 2016). Instead of the passive transfer of knowledge, a shift occurs in the learning process, which enables the restructuring of pre-existing modes of thinking (Li et al., 2023). Previous research corroborates the findings of the current study, stimulating critical thinking (Wang, 2017), logical thinking (Yusuf & Taiye, 2021) and developing novel ideas for real-world problems (Al-Zahrani, 2015).

When teachers provide opportunities that require diverse thinking, they enable learners to grow independence and individual capability, which ultimately contributes to the activation of their self-determined behaviours (Williams, 2017). The findings emphasise a consensus regarding the potential of the AFCP to activate higher-order and/or lateral thinking, which, if practised over a prolonged period, may contribute to increased intellectual capacity. This, in turn, may enable more nuanced thinking, enhance learners' ability to reason, solve more complex problems and engage more comfortably with challenging content.

4.2.2 Developing twenty-first-century skills

Activating prior knowledge serves as a foundation for deeper learning and the development or enhancement of twenty-first-century skills, as it prompts the shaping and adaptation of neural pathways once connections are made between

what the learner already knows (Pellegrino, 2017). These connections are shaped by existing cognitive structures and learners' educational or real-life experiences, which impact the mental processing of new information (Euler, 2015). A major advantage of the FCP is its potential to support the facilitation and/or development of essential twenty-first century skills that are crucial in today's rapidly evolving world (Mitsiou, 2019). Teachers identified a diverse range of skills, some of which align with, and others that differ from, the existing FC literature.

> *"I think with the altered flip it's more about teaching a skill then teaching… uhm knowledge and content and the CAPS. So, their advantage would be to have the skill to identify, to do research, to have the discipline to do the work themselves at home."*
>
> *"I think the value that this would add is we are not only setting up these kids' generation to do well in tests, but we're setting them up for life skills, for things beyond just getting good marks and knowing what the teacher is going to ask in the test."*
>
> *"To critically evaluate information."*
>
> *"Learners will start to realise that they can make meaningful contributions in class, at home or in society in terms of their ability to become critical thinkers and problem solvers. They will become eager to learn because they are included in the learning process."*
>
> *"I think it can improve their problem-solving skills, because they now have to think for themselves, they have to do something themselves instead of someone feeding them the information and giving instructions." (*translated)*

References to twenty-first-century skills are commonplace within the FC literature. Examples include problem solving, creativity and critical thinking (Mitsiou, 2019), higher-order skills as a collective (Huang et al., 2022), as well as teamwork and/or collaboration (Kiem & Keodavan, 2024), are more likely to be attained once learners move past knowledge retention (Smith, 2015). Saavedra and Opfer (2012) refer to them as 'deeper learning outcomes' or 'complex' thinking skills.

Although twenty-first-century skills are considered pedagogical outcomes according to the official South African public-school curriculum (CAPS), these may become neglected within teacher-centred classrooms where information is primarily transferred one-directionally from the teacher. Notably, none of the teachers indicated that their lesson planning was intentionally designed to incorporate skill development. This raises two critical questions: Are teachers intentionally designing opportunities to develop twenty-first-century skills, or do they see these skills as incidental outcomes that learners will acquire naturally during the learning process?

4.2.3 Developing socio-emotional skills

Active learning, often implemented through cooperative learning, plays a key role in developing learners' socio-emotional skills. This can primarily be ascribed to

socio-constructivist theories, on which these activities are founded. Research on the FC has shown a similar trend (Steen-Utheim & Foldnes, 2018) with specific reference to the in-class activities. Through peer interaction, learners can develop greater contextual and social awareness as they encounter different opinions, perspectives, thoughts, and beliefs (Edwards, 2017). Learning from peers may furthermore foster skills such as teamwork (Yusuf & Taiye, 2021) and becoming more socially connected (Jdaitawi, 2019).

Teachers reported an increase in displays of socio-emotional skills. Examples included (i) being open to peers' opinions, (ii) working with peers outside of one's group of friends, as well as (iii) active listening. In addition, teachers emphasised the value of working collaboratively, actively listening to diverse perspectives, and not only learning with, but also from peers. The implementation of cooperative learning strategies enhances the likelihood of achieving deeper levels of learning (Munir et al., 2018).

When learners engage with their peers, they can express their ideas in social contexts different from their usual ones. Consequently, they may realise that their opinions or beliefs differ from those, leading them to question and possibly revise their existing frames of reference. This is key as the adapted frameworks become better suited to broader, more general contexts. Ultimately, these revised frameworks can be applied to new situations, making learners generally more adaptable and better prepared for future learning experiences (MacCleod, 2004).

