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DEVELOPING 'INTER-PERSONAL CAPABILITIES' ASSOCIATED WITH THE 'EMOTIONAL INTELLIGENCE' OF TEACHER TRAINEES

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Abstract: - Historically, Intelligence Quotient (IQ) was recognized as the primary cognitive ability of individuals. However, its significance has gradually declined, with Emotional Intelligence (EI) now being increasingly emphasized as crucial for effective daily living. Emotional intelligence is deemed highly important for the academic success of teacher trainees. Within a mixed-methodology approach, two main objectives were emphasized: identifying effective strategies for enhancing the social awareness and relationship management of Teacher Trainees (TT) in relation to their EI. A sample of 200 teacher trainees and 20 teacher educators was selected using a multi-step method to achieve these objectives. Initially, questionnaires and interview schedules were used to collect data, and a mixed methodology was used for interpretation. Strategies for improving social awareness include fostering active listening, oral activities, student collaboration programs, attitude assessments with pair work, small group activities incorporating sports, extracurricular and religious activities, fieldwork, aesthetic activities intertwined with literature, and attitude development programs. For enhancing relationship management, activities such as writing poems, self-criticism, reflection, sharing responsibilities with students, awarding marks for personality traits, using self-inventories based on interests, engaging in sports and leadership programs, peer learning, forming study groups, honing communication skills, aesthetic and literary activities, project-based and problem-based learning, and participation in extracurricular activities are recommended. The suggestion is to design and implement an emotional intelligence programme incorporating individual and group activities for teacher interns. A highly effective approach to enhancing academic achievement and improving daily life is to develop emotional intelligence in interpersonal skills among learners.

Keywords*: Emotional intelligence, inter-personal capabilities, teacher trainee*

Introduction

Inter-personal capabilities constitute the most crucial skills that any individual in society should possess. This is because; social actions are determined by individual external emotions. As a result, awareness and management of social emotions play a pivotal role in augmenting Social Emotional Intelligence.

Conversely, the World Health Organization (WHO) has emphasized that mental health is a fundamental component of an individual and requires attention to enhance overall social well- being (WHO, 2013). This underscores the significance of mental health of every member of society. Notably, the mental health of TT plays a critical role in fostering positive academic achievement levels. Unfortunately, the background of National Colleges of Education (NCoEs) does not provide adequate

opportunities in this regard (Wickramasekara, 2002). Therefore, it is imperative to explore alternatives for improving the mental well-being of teacher trainees.

In this context, research findings indicate a significant interrelationship between Emotional Intelligence (EI) and the mental health of individuals. Notably, students with the highest levels of EI exhibited the highest levels of mental well- being (Wang, 2019). Conversely, students with lower levels of EI experienced heightened levels of stress, while EI was found to contribute to their academic development (Sikand, 2016). Moreover, a positive correlation was identified between EI and an individual's mental health, including gender disparities (Yadav et al., 2017). Furthermore, Daniel Goleman emphasized that an individual's EI can be developed, and that EI is contingent upon learned behaviours (Cherniss & Goleman, 2000).

The main goal of this research was to examine ways to enhance the interpersonal skills of teacher trainees involved with EI in order to enhance their mental well-being. Under this main aim two objectives were identified mainly. They were,

1. Identifying effective strategies to develop social awareness of teacher trainees in relation to emotional intelligence.
2. Identifying effective strategies to develop relationship management skills for teacher trainees in relation to emotional intelligence.

Furthermore, for achieving these objectives research background was built through literature review.

Literature review shows that Emotional Intelligence surpasses Intelligence Quotient (IQ) as the most crucial cognitive ability for individuals. Daniel Goleman articulates that Emotional Intelligence involves the skill of comprehending, appraising, and recognizing emotions within both individuals and groups (Serrat, 2017). Bradberry and Greaves refer to emotional intelligence as the individual's ability to recognize and understand his own and others' emotions and to use this awareness to manage the individual's behavior and relationships (Travis & Jean, 2009). Furthermore, Huston states that emotional intelligence is a junction where intelligence meets cognition and emotion, and that it facilitates resilience, motivation, empathy, reasoning, stress management, communication, and the ability to read and navigate a range of social situations and conflicts (Huston, 2021). When all the definitions are studied as a whole, it becomes clear that emotional intelligence is built on two basic foundations: on the individual and on social relations, or as intra and internal to the individual. Based on these dual foundations, for the individual to succeed in everyday life and perform tasks effectively, they must cultivate both self-awareness and interpersonal skills.

In the early days, Daniel Goleman introduced five components of emotional intelligence. However, in 2002, he refined his framework and developed emotional intelligence through four main components, presenting it as a model. These components are:

1. Self-awareness
2. Self-management

3. Social awareness
4. Relationship management (Ott, 2018).

In this model, social awareness and relationship management are prioritized as they relate to the interpersonal skills of an individual. Social awareness encompasses empathy, organizational awareness, and service. Relationship management, on the other hand, includes components such as influence, inspirational leadership, developing others, being a change catalyst, building bonds, conflict management, teamwork, and collaboration (Ott, 2018). These elements emphasize the importance of understanding others' emotions and needs, as well as effectively managing interactions and relationships in various contexts.

Currently, emotional intelligence is widely acknowledged as the most critical factor for an individual's success in life. According to Cotrus (2012), Joy suggests that a person's success in both work and life hinges 80% on their utilization of emotional intelligence and only 20% on their intellectual prowess (Deutsch, n.d). Consequently, traditional measures of intelligence no longer fully capture the spectrum of effective behaviors exhibited by individuals. Bar-On's 1997 research further reinforces this notion, indicating that individuals with high emotional intelligence tend to outperform those with lower emotional intelligence in various aspects of life (Huston, 2021). Therefore, prioritizing the cultivation and maintenance of emotional intelligence can significantly contribute to fostering effective behaviors and achieving success.

Emotional intelligence is vital not only in the role of a teacher but also during residency training for teaching. Individuals who exhibit high levels of emotional intelligence can effectively collaborate with their team, adapt to change seamlessly, and manage stress efficiently, even during the demanding residency period (Huston, 2021). Consequently, emotional intelligence remains significant not only during teacher education but also after formal entry into the profession. Teachers rely on emotional intelligence to enhance communication, self-management, teamwork, and support in their professional endeavors (Shrestha, 2018). Thus, emotional intelligence serves as a cornerstone for success and effectiveness throughout the journey of becoming and being a teacher.

In this context, Daniel Goleman emphasizes that learned abilities rooted in emotional intelligence can lead to exceptional performance in the workplace (Cherniss & Goleman, 2000). He suggests that emotional intelligence is not innate but can be developed through the accumulation of experiences and the acquisition of skills over one's lifetime (Goleman, 1998). Moreover, Goleman (2010) highlights that a teacher's self-awareness of behavior significantly influences students' behavior and learning journey (Shrestha, 2018), underscoring the crucial role of a teacher's emotional intelligence in their effectiveness. Therefore, there is a pressing need to explore strategies for enhancing individuals' emotional intelligence to facilitate better performance and outcomes in various contexts.

Furthermore, Emotional Intelligence can be significantly enhanced through EI programs, training initiatives, and therapeutic approaches, considering that EI is shaped by learned behaviors (Bar-On, 2002). Research suggests that the use of

enjoyable gaming activities can be particularly effective in fostering EI development compared to traditional in-person lectures (Rico & Sandoval, 2020). Gilar-Corbi and colleagues have proposed three distinct avenues for EI development: online platforms, classroom-based exercises, and structured training programmes (Gilar-Corbi et al., 2018). These diverse approaches offer valuable opportunities for individuals to actively engage in enhancing their emotional intelligence, thereby contributing to their personal and professional growth.

Sri Devi Sivarajan & Andrew Rick, through their research findings, highlight that emotional intelligence is a skill that can be learned and effectively developed through an active and experiential approach rather than traditional lecture-based methods. They propose that the improvisational theater style, particularly the principle of 'yes - and,' can be leveraged to enhance emotional intelligence more effectively. The researchers outline six activities aimed at fostering emotional abilities such as compassion, support, and understanding of others' emotions:

1. Name-saying game
2. Story construction activity
3. Party planning exercise
4. Facial expression reading activity
5. Character design task
6. Applause as an activity (Andrews, 2019).

These activities provide engaging and interactive ways for individuals to practice and strengthen their emotional intelligence skills, promoting deeper understanding and application in real-world situations.

Thus, Rampton has also outlined methods for enhancing extroversion, which include:

1. Having a flexible leader who can adapt to different team dynamics.
2. Identifying the strengths and weaknesses of team members to maximize collaboration.
3. Fostering enthusiasm within the team to maintain energy and motivation.
4. Establishing group norms to create a supportive and productive work environment.
5. Developing creative strategies to manage stress effectively and maintain resilience.
6. Providing opportunities for group members to express their opinions and contribute to decision-making processes.
7. Encouraging teamwork and fostering a sense of camaraderie among members through collaborative work and recreational activities (Rampton, 2018).

These approaches aim to cultivate an environment conducive to extroverted behavior, promoting teamwork, creativity, and effective communication within the group.