4.3 Positive emotions

Within this subsection, the potential impact of the AFCP on the emotional well-being of learners is explored. Two teachers observed a noticeable change in the physical demeanour of their learners:

> *"It was just nice, their whole like eyes just lit up."*
>
> *"…they just look more alive when they walk into the class."*

Although there may be numerous explanations for the above, one may be an increase in satisfaction levels when having opportunities to interact with fellow learners (Fisher et al., 2020). Another may be neurological, such as the release of dopamine when learners experience success or receive positive feedback (Hohnen & Murphy, 2016). Additionally, one teacher mentioned an improved morale in class, a finding similar to Yusuf and Taiye (2021), who noted that the classroom environment was positively affected due to increased collaboration and dynamism.

Another somewhat contradictory emotional gain relates to high achievers having to overcome their fear of failure:

> *"…they don't like failing. They're deathly afraid of failing, but because they have to work on their own, they have to confront that fear, and so it teaches them to kind of overcome that too."*

This is considered a novel finding as it sheds light on factors that influence learners' openness towards alternative teaching methods such as the AFCP. It also underscores learners' preference for the familiarity of a traditional teacher-centred approach. Adding to this 'fear' may be the pressure to perform academically from parents, teachers, or the expectation of high-performing schools, as well as the need to meet the requirements set forth by higher education and training institutions for future studies. Consequently, it could be argued that this finding highlights the significant influence learners can exert in resisting change when teachers introduce alternative teaching methods. It is important that teachers are aware of these dynamics and offer the necessary support to help learners navigate these fears.

5. Analysis and Discussion of the Findings (SRQ 2)

According to teachers, how does the AFCP encourage learners to become more motivated to learn?

In line with the previous SRQ, the findings suggest that the AFCP led to higher levels of learner engagement and participation. Learners displayed actions such as taking initiative in learning activities, increased proactiveness and demonstrating greater independence. Learners showed a stronger willingness to engage voluntarily with both their peers and the learning material. In some cases, learners even extended their learning beyond the classroom. Significant findings under this subsection concern learners who tended to demonstrate three types of behaviours: shyness, reluctance to participate or being overly passive. Teachers remarked on how these learners were focused, on task, and actively contributing to the learning activities.

5.1 Interplay between learners' motivated behaviours and teachers' pedagogical actions

One of the foremost findings of this subsection was the reciprocal nature of teachers' pedagogy and learner interaction. Teachers' actions are therefore central in either maintaining or bringing the disequilibrium to the passive learning phenomenon. It can thus be argued that passive teaching reinforces passive learning, which can be counteracted via learning-centred pedagogies (Pretorius, 2023; Zepke et al., 2014).

Participating teachers made a conscious decision to experiment with learner-centred pedagogy, and by implication, have recognised the importance of introducing pedagogies that foster learner agency (Hase, 2016). According to Lombardi et al. (2021), learners can attempt to exercise agency, which would likely happen only at the surface level. It can therefore be inferred that when learner-centred activities activate learners' agency, they are more likely to engage in deeper levels of learning. Also of note is that agency is closely related to autonomy, intentionality and intrinsic motivation (Van Lier, 2008).

When teachers include activities that allow learners the opportunity to express their opinion, this may activate their agentic traits as learners' individual voices are acknowledged and recognised as important. Agency is recognised as a

valuable resource that benefits learners from various social backgrounds (Burger & Walk, 2016). When teachers provide learners with authentic decision-making opportunities, they become more aware of how their actions, opinions and/or perspectives have a real impact on the world around them (Williams, 2017). Evidence of this emerged in the data when learners shared the videos they had watched with their family members, effectively extending the curriculum into the broader community.

5.1.1 Cooperative and Collaborative learning opportunities

As teachers introduced cooperative learning activities, learners were naturally motivated to participate actively, leading to increased levels of engagement. These activities included discussions, presentations, peer-to-peer instruction and educational games such as *Bingo* during a language lesson and *escape the room* during a Mathematical Literacy lesson. One teacher explicitly observed a whole-class discussion led by learners on the topic of fracking, which was based on an article they had read as a pre-class activity.

The same teacher recalled learners pleading with her to continue the lesson even as the school bell rang, signalling the start of the next class, because they were so engaged in the discussion. Smith (2015), in his study on the effectiveness of the flipped classroom, similarly found that student interactions nearly tripled during lesson time.