Accordingly, it is affirmed that emotional intelligence can indeed be developed, as its states are rooted in learned abilities. Therefore, there is a need to explore strategies for enhancing an individual's interpersonal capabilities, particularly those related to social awareness and relationship management, which are closely associated with

emotional intelligence (EI). By focusing on these aspects, individuals can cultivate a deeper understanding of their own and others' emotions, as well as develop skills to effectively navigate social interactions and manage relationships. Studying and implementing techniques to bolster these interpersonal capabilities can contribute significantly to the overall development of emotional intelligence and ultimately lead to greater success and fulfillment in various personal and professional contexts.

In summary, the implication is that Emotional Intelligence is not fixed but can be developed over time. Consequently, there arises a necessity to delve into strategies aimed at enhancing specific individual interpersonal capabilities, especially those related to social awareness and relationship management within the framework of EI. By focusing on these areas, individuals can cultivate a deeper understanding of emotions, both their own and others', and acquire the skills necessary to navigate social interactions and foster meaningful relationships effectively. This emphasis on targeted development can lead to significant improvements in emotional intelligence, thereby facilitating personal growth and success in various aspects of life.

Methodology

The study employed concurrent design by utilizing the survey method. Data collection was done using questionnaires and interviews.

A questionnaire was formulated to gather data concerning the methods for enhancing social-awareness and relationship-management. The questionnaire comprised primarily of structured open - ended questions. Additionally, two interview schedules of a structured format were employed to gather data from teacher trainees and teacher educators. The total sample size consisted of 220 participants, which included 200 teacher trainees and 20 teacher educators from the National Colleges of Education. A multiple sampling approach was utilised. The data collection process centered around the course of Primary Education and Information Communication Technology (ICT), as outlined Table 1.

Table 1
Sample of teacher trainees

The name of the National College of Education	Course (Quantity of selected students)	
	Primary Education	Information Communication Technology
Ruwanpura	31	59
Uva	30	-
Nilwala	48	-
Maharagama	-	32
Total	109	91

The collected data were analyzed and represented using percentages. Furthermore, percentages were used to represent quantitative data, and qualitative data was analyzed using thematic analysis.

Results with discussion

Identifying effective strategies to develop social-awareness of Teacher Trainees in relation Emotional Intelligence

Table 2

Activities and programmes suggested by teacher trainees to develop social-awareness

No	Trait	Suggested activity or programme	Quantity of responses (f)	Percentage %
01	Empathy	Listening for others	180	90
		Conducting counselling progrmme	176	88
		Student collaboration programme	192	96
02	Organizational awareness	Orientation programme	166	83
		Working with respect NCoE' rules and regulations	182	91
		Participating daily task of NCoE with enthusiasm	150	75
		Studying process of NCoE	172	86
03	Service	Sharamadaana campagian	136	68
		Group activities	190	95
		Attitude development programme	176	88
		Doing projects	150	75
		Participating in extra-curricular activities	180	90

Based on the Table 2 the majority of teacher trainees, at 90% each, indicated that engaging in student collaboration programme, working with respect NCoE' rules and regulations and Group activities are suitable for developing empathy and Organizational awareness.

Moreover, the Table 3 illustrates the activities and programmes that were recommended for the enhancement of social-awareness, based on both the responses of teacher trainees and teacher educators, considering qualitative aspects as well.

Table 3
Activities and programmes to develop social-awareness

Social - awareness	
Individual Activities	**Group Activities or programmes**
Listening for others (Active listening) Oral activity	Student collaboration programme (Welfare association)
Working with respect NCoE' rules and regulations	Pair work with attitude test
Conducting contest and evaluating students	Small group activities with sports
	Extra-curricular activities (befriend elderly homes, children's homes and the disabled)
	Sharamadana campaigns with cleaning towns and hospitals
	Religious activities
	Field works (Helping poor students with school, building library, conducting curriculum workshops for the O/L and A/L students)
	Aesthetic activities with literature and the cinema

Based on the summary table provided above, the development of social-awareness linked to inter-personal capabilities can be facilitated through the implementation of individual and group activities within the context of an Emotional Intelligence (EI) programme.

Identify effective strategies to develop relationship management of Teacher Trainees in relation Emotional Intelligence

Table 4
Activities and programmes suggested by teacher trainees to develop relationship management

No	**Trait**	**Suggested activity or programme**	**Quantity of responses (f)**	**Percentage %**
01	Influence	Group activities	176	88
		Sports	182	91
		Developing communication skills	170	85
		Developing soft skills	158	79
02	Inspirational leadership	Leadership programmes	178	89
		Listening to others opinions	156	78
		Engaging sports	174	87

03	Developing others	Learning circle	150	75
		Peer learning	178	89
04	Change catalyst	Listening to others	150	75
		Watching motivational videos	178	89
		Entertainment programms	190	95
05	Building bonds	Group activities	196	98
		Personality development programmes	194	97
06	Conflict management	Collaboration activities	188	94
		Group discussion	196	98
		Developing patience	172	86
07	Teamwork and collaboration	Respect others opinions	196	98
		Team spirit	194	97
		Positive thinking	192	96

As per the Table 4 mentioned, a significant majority of teacher trainees, at a rate of 91% indicated that engaging in sports is a suitable approach to cultivate influence of relationship management. Additionally, activities such as leadership programme (89%), peer learning (89%), entertainment programmes (95%), group activities (98%), group discussion (98%) and respect other opinions (98%) can effectively contribute to the development of attributes like inspirational leadership, developing others, change catalyst, building bonds, conflict management and team work and collaboration.

Moreover Table 5 below illustrates the activities and programmes that were recommended for the enhancement of relationship management, based on the input from both teacher trainees and teacher educators, with consideration for qualitative aspects as well.

Table 5

Activities and programmes to develop relationship-management

Relationship - management	
Individual Activities	Group programmes or activities
Writing poems	Sports
Self-criticism	Leadership programmes
Reflection	Group activities related creating stage drama, Speeches and debates, open-discussion circle, role play, exhibitions, showing videos, sharing life experiences
Using questionnaire	Extra-curricular activities
Sharing responsibilities to each student	Peer learning

	Creating mini studies group
Offering mark for the personality	Developing personality related activities with communication
Using self-inventory with interest	Aesthetic and literature activities (appreciation songs, stage drama festival, multi-cultural events, showing videos, exhibits short film and movies)
Writing and self-criticizing	Project-based learning
	Problem-based learning
	Assessing students as group

Based on the summarised table provided above, the development of relationship-management associated with inter-personal capabilities can be facilitated through the implementation of individual and group activities within the framework of an Emotional Intelligence (EI) programme.

Conclusions

The new model of Emotional Intelligence (EI) identifies and emphasizes four main components that can be both identified and developed. In comparison with IQ, EI is regarded as a crucial cognitive capacity for individuals to effectively navigate daily life. Through this research, insights have been gained into strategies for developing the inter-personal skills of social-awareness and relationship-management among teacher trainees.

In essence, these two skills linked to EI, can be fostered through both individual and group approaches. Specifically, developing active listening, Oral activity, student collaboration programme, pair work with attitude test, small group activities with sport, extra-curricular activities, religious activities, field works, aesthetic activities with literature and attitude development programme can be employed to enhance social-awareness. For the development of relationship-management, activities like writing poems, self- criticism, reflection, sharing responsibilities to the students, offering mark for the personality, using self-inventory with interest, sports, leadership programme, peer learning, creating mini studies group, developing personality with communication skills, aesthetic and literature activities, project-based learning, problem based learning and extra-curricular activities can be effective.

In conclusion, the development of emotional intelligence in relation to learners' inter personal skills presents a highly impactful strategy, contributing not only to academic advancement but also to enhanced effectiveness in everyday life.

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FROM CHALKBOARDS TO SMARTBOARDS: EXPLORING THE EVOLUTION OF TEACHING METHODS AND THEIR IMPACT ON STUDENT ACHIEVEMENT

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Abstract: The evolution of teaching methods from traditional to technology-enhanced and student-centered approaches marks a transformative shift in educational practices. Historically, instruction relied on chalkboards, textbooks, and lectures, emphasizing rote learning and one-way communication. However, advancements in technology have paved the way for interactive, personalized learning that fosters student engagement. Tools like smartboards, multimedia resources, and artificial intelligence (AI) have redefined classrooms from teacher-centered to learner-centered environments, highlighting the need for adaptable strategies in today's digital age. This review offers a descriptive analysis of the transition from traditional chalkboards to advanced smartboard technologies, focusing on their impact on student achievement over the past 15 years. The primary objectives are to evaluate the effectiveness of instructional technology in improving educational outcomes and to identify shifts toward interactive, student-centered learning. This research is justified by the need for educational systems to adopt technology, enhancing accessibility and effectiveness for both teachers and students. Using secondary data from academic databases such as JSTOR, Elsevier, Springer Link, and Wiley Online Library, this review selected sources with keywords like "chalkboards," "smartboards," "teaching technology," and "student achievement." Key findings indicate a significant transition from rote learning to interactive, technology-driven environments, improving cognitive engagement, knowledge retention, and academic performance. The study concludes that balancing traditional and modern methods, coupled with emerging technologies, creates inclusive, dynamic learning environments, better preparing students for success in a connected world. These insights provide essential guidance for educators and policymakers aiming to enhance educational practices and outcomes in a rapidly evolving landscape.

Keywords: *Teaching methods, Educational transformation, Traditional instruction, Student-centered learning, Technology-enhanced education*

Introduction

Effective teaching methods are crucial for facilitating learning and ensuring student success. Over the years, the landscape of education has witnessed significant transformations driven by various pedagogical approaches. Traditionally, education relied heavily on lecture-based instruction and the use of chalkboards and textbooks. These methods, while foundational, often centered on one-way communication and rote memorization, limiting student engagement and critical thinking. However, the educational needs of students have evolved, necessitating a shift towards more dynamic and interactive approaches. Innovative teaching methods have emerged to address these needs, fostering environments that cater to diverse learning styles and preferences. The growing emphasis on student-centered learning highlights the importance of adapting teaching strategies to enhance understanding, retention, and application of knowledge. This evolution reflects a broader recognition of the need for education systems to prepare students for an increasingly complex and rapidly changing world (Pashler, 2008). The evolution of teaching methods marks a significant transition from the static use of chalkboards and textbooks to the dynamic incorporation of digital and interactive tools. In the past, teaching was predominantly teacher-centric, with a focus on direct instruction. Chalkboards served as the primary medium for delivering lessons, complemented by textbooks that provided structured content for students to follow. With the advent of technology, education began to incorporate multimedia tools, such as overhead projectors and educational videos, which added a visual dimension to learning. The introduction of online resources and technology-enhanced learning environments further revolutionized the educational experience (Owusu, 2009). These advancements enabled the creation of virtual classrooms, access to a wealth of information, and opportunities for interactive learning. Moreover, there has been a paradigm shift towards student-centered learning approaches. Methods such as flipped classrooms, project-based learning, and collaborative learning techniques prioritize active student participation and experiential learning. These approaches encourage students to take ownership of their education, fostering critical thinking, problem-solving skills, and a deeper understanding of the subject matter (Nurutdinova et al., 2016).

The purpose of this review is to analyze the progression of teaching methods and their impact on education. By examining the historical context and contemporary innovations, this review aims to compare the effectiveness of traditional and modern teaching methods. It seeks to explore how these methods influence student engagement, knowledge retention, and overall academic performance. The scope of this review encompasses a comprehensive analysis of various teaching methods, highlighting their benefits and challenges. It will delve into the historical reliance on traditional methods, the integration of technological advancements, and the rise of student-centered approaches. Additionally, this review will discuss the role

of teachers in adapting to new technologies, the ongoing need for professional development, and the balance between traditional and modern techniques. Finally, this review will consider future trends in teaching methods, including potential innovations such as artificial intelligence, adaptive learning systems, and immersive technologies like virtual and augmented reality. By providing insights into these evolving trends, the review aims to offer practical recommendations for educators and policymakers to enhance the teaching-learning process and better prepare students for the future.

Methodology

This review adopts a descriptive analysis approach, relying exclusively on secondary data to explore the progression of teaching methods from traditional chalkboards to advanced smartboard technologies and their influence on student achievement. The study focuses on research published over the past 15 years to capture the transition and cumulative impact of instructional tools and methods on educational outcomes. Key data sources include academic databases such as JSTOR, Elsevier, Springer Link, and Wiley Online Library, where relevant peer-reviewed articles, books, and educational reports were systematically selected.

To ensure a comprehensive overview, studies were chosen based on their focus on instructional technology evolution and empirical findings on student performance. Keywords such as "chalkboards," "smartboards," "teaching technology," "student achievement," and "educational outcomes" guided the literature search, enabling a curated selection of sources that provide insight into both pedagogical approaches and technology's impact in the classroom. The study synthesizes data on how these teaching methods have influenced cognitive engagement, knowledge retention, and overall academic achievement.

Historical Perspective

Traditional Teaching Methods

Lecture-Based Instruction

Lecture-based instruction remains a foundational approach in traditional education, rooted in the historical practices of scholars and educators. This method typically involves a teacher delivering content in a structured, formal manner, often supplemented by visual aids such as slides, diagrams, or chalkboards (Jones, 2007). It is particularly effective in settings where large amounts of information need to be efficiently disseminated to extensive audiences, such as university settings or large classrooms. A primary advantage of lecture-based instruction is its scalability, allowing a single instructor to reach numerous students, making it a cost-effective option for many educational institutions. Additionally, this approach ensures

consistency, as all students receive the same foundational knowledge and theoretical concepts essential for understanding more complex subjects (Nadeem & Blumenstein, 2021). However, lecture-based instruction also has notable limitations. Due to its passive nature, it may lead to student disengagement, with learners often becoming passive recipients rather than active participants. This lack of interactivity can hinder the development of critical thinking and problem-solving skills. Additionally, lectures may not accommodate diverse learning styles and paces, resulting in varied levels of comprehension and retention among students (Franklin & Harrington, 2019).

Contemporary lecture-based instruction has incorporated several strategies to enhance its effectiveness. Engaging delivery methods, including storytelling, real-life examples, and a dynamic presentation style, make content relatable and captivating. Incorporating interactive elements helps break the monotony, while regular assessments and feedback allow for ongoing adjustment and support based on student understanding (Nilson, 2016; Miller et al., 2013). Continuous improvement, informed by student feedback and performance data, allows instructors to refine lecture content and delivery for optimal impact on student learning.

Use of Chalkboards and Textbooks

The use of chalkboards (and their modern equivalents, whiteboards) and textbooks represents fundamental components of traditional teaching methods. Chalkboards are versatile tools for visually presenting information, solving problems, and illustrating key points during lectures. They offer flexibility, allowing instructors to write, draw, and diagram in real-time, which can adapt dynamically based on the flow of the lesson and student interaction (Remón et al., 2017). This real-time interaction encourages active learning, as students can participate in problem-solving activities on the board and engage directly with the material. Despite their advantages, chalkboards have limitations (Wangler & Ziliak, 2018). They provide a finite amount of display space, requiring frequent erasure, which can disrupt the flow of the lecture and potentially lead to the loss of important information. Additionally, students with visual impairments may struggle to see the board clearly, and the pace of instruction can slow down as the instructor writes and erases content. Textbooks, on the other hand, are comprehensive educational resources that provide structured and detailed coverage of subjects. They serve as primary study materials, offering theoretical explanations, diagrams, examples, and exercises that reinforce lecture content (Woodward et al., 2013). Textbooks ensure consistency in the information provided to students and align with curriculum standards, making them essential tools for both instruction and self-study. However, traditional textbooks can become outdated, failing to reflect the latest research and developments in a field. They can also be expensive, posing financial challenges for students. Modern adaptations of these traditional tools have enhanced their effectiveness. Digital textbooks incorporate multimedia elements such as videos,

animations, and interactive exercises, making the content more engaging and accessible (Churchill, 2017). These digital resources are also easily updatable, ensuring that students have access to the most current information. Smart boards combine the functionality of chalkboards with digital capabilities, enabling dynamic and interactive lessons that integrate online resources and multimedia content. Open Educational Resources (OER) provide freely accessible educational materials that can be customized and updated regularly, promoting collaboration among educators and enhancing the relevance of the content (Miller, 2019). To maximize the effectiveness of chalkboards and textbooks, several strategies can be employed. For chalkboards, planning ahead and outlining key points before class can help use board space efficiently. Encouraging students to come up to the board for problem-solving and demonstrations promotes engagement and active participation. Ensuring legibility with clear handwriting and the use of different colors for emphasis can improve visibility (Matemera, 2020). For textbooks, integrating textbook readings with lecture topics reinforces learning and provides a cohesive learning experience. Using textbooks alongside digital resources and interactive tools can enhance understanding and cater to diverse learning styles. Teaching students active reading strategies, such as note-taking, highlighting, and summarizing, can improve comprehension and retention of textbook content (Rahmani & Sadeghi, 2011). In summary, while chalkboards and textbooks are foundational elements of traditional teaching methods, their effectiveness can be significantly enhanced through modern adaptations and strategic use. Combining these traditional tools with interactive and digital resources caters to diverse learning needs, maintains student engagement, and ensures that educational content remains current and relevant (Ulanday et al., 2021).

Transitional Methods

Introduction of Overhead Projectors and Whiteboards

The introduction of overhead projectors (OHPs) and whiteboards in educational settings marked a pivotal shift towards more interactive and visually engaging teaching methods. Overhead projectors, which gained widespread use in classrooms from the mid-20th century, enabled educators to project transparencies onto a screen, making it possible to present prepared or on-the-fly content in a way that was easily visible to large groups (Nimesh et al., 2021). The ability to annotate transparencies in real-time allowed for dynamic teaching, where instructors could highlight important points and modify content during the lecture. This fostered a more interactive environment compared to traditional chalkboards. Overhead projectors were particularly useful for displaying diagrams, charts, and detailed illustrations that could be pre-prepared, ensuring clarity and precision (Martinez-Maldonado et al., 2022).