5.2 Learner Autonomy

The findings highlighted the AFCP's potential to encourage learners' autonomous actions, which ultimately affect intrinsic motivational properties. Reeve and Cheon (2021) emphasise the need to take ownership of one's behaviour in their definition of autonomy. They continue by stating that experiences of autonomy translate into increased engagement, learning and well-being. Increased well-being, in return, highlights the potential impact of the AFCP on the affective properties of learning. This may present insight into the data showing that learners who were previously passive or typically disengaged from classroom interactions began to demonstrate higher levels of participation and engagement following the implementation of the intervention. Alternatively, the increase in learner motivation may be attributed to the activation of their need for autonomy (Hase, 2014).

One of the most illustrative examples from the data is a teacher's feedback based on a pre-class activity.

> *"For one lesson, I asked them to find me 5 fun facts about the sun (to introduce Astronomy Natural Science), and one student came up with 2 pages because it 'was so interesting'. This from the child who usually spends all lesson yawning or disturbing the others"*

In another instance, a teacher remarked on her surprise at learners' ability to independently manage more complex language structures.

> *"I specifically chose Active and Passive as one of my topics because it is 'more difficult' language work, and I was surprised to see that learners could figure it out 'on their own'" (*translated)*

As stated by Deci (1992), humans are inclined towards being growth-oriented and innately inclined toward autonomous, self-determined functioning; however, they are simultaneously vulnerable to being controlled by others. As illustrated in the excerpts above, learners exhibited greater autonomy when teachers reduced their level of control. This aligns with findings from other studies where teachers implementing the FC similarly observed increased learner ownership and responsibility for their learning (Gündüz & Akkoyunlu, 2019). It is important, however, to consider the significant role of pre-class activities, which may act as a catalyst in activating learners' sense of autonomy (Lee et al., 2022).

5.3 Learner engagement

According to Reeve and Tseng (2011, p. 257) learner engagement is characterised by three interrelated constructs: behaviour (e.g., attention, effort, persistence in learning tasks, minimal misbehaviour), emotion (e.g., interest and enthusiasm, or the absence of negative emotions such as anger, anxiety, or boredom), and cognitive (e.g., using advanced learning strategies, self-regulation). From the data, noticeable improvements were found across all three dimensions.

Some examples from teachers include:

> *"Learners interacted well, and I saw such an amazing side to my learners"*
> *"This led to learners who are often passive and too shy to give answers, who actually participated in the class" (*translated)*
>
> *"…the ones that were normally quiet weren't quiet, and that was nice"*
> *"So, although she only said two sentences, at least she said two sentences in Afrikaans, this coming from learners who usually do not want to say a word" (*translated)*
>
> *"And even with the Grade 9's... there are those uh, you know, they are lying (on their arms) even though it is girls (all-girls school) … even they sat up straight and participated" (*translated)*

The findings show that increased learner engagement is closely linked to decreased passivity. This can be attributed to the presence of cooperative learning experiences during in-class activities, which require learners to interact with their peers. As mentioned earlier, one of the key strengths of the FCP is its ability to promote learner engagement - an outcome common in the FC literature (Edwards, 2017; Lee et al., 2022; Patterson et al., 2018).

More significant was the increased level of engagement among learners who are typically quiet, shy, or extremely passive, often displaying minimal classroom interactions. Although the exact reasons for their previous disengagement are unclear, the FCP literature suggests two possible explanations: one relates to low-performing learners (Lee et al., 2022), while the second points to the influence of different personality types on learner engagement when the FCP is implemented

(Fauzi & Hussain, 2016). The FCP is particularly effective at addressing individual learner needs and supporting learners in accessing their zone of proximal development. It can therefore be argued that these factors help activate self-determined behaviours in learners, enhancing their willingness to engage and thereby reducing passive learning behaviour.

Some researchers have expressed concerns about learners remaining focused during in-class activities (Steen-Utheim & Foldnes, 2018) or cautioned about the risk that in-class activities may lead to socialising, causing learners to go off task (Nykiel-Herbert, 2004). However, contrary to the existing literature, teachers in this study did not report that learners were off task when in-class activities were implemented. This could be attributed to the novelty of the learning experience or the use of creative teaching strategies, both of which may have positively influenced learners' motivation and, in turn, their level of in-class engagement.

6. Limitations and Recommendations for further research

Given its qualitative nature, the study captures only the experiences of a small group of teachers who voluntarily implemented the AFCP in their classrooms. Despite efforts to contact all public and private high and combined schools in the Western Cape via the official WCED mailing list, the sample is not representative of the broader target population. Most participants were from higher-quintile schools, with minimal representation from low-quintile schools (one participant, who completed only the feedback questionnaire and did not implement the intervention). Additionally, the researcher cannot confirm whether the invitations reached the intended in-service teachers. The demographic characteristics of participants were not considered, which may influence the findings and limit the generalisability and broader applicability of the intervention.