Whiteboards, which began to replace chalkboards in the late 20th century, offered numerous advantages over their predecessors. They provided a

smooth, glossy surface that could be written on with dry-erase markers, allowing for quick and easy modifications (Schneider, 2018). The use of different colored markers on whiteboards enhanced visual learning by enabling educators to highlight key concepts and organize information effectively. The dust-free nature of whiteboards addressed the health concerns associated with chalk dust, creating a cleaner classroom environment (Goel et al., 2017). Furthermore, whiteboards facilitated a more fluid and engaging teaching style, as content could be quickly erased and updated, allowing for spontaneous instruction and student participation. Despite these advancements, both tools had limitations: overhead projectors required consumables like transparencies and markers, and whiteboards could suffer from ghosting over time, reducing their visibility. Nonetheless, these tools significantly improved the interactive capabilities of classroom instruction, setting the stage for further technological advancements (Crawford, & Jenkins, 2017).

Emergence of Multimedia Tools (e.g., VHS Tapes, CDs)

The emergence of multimedia tools such as VHS tapes and CDs in the late 20th century revolutionized educational practices by introducing audio-visual elements into the learning process (Siegel, 2012). VHS tapes, which became widely used in classrooms from the 1980s onward, allowed educators to incorporate pre-recorded videos into their teaching. These videos provided a more engaging way to present information, capturing students' attention through dynamic visuals and sound (Chen & Wu, 2015). Educational videos could illustrate complex concepts, historical events, scientific experiments, and real-world applications, making learning more tangible and relatable. However, VHS tapes and players had their drawbacks, including susceptibility to technical issues like tape jams and degradation of video quality with repeated use. The introduction of CDs and later DVDs in the 1990s brought significant improvements in audio-visual quality and durability. These digital formats could store a variety of media types, including video, audio, and interactive content, offering greater versatility in educational applications. CDs and DVDs were less prone to physical wear and provided clearer, more reliable playback. They also enabled the inclusion of interactive features, such as quizzes and branching scenarios, which could enhance student engagement and facilitate self-paced learning (Green & McNeese, 2011). Despite the higher initial costs associated with the necessary playback equipment, these multimedia tools provided a richer, more immersive learning experience. The integration of multimedia tools into education expanded the range of instructional strategies available to teachers. Videos and interactive content could supplement traditional lectures and textbooks, providing varied perspectives and reinforcing learning through multiple sensory channels. The ability to show real-life examples and simulations made abstract concepts more concrete and understandable. Furthermore, the use of multimedia tools helped cater to diverse learning styles, supporting visual, auditory, and kinesthetic learners (Aldrich, 2009).

Overall, the introduction of overhead projectors, whiteboards, VHS tapes, and CDs represented significant steps towards a more engaging and interactive educational environment. These tools enhanced the visual and auditory dimensions of teaching, making learning more dynamic and accessible. They also paved the way for the adoption of more advanced digital technologies, such as smart boards, online resources, and streaming services, which continue to transform education today (Hallinan, 2009).

Modern Teaching Methods

Technology-Enhanced Learning

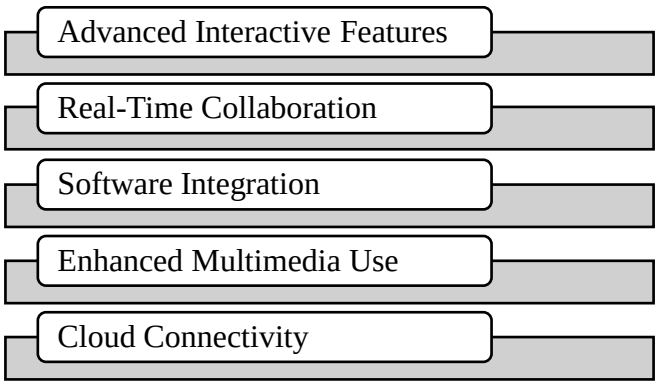
Technology-enhanced learning represents a transformative approach to education, integrating digital tools and platforms to create dynamic, interactive, and personalized learning environments. This section delves deeper into the impact and functionalities of smartboards and interactive whiteboards, the use of tablets and e-books, and the proliferation of online learning platforms and virtual classrooms (Kyza, 2023).

Smartboards and Interactive Whiteboards

Smartboards and interactive whiteboards are sophisticated tools that combine the traditional whiteboard with digital technology, significantly enhancing classroom interactivity and engagement as shown in figure 1.

Figure 1

Advantages of smartboard



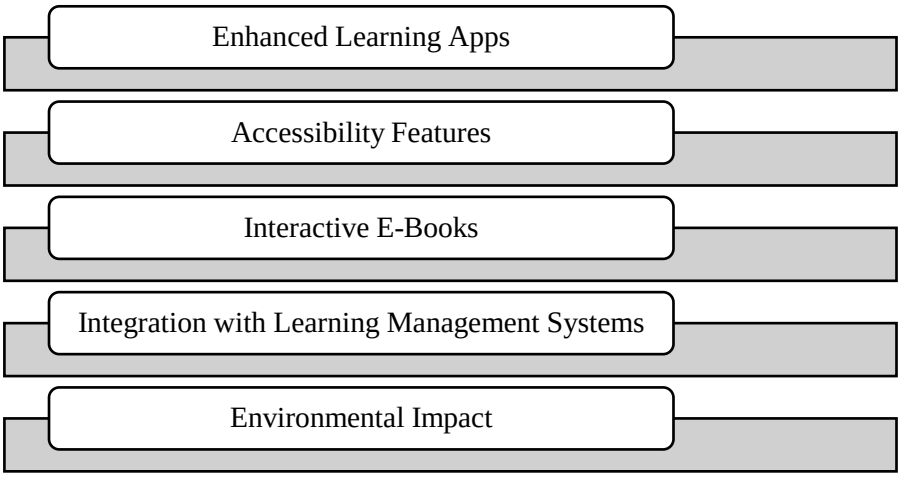
Note: Smartboards provide multiple advantages that boost classroom engagement and interactivity with students.

Smartboards allow for multi touch gestures, such as pinch-to-zoom, drag-and-drop, and rotate, making interactions more intuitive and natural. Teachers can use these features to zoom in on detailed images or manipulate 3D models, providing a more immersive learning experience (Jorge, 2011). These boards are compatible with a wide range of educational software and applications, such as interactive maps, virtual labs, and language learning tools. This integration allows for diverse and engaging lesson plans that can

be tailored to various subjects and age groups (ul Amin, 2018). Teachers can prepare lessons at home and access them in the classroom, while students can retrieve class notes and assignments from any location. Advanced smartboards support real-time collaboration tools, such as digital canvases where multiple users can write or draw simultaneously. This fosters teamwork and active participation among students. Teachers can embed videos, audio clips, and animations directly into their presentations, making lessons more vibrant and engaging. For example, a history lesson can include historical footage, while a biology class can feature animated diagrams of biological processes (Grønbæk et al.,2024).

Figure 2

Advantages of Tablets and e-books



Note: Tablets and e-books offer significant advantages in the educational environment, enhancing learning and making content more accessible to students.

Educational apps designed for tablets cover a broad spectrum of subjects and skills, from math and science to art and language learning. Many of these apps incorporate gamification elements, such as rewards and challenges, to motivate students and make learning fun (Dorouka et al., 2020). Modern e-books go beyond simple text and images, including interactive features such as clickable glossaries, embedded quizzes, and multimedia content. These features help reinforce learning and make reading a more engaging experience. Tablets can be equipped with accessibility features like text-to-speech, adjustable font sizes, and high-contrast modes, making learning materials more accessible to students with disabilities (Chigwada & Phiri, 2021). By reducing the need for printed textbooks, tablets and e-books contribute to environmental sustainability. This shift not only saves paper but also reduces the carbon footprint associated with book production and distribution. Tablets can seamlessly integrate with LMS platforms, allowing students to access assignments, submit homework, and receive grades and

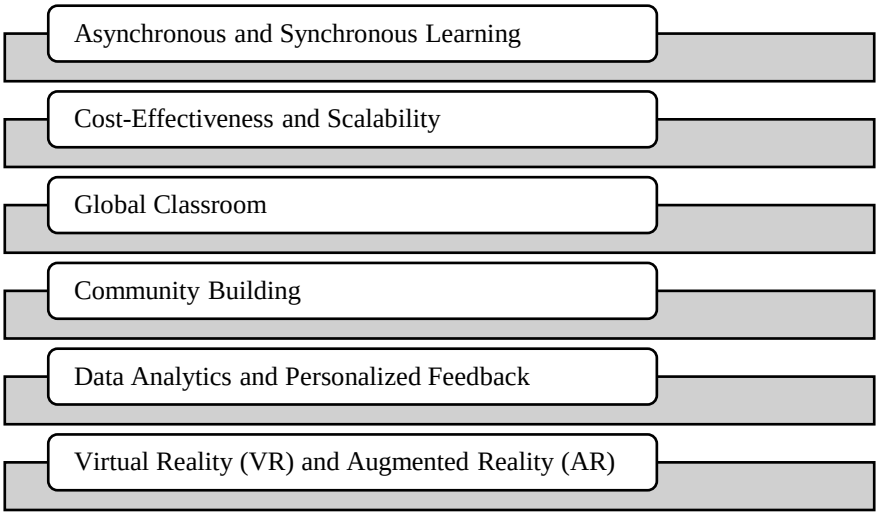
feedback all in one place. This streamlines the educational process and ensures that students and teachers can manage their workloads more efficiently (Veluvali & Surisetti, 2022).

Online Learning Platforms and Virtual Classrooms

Online learning platforms and virtual classrooms have significantly expanded the reach and flexibility of education, providing robust and scalable solutions for both traditional and non-traditional learning environments as shown in figure 3.

Figure 3

Advantages of online learning



Note: Online learning provides a flexible, accessible, and diverse learning experience that supports modern education needs and prepares students for a digital world.

Online platforms offer both asynchronous (self-paced) and synchronous (live) learning options. Asynchronous learning allows students to access materials and complete assignments at their convenience, while synchronous learning includes live lectures and real-time interactions with instructors and peers (Wang et al., 2018). Some advanced online learning platforms incorporate VR and AR technologies to create immersive learning experiences. For example, students can take virtual field trips to historical sites, conduct virtual science experiments, or interact with 3D models of complex structures. These platforms leverage data analytics to track student progress and performance (Turner et al., 2014). Virtual classrooms often include social features such as discussion boards, group projects, and peer review systems. These tools help build a sense of community and encourage collaboration and communication among students. Online platforms enable cross-cultural exchanges by connecting students from different parts of the

world (Shonfeld et al., 2021). This global interaction fosters cultural awareness and broadens students' perspectives, preparing them for a more interconnected world. Online learning reduces the costs associated with physical infrastructure and materials. It allows educational institutions to reach a larger audience without the limitations of classroom size, making education more accessible and affordable (Cuccurullo & Cinganotto, 2020).

In summary, technology-enhanced learning through smartboards, tablets, e-books, and online learning platforms has fundamentally transformed the educational landscape. These tools provide interactive, personalized, and flexible learning experiences that cater to the diverse needs of students.

Student-Centered Approaches

In modern education, student-centered approaches have taken precedence, focusing on active engagement, personalized learning, and critical skill development. These methods identified three student-centered approaches as flipped classrooms, project-based learning (PBL), and cooperative learning techniques that prioritize deep understanding and long-term retention of knowledge while prioritizing students' needs, interests, and autonomy (Dakovic & Zhang, 2020).

Flipped Classrooms

The concept of flipped classrooms challenges the traditional model of instruction by reversing the typical sequence of learning activities. In a flipped classroom, students first encounter new content independently outside of class, often through pre-recorded lectures, readings, or online modules (Akçayır & Akçayır, 2018). This self-paced approach allows students to digest the material at their own speed, pausing, rewinding, and revisiting concepts as needed to ensure comprehension. The true innovation of the flipped classroom model emerges during in-person class sessions. Rather than passively receiving lectures, students engage in dynamic, interactive activities that reinforce and apply the concepts learned independently (Hmelo-Silver et al., 2018). Class time is transformed into a collaborative learning environment where students work together on problem-solving tasks, engage in discussions, conduct experiments, or participate in simulations. This active engagement not only solidifies understanding but also fosters critical thinking, communication skills, and teamwork. One of the key advantages of the flipped classroom model is its ability to personalize the learning experience. Additionally, educators can provide targeted support and feedback during in-class activities, addressing specific areas of difficulty and promoting deeper understanding (Sweet & Michaelsen, 2023).

Project-Based Learning (PBL)

Project-Based Learning (PBL) is a student-centered pedagogical approach that immerses students in real-world, authentic learning experiences. At the

heart of PBL is inquiry-driven learning. Students are tasked with identifying a problem, conducting research, brainstorming potential solutions, and ultimately designing and implementing a project to address the issue (Boss & Larmer,2018). This process encourages students to take ownership of their learning, fostering curiosity, creativity, and perseverance. PBL projects are often interdisciplinary in nature, allowing students to explore connections between different subjects and disciplines. For example, a project on sustainable agriculture may incorporate elements of biology, environmental science, economics, and social studies (Pryor & Kang, 2013). This interdisciplinary approach mirrors the complexity of real-world challenges, preparing students for the demands of a rapidly evolving global society. Another hallmark of PBL is its emphasis on collaboration and communication. Students frequently work in teams to complete projects, leveraging their collective knowledge, skills, and perspectives. Collaboration fosters a sense of community and shared responsibility, promoting empathy, tolerance, and respect for diverse viewpoints (Zuniga, 2019).

Collaborative Learning Techniques

Collaborative learning techniques emphasize the power of peer interaction and shared inquiry in the learning process. Rather than working in isolation, students collaborate in small groups to achieve common academic goals, drawing upon each other's strengths and expertise. Collaborative learning encompasses a variety of activities, including group discussions, problem-solving tasks, peer teaching, and cooperative projects (O'Donnell & Hmelo-Silver, 2013). These activities encourage active participation, critical thinking, and the exchange of ideas. By engaging in dialogue and debate, students deepen their understanding of course material and develop higher-order thinking skills. In collaborative settings, students have the opportunity to articulate their thoughts, test their ideas against those of their peers, and construct new knowledge through dialogue and debate. In addition to fostering academic growth, collaborative learning enhances students' interpersonal skills and emotional intelligence. By working collaboratively, students learn to communicate effectively, resolve conflicts, and appreciate diverse perspectives. These skills are invaluable in the workplace and in everyday life, equipping students with the tools they need to thrive in a complex and interconnected world (Bonk & Cunningham, 2012; Isaacs, 2013).

While each student-centered approach offers unique benefits and challenges, their integration can lead to powerful synergies that enhance the overall learning experience. By combining the active engagement of flipped classrooms, the real-world relevance of project-based learning, and the collaborative spirit of collaborative learning techniques, educators can create dynamic, inclusive, and transformative learning environments that empower students to succeed academically and beyond (Venugopal & Vinoth, 2024). Moreover, the integration of technology can further amplify the effectiveness

of student-centered approaches, providing students with access to digital resources, interactive tools, and online collaboration platforms that facilitate personalized learning and global connectivity. Ultimately, by embracing student-centered approaches, educators can cultivate a culture of curiosity, creativity, and lifelong learning that prepares students to thrive in the 21st century (Swargiary & Roy, 2023).

Comparative Analysis between Traditional vs. Modern Methods

Comparative analysis between traditional and modern teaching methods focuses on various aspects of pedagogy (Sharma et al., 2024), including instructional techniques, learning environments, student engagement, assessment methods, and the role of technology as shown in below table 1.

Table 1
Comparative Analysis between traditional vs. modern methods

Field	Traditional Methods	Modern Methods	References
Instructional Techniques	**Teacher-Centered Instruction:** The teacher is the primary source of knowledge, delivering lectures while students passively receive information. **Direct Instruction:** Emphasis on rote memorization and repetition. **Uniform Curriculum:** Standardized content with little room for customization based on student needs or interests.	**Student-Centered Learning:** Focus on active learning, where students participate in discussions, projects, and problem-solving activities. **Inquiry-Based Learning:** Encourages critical thinking and exploration. Students ask questions, conduct research, and draw conclusions. **Differentiated Instruction:** Tailors teaching methods and materials to accommodate diverse learning styles and abilities.	Serin, 2018; Mascolo, 2009
Learning Environments	**Fixed Classroom Settings:** Physical classrooms with desks arranged in rows, fostering a formal learning environment. **Scheduled Learning:** Strict schedules with fixed periods for each subject. **Limited Resources:** Reliance on textbooks and chalkboards/whiteboards as primary teaching aids.	**Flexible Learning Spaces:** Classrooms designed for collaboration, with movable furniture and technology integration. **Blended Learning:** Combination of in-person and online learning experiences. **Rich Resources:** Use of digital tools, multimedia, online resources, and interactive whiteboards.	Arseven, et al., 2016 Lancaster, 2017

Student Engagement	**Passive Learning:** Students primarily listen and take notes, with limited opportunities for interaction. **Uniform Pace:** All students are expected to progress at the same rate, regardless of individual differences. **Limited Feedback:** Periodic assessments with delayed feedback, often in the form of grades	**Active Learning:** Students engage in hands-on activities, group work, and interactive discussions. **Personalized Learning:** Students can progress at their own pace with personalized learning paths. **Continuous Feedback:** Frequent and immediate feedback through formative assessments, peer reviews, and digital platforms.	Abdel Meguid, & Collins, 2017 Brown, 2022
Assessment Methods	**Summative Assessment:** Emphasis on end-of-term exams and standardized tests to evaluate student performance. **Quantitative Evaluation:** Focus on numerical grades and scores. Single Assessment Types: Mostly written tests and quizzes.	**Formative Assessment:** Ongoing assessments to monitor student progress and provide feedback. **Qualitative Evaluation:** Includes portfolios, project work, presentations, and self-assessments. **Diverse Assessment Methods:** Use of various assessment tools like online quizzes, peer assessments, and real-world projects.	
Role of Technology	**Minimal Technology:** Limited use of technology, often restricted to basic computer labs or occasional multimedia presentations. **Analog Tools:** Predominantly paper-based resources and physical textbooks.	**Integrative Technology:** Extensive use of digital tools, educational software, and online platforms. **Digital Literacy:** Emphasis on teaching students how to effectively use technology for learning and research. **Virtual Learning Environments:** Use of Learning Management Systems (LMS) and virtual classrooms to facilitate remote learning.	Agrahari, 2016 Hirumi, 2002

Teacher and Student Roles	**Teacher as Authority:** The teacher is seen as the expert and primary authority in the classroom. **Student as Learner:** Students are receivers of information, with limited autonomy in their learning process.	**Teacher as Facilitator:** The teacher guides, supports, and mentors' students, encouraging independent thinking. **Student as Active Participant:** Students take an active role in their own learning, collaborating with peers and contributing to the learning process.	Shofer, 2020 Emaliana, 2017

Note: This table provides a comparative overview of traditional and modern teaching methods across various educational fields, illustrating the shift in instructional techniques, learning environments, student engagement, assessment methods, technology integration, and the roles of teachers and students.