Future research could explore the introduction of the AFCP within primary school settings and in low-quintile schools to assess its applicability and effectiveness in these specific contexts. Additionally, studies could investigate the impact of implementing a learner-centred pedagogy on the growth and development of teachers' skills and abilities, as well as their job satisfaction during the transition phase. Further research may also examine the effects of prolonged exposure to learner-centred approaches on the emotional well-being of learners.

7. Conclusion

This study demonstrates the value of the AFCP as an effective intervention for enhancing learner engagement, participation, and motivation. The findings underscore the critical role teachers play in facilitating active learning, not only as educators but also as agents of pedagogical change. Notably, the AFCP was found to promote learner autonomy, fostering greater independence in the learning process. One may therefore argue that the intervention has the potential to recognise learners' identity via opportunities for individual contributions. Additionally, the cooperative learning environment encouraged through peer-to-peer interaction contributed positively to learner well-being and supported the development of more flexible frames of reference. These outcomes have important implications for curriculum development, suggesting that integrating AFCP

principles could enrich learning programs, inform teacher training practices, and guide revisions of pedagogical policy to support more learner-centred approaches. Such outcomes are particularly relevant in preparing learners to navigate and contribute meaningfully to both national and global contexts. Let us continue our pursuit of tipping the scales in favour of the process of learning.

8. Conflict of Interest, Acknowledgements, etc.

The author has no conflict of interest to declare.

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10. References

Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: Definition, rationale and a call for research. *Higher Education Research & Development*, *34*(1), 1–14. https://doi.org/10.1080/07294360.2014.934336

Adi Badiozaman, I. F., Leong, H., & Jikus, O. (2020). Investigating student engagement in Malaysian higher education: A self-determination theory approach. *Journal of Further and Higher Education*, *44*(10), 1364–1378. https://doi.org/10.1080/0309877X.2019.1688266

Akçayır, G., & Akçayır, M. (2018). The flipped classroom: A review of its advantages and challenges. *Computers & Education, 126*, 334–345. https://10.1016/j.compedu.2018.07.021

Alvi, M. H. (2016). *A manual for selecting sampling techniques in research*. https://www.researchgate.net/publication/303941309_A_Manual_for_Selecting_Sampling_Techniques_in_Research

Al-Zahrani, A. M. (2015). From passive to active: The impact of the flipped classroom through social learning platforms on higher education students' creative thinking. *British Journal of Educational Technology, 46*(6), 1133–1148. http://doi.wiley.com/10.1111/bjet.12353

Aldridge, J. M., Fraser, B. J., & Sebela, M. P. (2004). Using teacher action research to promote constructivist learning environments in South Africa. *South African Journal of Education, 24*(4), 245–253.

Aricò, F. R., & Lancaster, S. J. (2018). Facilitating active learning and enhancing student self-assessment skills. *International Review of Economics Education, 29*, 6–13. https://doi.org/10.1016/j.iree.2018.06.002

ATLAS.ti Scientific Software Development GmbH. (2022). *ATLAS.ti 22 Windows*. https://atlasti.com

Bhardwaj, V., Zhang, S., Tan, Y. Q., & Pandey, V. (2025). Redefining learning: Student-centered strategies for academic and personal growth. *Frontiers in Education*, *10*, 1518602. https://doi.org/10.3389/feduc.2025.1518602

Becker, R., & Birdi, A. (2018). Flipping the classroom: Old ideas, new technologies. *International Review of Economics Education*, *29*, 1–5. https://doi.org/10.1016/j.iree.2018.06.001

Bergmann, J., & Sams, A. (2012). *Flip your classroom: reach every student in every class every day*. International Society for Technology in Education.

Bertram, C. A., Mthiyane, C. C. N., & Naidoo, J. (2021). The tension between curriculum coverage and quality learning: The experiences of South African teachers. *International Journal of Educational Development, 81*, 1–8. https://linkinghub.elsevier.com/retrieve/pii/S0738059321000067

Bessas, N., Tzanaki, E., Vavougios, D., & Plagianakos, V. P. (2024). Implementing the flipped classroom model in science lessons for junior high school students. *International Journal of Emerging Technologies in Learning*, *19*(03), 4–21. https://doi.org/10.3991/ijet.v19i03.47153

Blaschke, L. M., & Hase, S. (2016). Heutagogy: A holistic framework for creating twenty-first-century self-determined learners. In B. Gros Kinshuk & M. Maina (Eds.), *The Future of Ubiquitous Learning: Learning designs for emerging pedagogies* (pp. 25–40). Springer.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Bristol, T. (2014). Flipping the classroom. *Teaching and Learning in Nursing*, *9*, 43–46. https://doi.org/10.1016/j.teln.2013.11.002

Brüssow, S., & Wilkinson, A. (2011). Engaged learning: A pathway to better teaching. *South African Journal of Higher Education*, *24*(3), 374–391. http://www.ajol.info/index.php/sajhe/article/view/63444

Burger, K., & Walk, M. (2016). Can children break the cycle of disadvantage? Structure and agency in the transmission of education across generations. *Social Psychology of Education, 19*(4), 695-713. http://link.springer.com/10.1007/s11218-016-9361-y

Chakawodza, J. M., Mushayikwa, E., & Stephen, M. (2024). Exploring challenges influencing the discontinued utilisation of the flipped classroom pedagogy: A case of South Africa underprivileged high school and organic chemistry. *International Journal of Learning, Teaching and Educational Research*, *23*(10), 290-317. https://doi.org/10.26803/ijlter.23.10.14

Cheng, S., Hwang, G., & Lai, C. (2022). Critical research advancements of flipped learning: A review of the top 100 highly cited papers. *Interactive Learning Environments, 30*(9), 1751-1767. https://doi.org/10.1080/10494820.2020.1765395

Chi, M. T. (2021). Translating a theory of active learning: An attempt to close the research? practice gap in education. *Topics in Cognitive Science, 13*(3), 441–463. https://doi.org/10.1111/tops.12539

Cilliers, L., & Pylman, J. (2022). South African students' perceptions of the flipped classroom: A case study of higher education. *Innovations in Education and Teaching International, 59*(3), 296-305. https://doi.org/10.1080/14703297.2020.1853588

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology, 12*(3), 297-298. http://dx.doi.org/10.1080/17439760.2016.1262613

Deci, E. L. (1992). On the nature and functions of motivation theories. *Psychological Science, 3*(3), 167-171.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.

Deci, E. L., & Ryan, R.M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry*, *11*(4), 227–268.

Deci, E. L., & Ryan, R.M. (2012). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed.), *The Oxford Handbook of Human Motivation* (pp. 85-107). Oxford University Press.

Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist*, *26*(3-4), 325–346.

Dennick, R. (2012). Twelve tips for incorporating educational theory into teaching practices. *Medical Teacher, 34*(8), 618–624. http://dx.doi.org/10.3109/0142159X.2012.668244

Department of Basic Education. (2015). *Action Plan to 2019: Towards the realisation of schooling 2030*. Department of Basic Education.

Department of Basic Education. (2023). *Education Facility Management System Report*. https://www.education.gov.za/Portals/0/Documents/Reports/2023/EFMS%202023.pdf?ver=2023-09-04-115953-093

Dubinsky, J. M., & Hamid, A. A. (2024). The neuroscience of active learning and direct instruction. *Neuroscience & Biobehavioral Reviews*, *163*, Article 105737. https://doi.org/10.1016/j.neubiorev.2024.105737

Edwards, S. (2017). Like a chameleon: A beginning teacher's journey to implement active learning. *Research in Middle Level Education Online, 40*(4), 1–11. https://doi.org/10.1080/19404476.2017.1293599

Euler, S. (2015). The age of neuroeducation. *English Teaching Professional, 98*, 4–6. https://philarchive.org/archive/EULTAO

Fauzi, S. S. M., & Hussain, R. M. R. (2016). Designing instruction for active and reflective learners in the flipped classroom. *Malaysian Journal of Learning and Instruction, 13*(2), 147-173. https://doi.org/10.32890/mjli2016.13.2.6

Field, S., Hoffman, A., & Posch, M. (1997). Self-determination during adolescence: A developmental perspective. *Remedial and Special Education*, *18*(5), 285–293. https://doi.org/10.1177/074193259701800504

Fisher, R. L., LaFerriere, R., & Rixon, A. (2020). Flipped learning: An effective pedagogy with an Achilles' heel. *Innovations in Education and Teaching International, 57*(5), 543–554. https://doi.org/10.1080/14703297.2019.1635904

Flick, U. (2018). *An introduction to qualitative research* (6th ed.). SAGE Publications.