Hence, the shift from traditional to modern teaching methods reflects broader changes in educational philosophy and the integration of technology into everyday life. While traditional methods provide structure and consistency, modern methods offer flexibility and adaptability, catering to diverse learning needs and preparing students for a rapidly changing world (Crawford & Jenkins, 2017). A balanced approach that incorporates elements of both can optimize learning outcomes and foster a more engaging and effective educational experience. Studies examining the effectiveness of blended learning models, personalized learning platforms, and adaptive technologies offer promising insights into optimizing instructional strategies for diverse learner needs and preferences. Moreover, ongoing research into the neuroscientific principles of learning, cognitive psychology, and educational technology underscores the importance of evidence-based approaches in designing effective teaching and learning environments (Alamri et al., 2021; Castro, 2019).

By embracing student-centered pedagogies, leveraging technology, and fostering collaborative learning environments, educators can create dynamic, interactive, and inclusive classrooms that empower students to succeed in the 21st century.Top of FormBottom of Form

Benefits and Challenges of Modern Teaching Methods

In the evolving landscape of education, the shift from traditional to modern teaching methods represents a significant transformation. Traditional methods, characterized by teacher-centered instruction, standardized curricula, and passive learning, have long been the cornerstone of educational practices (Ware, 2006). However, modern teaching methods, driven by technological advancements and a deeper understanding of student learning behaviors, are increasingly being adopted to enhance the educational experience (Bangara, 2022). Modern teaching methods emphasize

interactivity, engagement, and personalization, aiming to cater to diverse learning styles and needs. These methods incorporate a variety of tools and strategies, from digital platforms and multimedia resources to project-based learning and real-time feedback systems. By fostering active participation and tailoring learning experiences to individual students, modern teaching methods promise to create a more dynamic and effective educational environment. Despite the clear advantages, such as increased interactivity and personalized learning experiences, the transition to modern teaching methods also presents several challenges (Zmuda, et al., 2015). These include the need for significant resources, teacher training, and the management of technology-related issues. Addressing these challenges is crucial to fully realizing the potential benefits of modern teaching practices. By understanding both the benefits and the hurdles, educators can better navigate the transition and optimize teaching strategies for the 21st-century classroom.

Advantages of Modern Teaching Methods

Modern teaching methods offer several advantages over traditional approaches, making education more effective and engaging. These methods leverage technology, emphasize student-centered learning, and foster critical thinking and collaboration. Table 2 below shows that key benefits include improved student engagement, enhanced understanding of complex concepts and the development of essential 21st century skills such as digital literacy and teamwork

Table 2

Advantages of Modern Teaching Methods

	Advantages	**References**
Increased Interactivity and Engagement	**Active Participation:** Modern methods encourage students to engage actively through discussions, group projects, and hands-on activities, making learning more dynamic. **Enhanced Motivation:** Interactive activities, such as gamification and digital simulations, increase students' motivation and interest in subjects. **Improved Understanding:** Engaging strategies help students grasp and retain information better. Tools like educational games and simulations make complex concepts more accessible. **Collaboration Skills:** Group work and collaborative projects enhance teamwork and communication skills, vital for future careers. **Immediate Feedback:** Digital platforms offer real-time feedback, allowing students to learn from mistakes promptly.	Chans & Portuguez Castro, 2021; Saleem et al., 2022

Personalized Learning Experiences	**Individual Pace:** Personalized learning allows students to progress at their own speed, ensuring a solid understanding before moving forward. **Catered to Learning Styles:** Modern methods can adapt to various learning styles, whether visual, auditory, or kinesthetic. **Focused Attention:** Teachers can provide more individualized support, addressing specific student needs and strengths. **Increased Autonomy:** Students gain more control over their learning, fostering independence and self-directed learning. **Higher Engagement:** Personalized learning often leads to greater student engagement, as the material is more relevant to individual interests and needs.	Suparman & Irsandi, 2022; Wehmeyer, 2019

Note: This table outlines the advantages of modern teaching methods, emphasizing increased interactivity, engagement, and personalized learning experiences.

Challenges and Limitations of Modern Teaching

While modern teaching methods offer many benefits, they also have challenges and limitations. Integrating technology in the classroom can be expensive and requires ongoing maintenance and training. In addition, the shift to student-centered learning demands more effort from educators to design personalized and engaging lessons. These challenges (Table 3) highlight the need for careful planning and support to maximize the effectiveness of modern teaching methods.

Table 3

Challenges and limitations of modern teaching

	Challenges and Limitations	**References**
Technological Barriers and Accessibility Issues	**Resource Intensive:** Implementing interactive and personalized methods requires significant resources, including technology, infrastructure, and training. **Access Inequality:** Not all students have equal access to necessary technology, leading to potential inequities in learning opportunities. **Technical Problems:** Dependence on technology can cause disruptions due to connectivity issues, software glitches, or hardware malfunctions. **Security Concerns:** Increased use of digital tools raises concerns about data privacy and cybersecurity.	Alamri, 2021; Gonzales, 2020

Resistance to Change Among Educators	**Adaptation Difficulty:** Teachers accustomed to traditional methods may find it challenging to adapt to new technologies and teaching strategies. **Training Needs:** Effective implementation of modern methods requires extensive teacher training, which can be time-consuming and costly. **Change Management:** Overcoming resistance to change involves addressing fears and uncertainties about new teaching practices and their efficacy. **Consistency:** Ensuring consistent use of modern methods across different teachers and classrooms can be difficult, impacting the overall effectiveness.	Gumartifa et al., 2023; Barkley et al., 2014

Modern teaching methods, with their emphasis on interactivity, engagement, and personalized learning, offer significant advantages over traditional approaches. However, the transition to these methods presents challenges, including technological barriers and resistance to change among educators. Addressing these challenges is essential for fully realizing the potential benefits of modern teaching practices and creating an optimized learning experience for students in the 21st century.

The Role of Teachers in Modern Education

Adapting to New Technologies

Adapting to new technologies is a multifaceted process that requires teachers to be both learners and innovators. One key aspect is the effective integration of digital tools into lesson plans. For instance, utilizing educational apps and online resources can make subjects like math and science more engaging through interactive simulations and virtual labs. Additionally, platforms like Google Classroom or Microsoft Teams enable seamless communication and collaboration between teachers and students, enhancing the overall learning experience (Aust et al., 1997). Moreover, teachers need to be adept at using data analytics provided by educational software to monitor student progress and identify areas where additional support is needed. This data-driven approach allows for more personalized instruction, addressing the unique learning styles and paces of individual students (Papadopoulos & Hossain, 2023). The adoption of technologies such as artificial intelligence (AI) and virtual reality (VR) also opens up new possibilities for immersive learning experiences. For example, VR can transport students to historical events or distant planets, making learning more tangible and memorable. However, this shift requires teachers to continuously update their technical skills and remain open to experimenting with new tools and methodologies (Anwar et al., 2023).

Continuous Professional Development

Continuous Professional Development (CPD) is crucial for teachers to maintain and enhance their teaching efficacy. This development is not just

about acquiring new skills but also about fostering a culture of lifelong learning. Engaging in CPD can include activities such as attending educational conferences, participating in webinars, and joining professional organizations. These opportunities allow teachers to stay informed about the latest trends and research in education (Saleem et al., 2021). Additionally, mentorship programs can be a valuable component of CPD. Experienced teachers can mentor newer colleagues, providing guidance and sharing best practices, while also gaining fresh perspectives themselves. Action research, where teachers systematically investigate their own practice and its impact on student learning, is another powerful CPD tool. This reflective practice helps teachers to continuously improve and adapt their teaching strategies based on empirical evidence. Furthermore, CPD can encompass learning about inclusive education practices. Understanding how to support students with diverse needs, including those with learning disabilities, English language learners, and gifted students, is vital. Professional development in this area ensures that all students have equitable access to high-quality education (Bendtsen et al., 2022).

Balancing Traditional and Modern Techniques

Balancing traditional and modern techniques requires teachers to be both custodians of time-tested methods and pioneers of innovative practices. Traditional methods, such as lecture-based instruction and memorization, are often effective for establishing foundational knowledge and ensuring mastery of essential skills. These techniques provide structure and discipline, which are important for student development (Justice, 2015). However, modern educational philosophies emphasize the importance of critical thinking, creativity, and collaboration. Flipped classrooms, where students review lecture materials at home and engage in hands-on activities in class, exemplify how traditional and modern methods can complement each other (Collinson & Cook, 2006).