Geduld, D., & Sathorar, H. (2016). Leading curriculum change: Reflections on how Abakhwezeli stoked the fire. *South African Journal of Education, 36*(4), 1–13. https://doi.org/10.15700/saje.v36n4a1319

Goodwin, J. R. (2024). What's the Difference? A comparison of student-centered teaching methods. *Education Sciences*, *14*(7), 736. https://doi.org/10.3390/educsci14070736

Gündüz, A. Y., & Akkoyunlu, B. (2019). Student views on the use of flipped learning in higher education: A pilot study. *Education and Information Technologies, 24*(4), 2391–2401. https://doi.org/10.1007/s10639-019-09881-8

Hohnen, B., & Murphy, T. (2016). The optimum context for learning: Drawing on neuroscience to inform best practice in the classroom. *Educational & Child Psychology, 33*(1), 75-90.

Huang, Y.-M., Silitonga, L. M., & Wu, T.-T. (2022). Applying a business simulation game in a flipped classroom to enhance engagement, learning achievement, and higher order thinking skills. *Computers & Education*, *183*, 104494. https://doi.org/10.1016/j.compedu.2022.104494

Jdaitawi, M. (2019). The effect of flipped classroom strategy on students learning outcomes. *International Journal of Instruction*, *12*(3), 665–680. https://doi.org/10.29333/iji.2019.12340a

Kerkhoff, S. N., Makubuya, T., Napitupulu, A., Falter, M. M., Webb, J. M., Wanyonyi, P., & Misra, N. R. (2025). Learner-centered teaching in rural Kenya: A case study. *Teacher Development*, 1–27. https://doi.org/10.1080/13664530.2025.2476471

Khoza, G. (2013). *Systemic school improvement interventions in South Africa: Some practical lessons from development practitioners.* African Minds. https://www.jet.org.za/resources/jet-systemic-school-improvement-lessons

Kiem, M. T., & Keodavan, X. (2024). Unpacking the advantages and challenges of flipped classrooms in initial mathematics teacher education in Vietnam. *Eurasia Journal of Mathematics, Science and Technology Education*, *20*(5), em2437. https://doi.org/10.29333/ejmste/14449

Kloppers, M., & Jansen van Vuuren, M. (2016). Enhancing critical thinking dispositions in the mathematics classroom through a flipped learning approach. *Journal of Communication*, *7*(1), 151–160. https://doi.org/10.1080/0976691X.2016. 11884894

Kutluer, M. U., & Mentiş Köksoy, A. (2020). Positive education and self-determination theory: A review of implementations and influences. In H. Şahin (Ed.), *Educational Sciences: Theory, Current Researches and New Trends* (pp.195-208). IVPE.

La Guardia, J. G. (2009). Developing who I am: A self-determination theory approach to the establishment of healthy identities. *Educational Psychologist*, *44*(2), 90–104. https://doi.org/10.1080/00461520902832350

Lee, J., Park, T., & Davis, R. O. (2022). What affects learner engagement in flipped learning and what predicts its outcomes? *British Journal of Educational Technology*, *53*(2), 211–228. https://doi.org/10.1111/bjet.12717

Legault, L. (2017). Self-Determination theory. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *Encyclopaedia of Personality and Individual Differences* (pp. 1–9). Springer International Publishing. https://doi.org/10.1007/978-3-319-28099-8_1162-1

Li, R., Lund, A., & Nordsteien, A. (2023). The link between flipped and active learning: A scoping review. *Teaching in Higher Education*, *28*(8), 1993–2027. https://doi.org/10.1080/13562517.2021.1943655

Lombardi, D., Shipley, T. F., & Astronomy Team, Biology Team, Chemistry Team, Engineering Team, Geography Team, Geoscience Team, and Physics Team. (2021). The curious construct of active learning. *Psychological Science in the Public Interest*, *22*(1), 8–43.

Luyckx, K., Vansteenkiste, M., Goossens, L., & Duriez, B. (2009). Basic need satisfaction and identity formation: Bridging self-determination theory and process-oriented identity research. *Journal of Counselling Psychology*, *56*(2), 276–288. https://doi.org/10.1037/a0015349

MacCleod, F. (2004). Literacy identity and agency: Linking classrooms to communities. *Early Child Development and Care*, *174*(3), 243–252. Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. Jossey-Bass Publishers.

Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis.* Jossey-Bass.

Mitsiou, D. (2019). The flipped classroom learning model as a means for acquiring the 21st century skills. *Journal of Contemporary Education, Theory & Research*, *3*(2), 16–23. https://doi.org/10.25656/01:19003

Ramulumo, M. M., Kazeem Ajasa, K. A. B., & Iroha, G. (2024). Innovative pedagogy: Revealing secondary physical science teachers' perspectives on the opportunities and challenges of the flipped classroom model during times of crisis. *Africa Education Review*, *20*(5), 63–77.

Mugadza, J., Kilag, O. K., Hubahib Jr, S., Villaver Jr, M., Najarro, P. A., & Dacanay, L. (2024). Shifting paradigms in language education: Assessing the role of flipped learning in high school EFL/ESL instruction. *International Multidisciplinary Journal of Research for Innovation, Sustainability, and Excellence, 1*(5), 1–6. https://doi.org/10.5281/zenodo.11099480

Muir, T. (2021). Self-determination theory and the flipped classroom: A case study of a senior secondary mathematics class. *Mathematics Education Research Journal*, 33, 569–587. https://doi.org/10.1007/s13394-020-00320-3

Mukherji, P., & Albon, D. (2018). *Research methods in early childhood: An introductory guide* (3rd ed.). SAGE Publications.

Munir, M. T., Baroutian, S., Young, B. R., & Carter, S. (2018). Flipped classroom with cooperative learning as a cornerstone. *Education for Chemical Engineers*, *23*, 25–33. https://doi.org/10.1016/j.ece.2018.05.001

Niemi, H. (2002). Active learning - A cultural change needed in teacher education and schools. *Teaching and Teacher Education, 18*(7), 763–780. https://doi.org/10.1016/S0742-051X(02)00042-2

Nykiel-Herbert, B. (2004). Mis-constructing knowledge: The case of learner-centered pedagogy in South Africa. *Prospects, 34*(3), 249–265. https://doi.org/10.1007/s11125-004-5316-x

Ölmefors, O., & Scheffel, J. (2023). High school student perspectives on flipped classroom learning. *Pedagogy, Culture & Society*, *31*(4), 707–724. https://www.tandfonline.com/doi/full/10.1080/14681366.2021.1948444

Paragoo, S., & Sevnarayan, K. (2024). Flipped classrooms for engaged learning during the pandemic: Teachers' perspectives and challenges in a South African high school. In J. Singh & V. Kumar (Eds.), *Technology-mediated Learning During the Pandemic* (pp. 33–54). Routledge.

Patterson, B., McBride, C. R., & Gieger, J. L. (2018). Flipped active learning in your mathematics classroom without videos. *PRIMUS*, *28*(8), 742–753. https://doi.org/10.1080/10511970.2017.1423141

Pellegrino, J. W. (2017). Developmental cognitive neuroscience: Implications for teachers' pedagogical knowledge. In S. Guerriero (Ed.), *Pedagogical Knowledge and the Changing Nature of the Teaching Profession* (pp. 223–251). OECD Publishing. https://doi.org/10.1787/9789264270695-11-en

Peterson, A. (2018). Combinations of pedagogies, innovative and established. In A. Peterson, H. Dumont, M. Lafuente & N. Law (Eds.), *Understanding innovative pedagogies: Key themes to analyse new approaches to teaching and learning, OECD Education Working Papers No. 172*. (pp. 33–60) OECD Publishing. https://doi.org/10.1787/9f843a6e-en

Potterton, M. (2025, April 7). Rethinking classroom strategies: The impact of scripted lessons on teacher effectiveness. *Daily Maverick*. https://www.dailymaverick.co.za/article/2025-04-07-rethinking-classroom-strategies-the-impact-of-scripted-lessons-on-teacher-effectiveness/

Pretorius, L. (2023). *An altered flipped class pedagogy as intervention strategy to address passive learning in a teacher-centred classroom* [Doctoral dissertation, University of South Africa.]

Pretorius, L. (2025). An active learning intervention for in-service teachers: Self-determination theory, heutagogy, neuroeducation and the (altered) flipped classroom in practice. *Curriculum Perspectives*, 44, 91–104.

Reeve, J., & Cheon, S. H. (2021). Autonomy-supportive teaching: Its malleability, benefits, and potential to improve educational practice. *Educational Psychologist, 56*(1), 54–77. https://doi.org/10.1080/00461520.2020.1862657

Reeve, J., & Tseng, C. M. (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology, 36*(4), 257–267. https://doi.org/10.1016/j.cedpsych.2011.05.002

Reinders, H. (2010). Towards a classroom pedagogy for learner autonomy: A framework of independent language learning skills. *Australian Journal of Teacher Education, 35*(5), 40–55.

Ryan, R. M., & Deci, E. L. (2019). Brick by brick: The origins, development, and future of self-determination theory. In *Advances in Motivation Science* (6, pp. 111–156). Elsevier.