Project-based learning (PBL) is another example of a modern technique that can be blended with traditional methods. In PBL, students work on complex, real-world projects that require them to apply knowledge from various subjects. This approach not only helps students develop practical skills but also promotes a deeper understanding of content (Eliyasni, 2019). Traditional assessments, such as tests and quizzes, can be used alongside PBL to ensure that students retain core knowledge while also developing higher-order thinking skills (Almulla, 2020). Creating a supportive and inclusive classroom culture is essential for the success of any teaching method. By fostering a positive learning atmosphere and building strong relationships with students, teachers can effectively combine traditional and modern approaches to maximize student engagement and achievement (Roorda et al., 2011).

Future Trends in Teaching Methods

Potential Innovations

Artificial Intelligence and Adaptive Learning Systems

Artificial Intelligence (AI) is transforming education by creating personalized learning experiences tailored to individual students' needs. Adaptive learning systems, driven by AI, continuously analyze a student's performance in real-time, identifying their strengths and weaknesses. These systems can dynamically adjust the curriculum, providing additional resources or more challenging material as required (Hashim et al., 2021). This adaptive approach helps students learn at their own pace and in their preferred style, leading to improved academic outcomes and greater student satisfaction. Immediate feedback is another critical feature, with adaptive systems providing instant responses to student work, helping them understand their mistakes and learn from them immediately. Data-driven insights offer educators detailed analytics on student performance, allowing them to identify trends, address issues promptly, and tailor their teaching strategies accordingly. Enhanced engagement is achieved through content that matches student interests and levels, increasing motivation and participation. Moreover, AI supports diverse learners by catering to different learning needs, including students with disabilities, providing appropriate resources and accommodations (Rane et al., 2023; Chen et al., 2020).

Examples of AI applications in education are numerous and diverse. Smart content development involves AI creating digital textbooks that update in real-time and are tailored to the learning pace of each student. Intelligent Tutoring Systems (ITS) simulate human tutors by offering personalized feedback and guidance, improving the effectiveness of self-study. AI-enhanced Learning Management Systems (LMS) automate administrative tasks such as grading and attendance tracking, freeing up educators to focus more on teaching. These LMS platforms can also personalize learning experiences, providing tailored recommendations and resources for each student based on their performance and preferences (Alam, 2021).

Moreover, AI-driven predictive analytics can forecast student outcomes and identify those at risk of falling behind, enabling early interventions. Natural language processing (NLP) technologies allow for more advanced interactions between students and educational platforms, such as AI-powered chatbots that can answer student queries in real-time or provide additional explanations and resources. AI also enables the development of virtual teaching assistants that can support classroom management and administrative tasks, allowing teachers to dedicate more time to direct instruction and student interaction. By integrating these advanced AI capabilities, the future of education becomes more efficient, personalized, and capable of meeting the diverse needs of all learners (Kim et al., 2020).

Virtual and Augmented Reality in Classrooms

Virtual Reality (VR) and Augmented Reality (AR) technologies are poised to transform education by providing immersive and interactive learning experiences. These technologies enable students to engage with content in new and innovative ways, making learning more engaging and effective. VR and AR can create realistic simulations and visualizations that help students understand complex concepts and apply their knowledge in practical scenarios (Al-Ansi et al., 2023). Virtual Reality (VR) offers fully immersive experiences that transport students to different environments, enabling experiential learning that would be impossible in a traditional classroom. For example, VR can take students on virtual field trips to historical sites, outer space, or the ocean depths, providing them with a firsthand experience of these locations. VR can also be used to create virtual laboratories where students can conduct experiments in a safe and controlled environment. This is particularly valuable for subjects like chemistry and physics, where certain experiments may be too dangerous or costly to perform in real life. Additionally, VR can be employed for skill training in fields such as medicine, engineering, and aviation, offering hands-on practice in simulated scenarios that mimic real-world conditions (Xie et al., 2021).

Augmented Reality (AR), on the other hand, enhances the real world by overlaying digital information onto physical objects and environments. AR can bring textbooks to life by adding 3D models, videos, and interactive elements that enhance the learning experience. For example, when studying anatomy, students can use AR to view and interact with 3D models of the human body, exploring different systems and organs in detail. AR can also be used for interactive simulations, such as dissecting a virtual frog or exploring the inner workings of a mechanical engine. This hands-on interaction with content helps students better understand and retain information (Hung et al., 2021).

Advanced applications of VR and AR in education include collaborative virtual environments where students can work together on projects and solve problems in a shared space, regardless of their physical location. This fosters teamwork and communication skills while providing a platform for social learning. Moreover, VR and AR can be integrated with AI to create intelligent virtual tutors that guide students through lessons, provide feedback, and adapt to their learning pace and style (Alam, 2023). The integration of VR and AR in education also supports differentiated instruction by catering to diverse learning styles. Visual learners, for example, can benefit from AR's ability to provide detailed visualizations, while kinesthetic learners can engage with VR's interactive simulations (Chen et al., 2020). Furthermore, these technologies can increase student motivation and engagement by making learning more fun and interactive. Gamification elements, such as virtual rewards and challenges, can be incorporated into VR and AR experiences to further motivate students and

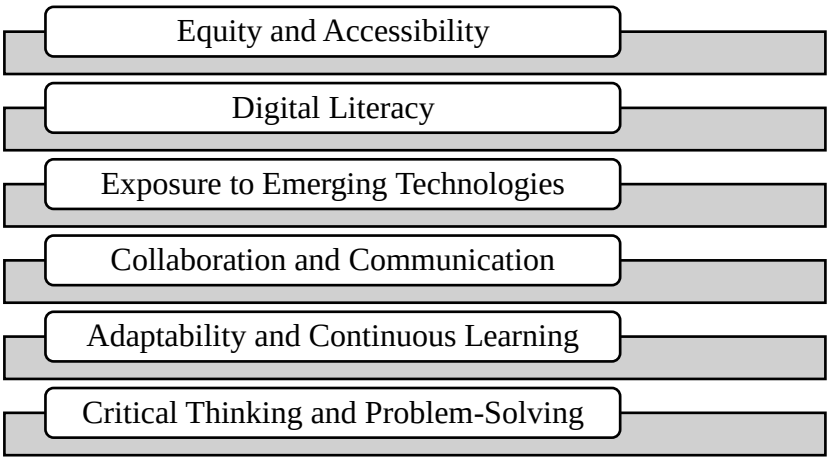
enhance their learning experience. By leveraging these technologies, educators can create more dynamic and effective learning environments that cater to the diverse needs of students, ultimately leading to better educational outcomes (Lampropoulos & Kinshuk, 2024).

Long-term Impact on Education

Preparing Students for the Digital Age

The integration of advanced technologies such as Artificial Intelligence (AI), Virtual Reality (VR), and Augmented Reality (AR) in education is crucial for preparing students for the digital age. As the world becomes increasingly digital, it is essential that students develop the skills and knowledge necessary to thrive in this environment. The long-term impact of these technologies on education includes equipping students with digital literacy, fostering critical thinking and problem-solving skills, and promoting adaptability and continuous learning (Gandedkar et al., 2021) as shown in figure 4.

Figure 4
Long-term impact of technologies



Note: Long-term impacts underscore the transformative potential of technology in education, shaping an adaptable, inclusive, and future-ready learning environment.

In the digital age, understanding and effectively using technology is fundamental. Integrating AI, VR, and AR into the classroom helps students become proficient with these technologies, making them comfortable and confident digital citizens. For instance, students learn to navigate AI-driven platforms, use VR for immersive learning experiences, and engage with AR applications. These experiences build a strong foundation in digital literacy, which includes not only technical skills but also an understanding of digital ethics, cybersecurity, and the ability to critically evaluate online information (Dai et al., 2020). Technologies like AI, VR, and AR enhance students' ability to think critically and solve complex problems. VR and AR provide

immersive environments where students can engage in simulations that require problem-solving, such as virtual lab experiments or historical explorations. These experiences develop students' analytical skills and their ability to approach problems methodically and creatively (Serrano-Ausejo & Mårell-Olsson, 2024).

The rapid pace of technological advancement means that the skills required in the workforce are continually evolving. By incorporating AI, VR, and AR into education, students learn to adapt to new technologies and environments. This adaptability is crucial for lifelong learning, as it enables students to continuously acquire new skills and knowledge throughout their careers (Rangel-de Lazaro & Duart, 2023). Moreover, these technologies can foster a growth mindset, encouraging students to embrace VR and AR can create collaborative virtual environments where students work together on projects, communicate effectively, and solve problems as a team, regardless of their physical locations (Bower et al., 2017). This experience is invaluable for preparing students for the modern workplace, where remote work and global teams are increasingly common. Introducing students to AI, VR, and AR exposes them to the technologies that are shaping the future. This early exposure can spark interest in STEM (Science, Technology, Engineering, and Mathematics) fields, encouraging more students to pursue careers in these areas. It also ensures that students are aware of the latest technological trends and innovations, preparing them to be informed and proactive participants in the digital economy. Technologies like AI can help bridge educational gaps by providing personalized learning experiences that cater to diverse student needs (Maghsudi et al., 2021). VR and AR can make learning more accessible by offering alternative ways to engage with content, which can be particularly beneficial for students with different learning styles or disabilities. This inclusivity ensures that all students have the opportunity to develop the skills necessary for success in the digital age (Wu et al., 2013).