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61*, 1–31. https://doi.org/10.1016/j.cedpsych.2020.101860

Ryan, R. M., & Weinstein, N. (2009). Undermining quality teaching and learning: A self-determination theory perspective on high-stakes testing. *Theory and Research in Education*, *7*(2), 224–233. https://doi.org/10.1177/1477878509104327

Saavedra, A. R., & Opfer, V. D. (2012). Learning 21st-Century skills require 21st-Century teaching. *Phi Delta Kappan*, *94* (2), 8–13. https://doi.org/10.1177/003172171209400203

Samaila, K., & Al-Samarraie, H. (2024). Reinventing teaching pedagogy: The benefits of quiz-enhanced flipped classroom model on students' learning outcomes and engagement. *Journal of Applied Research in Higher Education*, *16*(4), 1214–1227. https://doi.org/10.1108/JARHE-04-2023-0173

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health, 23*(4), 334–340.

Savin-Baden, M., & Howell Major, C. (2013). *Qualitative research: The Essential Guide to Theory and Practice*. Routledge.

Schur, Y., & Guberman, A. (2024). Conceptual change of 'teaching' among experienced teachers after studying attentive teaching. *Education Sciences*, *14*(3), 231. https://www.mdpi.com/2227-7102/14/3/231

Smith, J. P. (2015). *The efficacy of a flipped learning classroom* (Publication No. 3719573) [Doctoral dissertation, McKendree University]. ProQuest Dissertations and Theses Global.

Spreen, C. A., & Vally, S. (2010). Outcomes-based education and its (dis) contents: Learner-centred pedagogy and the education crisis in South Africa. *Southern African Review of Education*, *16*(1), 39-58. https://hdl.handle.net/10520/EJC98984

Steen-Utheim, A., & Foldnes, N. (2018). A qualitative investigation of student engagement in a flipped classroom. *Teaching in Higher Education, 23*(3), 307–324. https://doi.org/10.1080/13562517.2017.1379481

Stroet, K., Opdenakker, M., & Minnaert, A. (2015). What motivates early adolescents for school? A longitudinal analysis of associations between observed teaching and motivation. *Contemporary Educational Psychology*, *42*, 129–140. https://doi.org/10.1016/j.cedpsych.2015.06.002

Taylor, T. (2014). Changing pedagogy for modern learners - lessons from an educator's journey of self-reflection. *Journal of Educational Technology & Society*, *17*(1), 79–88. https://www.jstor.org/stable/10.2307/jeductechsoci.17.1.79

van Lier, L. (2008). Agency in the classroom. In J. P. Lantolf & M. E. Poehner (Eds.), *Sociocultural theory and the teaching of second languages* (pp. 163–186). Equinox.

Wang, F. H. (2017). An exploration of online behaviour engagement and achievement in flipped classroom supported by learning management system. *Computers & Education*, *114*, 79–91. https://doi.org/10.1016/j.compedu.2017.06.012

Wang, C. K. J., Liu, W. C., Kee, Y. H., & Chian, L. K. (2019). Competence, autonomy, and relatedness in the classroom: Understanding students' motivational processes using the self-determination theory. *Heliyon*, *5*(7), 1–6. https://doi.org/10.1016/j.heliyon.2019.e01983

Williams, P. (2017). Student agency for powerful learning. *Knowledge Quest*, *45*(4), 10–15. https://eric.ed.gov/?id=EJ1136307

World Bank. (2025). *South Africa economic update: Learning – overdue reforms and emerging priorities in basic education (No. 15).* World Bank Group. https://documents.worldbank.org/curated/en/099331502032511082

Xu, W., & Zammit, K. (2020). Applying thematic analysis to education: A hybrid approach to interpreting data in practitioner research. *International Journal of Qualitative Methods*, *19*, 1–9. https://doi.org/10.1177/1609406920918810

Yu, S., & Levesque-Bristol, C. (2020). A cross-classified path analysis of the self-determination theory model on the situational, individual and classroom levels in

college education. *Contemporary Educational Psychology*, *61*, 1–14. https://doi.org/10.1016/j.cedpsych.2020.101857

Yusuf, B., & Taiye, M. A. (2021). A flipped learning environment: a disruptive approach for traditional classrooms? *International Journal of Education, Psychology and Counselling*, *6*(42), 83–93. https://doi.org/10.35631/IJEPC.642008

Zepke, N., Leach, L., & Butler, P. (2014). Student engagement: Students' and teachers' perceptions. *Higher Education Research & Development, 33*(2), 386–398. https://doi.org/10.1080/07294360.2013.832160