In conclusion, the long-term impact of integrating AI, VR, and AR in education extends beyond immediate learning outcomes. By fostering a culture of continuous learning and exposing students to emerging technologies, education systems can ensure that students are well-equipped to navigate and succeed in an increasingly digital world.

Evolving teacher roles and responsibilities

As technology transforms the educational landscape, the roles and responsibilities of teachers are evolving significantly. This evolution is characterized by a move from traditional teaching methods to more facilitative, mentorship, and technology-integrated roles (Pashler et al., 2018).

Facilitators of Learning: In the digital age, teachers are increasingly becoming facilitators rather than mere providers of knowledge. With AI and adaptive learning systems delivering personalized instruction, teachers can

focus on guiding students through their learning journeys. They can help students set learning goals, monitor progress, and provide targeted support and encouragement. This shift allows teachers to address individual student needs more effectively, fostering a more student-centered learning environment (Greenhow et al., 2019; Wheeler, 2015).

Mentors and Coaches: Teachers are also taking on the role of mentors and coaches, helping students develop critical thinking, problem-solving, and lifelong learning skills. In a technology-rich classroom, teachers can guide students in how to use digital tools responsibly, critically evaluate information, and collaborate with peers. By focusing on these higher-order skills, teachers prepare students for the challenges of the digital age, beyond the acquisition of factual knowledge (Ali et al.,2018; Vikaraman et al.,2017).

Technology Integrators: As the use of VR, AR, and AI becomes more prevalent in education, teachers must become proficient in integrating these technologies into their lessons. This involves not only understanding how to use these tools but also how to leverage them to enhance learning outcomes. Teachers need to design and implement technology-enhanced activities that are engaging, interactive, and aligned with curriculum standards. Continuous professional development is essential to help teachers stay updated with the latest technological advancements and pedagogical strategies (Pedro et al., 2019).

Data Analysts: With the advent of AI and data analytics in education, teachers now have access to a wealth of data on student performance and learning behaviors. Analyzing this data allows teachers to make informed decisions about their instructional strategies. They can identify trends, detect early signs of learning difficulties, and adjust their teaching methods accordingly. This data-driven approach enables more effective and responsive teaching, ensuring that each student's needs are met (Zhai et al., 2021).

Collaborative Partners: The evolving educational landscape encourages greater collaboration among teachers, students, parents, and the community. Teachers are increasingly working in teams, sharing best practices, and co-developing curriculum materials that integrate technology. Collaboration extends beyond the school environment, with teachers engaging with parents and guardians to support student learning at home. This holistic approach ensures a consistent and supportive learning experience for students (Clandinin et al., 2009).

Advocates for Equity and Inclusion: As technology offers new opportunities for personalized and accessible learning, teachers play a crucial role in advocating for equity and inclusion. They must ensure that all students have access to the necessary technological resources and support. Teachers can use technology to provide differentiated instruction, accommodate

diverse learning needs, and create an inclusive classroom environment where every student can succeed (Eden et al., 2024).

Ethical Guides: In a world where digital ethics and online safety are paramount, teachers are responsible for educating students about the ethical use of technology. This includes understanding issues such as data privacy, cyberbullying, and digital footprints. Teachers must model and teach responsible digital behavior, helping students navigate the complexities of the digital world safely and ethically (Dambrosio, 2021).

In summary, the long-term impact of technology on education includes a significant evolution in the roles and responsibilities of teachers. From facilitators and mentors to technology integrators and data analysts, teachers are adapting to new demands and opportunities presented by advanced technologies. This evolution not only enhances teaching effectiveness but also prepares students for success in the digital age, ensuring that they develop the skills and knowledge necessary to thrive in a rapidly changing world.

Conclusion

The evolution of teaching methods from traditional, teacher-centered approaches to modern, technology-enhanced, and student-centered strategies marks a transformative shift in education. Traditional methods, with lectures and textbooks, established a foundational structure, while transitional tools like whiteboards and multimedia introduced interactivity. Today, digital tools such as smartboards, tablets, and online platforms provide personalized, flexible, and engaging learning experiences, catering to diverse learning styles and preparing students for a digital world. Student-centered methods like project-based and collaborative learning empower students to take ownership of their education, enhancing critical thinking and problem-solving skills.

The integration of emerging technologies, including AI, VR, and AR, promises further transformation by enabling personalized learning, immersive experiences, and real-time feedback. These technologies equip students with digital literacy and adaptability, essential for the modern workforce. Teachers' roles are evolving from knowledge providers to facilitators and mentors, requiring proficiency in data analytics, collaboration, and advocacy for equity in education. A balanced integration of traditional and modern methods will create adaptable, inclusive learning environments that prepare students for lifelong success. This progression highlights valuable insights for educators and policymakers to enhance educational practices and outcomes.

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IMPACT OF AUTONOMY-SUPPORTIVE AND CONTROLLING TEACHER EVENTS ON STUDENT MOTIVATION: A SELF-DETERMINATION THEORY FRAMEWORK

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Abstract: This review introduces a novel perspective on how teacher-initiated social and environmental events influence student motivation through the framework of Self-Determination Theory (SDT) and its sub-theory, Cognitive Evaluation Theory (CET). Objective of this study is to discourse the empirical evidence of what teachers say and do during instruction and student's intrinsic resources. By focusing on the satisfaction of three core psychological needs—autonomy, competence, and relatedness—this review presents a comprehensive analysis of how autonomy-supportive and controlling teacher behaviours shape students' intrinsic motivation, engagement, and academic outcomes. Autonomy-supportive events, which empower students through choice and constructive feedback, foster positive educational results such as increased motivation, engagement, and well-being. In contrast, controlling events such as rigid rules, external reward that pressure students diminish motivation and lead to disengagement. This review offers fresh insights into practical applications for creating supportive classroom environments and highlights the critical role of professional development in equipping teachers with the skills needed to implement autonomy-supportive practices. By integrating SDT and CET, the review provides a new understanding of how these frameworks can be applied to promote sustained motivation and long-term academic success.

Keywords: *Self-determination theory, cognitive evaluation theory, student motivation, autonomy support, teacher-implemented social and environmental events*

Introduction

Motivating students to engage in meaningful learning is one of the most critical challenges in education today. Teachers play a key role in this process, as their behaviors and the social and environmental events they introduce can significantly influence students' motivation. Grounded in Self-Determination Theory (SDT), developed by Deci and Ryan (1985), this review aims to explore the downstream effects of teacher-initiated events on student motivation. SDT asserts that motivation is driven by the satisfaction of three basic psychological needs: autonomy (feeling of control over one's

actions), competence (feeling effective and capable), and relatedness (feeling connected to others). When these needs are supported in the classroom, intrinsic motivation—engaging in learning for its own sake—is enhanced, leading to better academic outcomes and overall well-being (Ryan & Deci, 2000).

Research Problem:

Despite the proven benefits of fostering intrinsic motivation, many teachers continue to adopt controlling behaviors that undermine students' psychological needs, leading to disengagement and lower academic achievement (Reeve, 2009). These controlling behaviors often include rigid rules, external rewards, and pressure to perform, which negatively affect students' sense of autonomy and competence (Deci et al., 1999). Most of the Sri Lankan teachers inclined to controlling behaviors and they use rigid rules, external reward such as prize etc.

Objective of the Study:

The primary objective of this review is to investigate how teacher-implemented social and environmental events, framed through the lenses of SDT and its sub-theory Cognitive Evaluation Theory (CET), impact student motivation and engagement. Specifically, this review will analyze the effects of autonomy-supportive and controlling teacher practices on students' intrinsic motivation and academic outcomes. It will also provide practical recommendations for fostering more autonomy-supportive classrooms and emphasize the importance of professional development programs that equip teachers with the necessary skills to implement these strategies.

Theoretical Basis:

Self-Determination Theory (SDT) provides the theoretical foundation for this study, emphasizing the importance of autonomy, competence, and relatedness in fostering intrinsic motivation (Deci & Ryan, 2000). Cognitive Evaluation Theory (CET), a sub-theory of SDT, focuses on how social and environmental factors, particularly teacher behaviors, affect intrinsic motivation by influencing students' perceptions of autonomy and competence (Deci, Vallerand, Pelletier, & Ryan, 1991). Autonomy-supportive environments—where teachers offer choices, provide meaningful feedback, and acknowledge students' feelings—enhance intrinsic motivation and engagement (Deci & Ryan, 1985). In contrast, controlling environments—where teachers use pressure, rewards, or punishments—thwart these needs, leading to lower motivation and reduced academic success (Reeve, 2009).

Background of the Study:

Research has shown that classrooms that support students' psychological needs for autonomy, competence, and relatedness are associated with higher levels of intrinsic motivation, engagement, and academic performance (Niemiec & Ryan, 2009). Autonomy-supportive teaching practices, such as

offering students choices in their learning and providing feedback that emphasizes effort and improvement, have been linked to greater motivation and well-being (Jang, Reeve, & Deci, 2010). However, many teachers continue to rely on controlling strategies, often due to institutional pressures or a lack of awareness of alternative approaches (Assor, Kaplan, & Roth, 2002). By focusing on the downstream effects of teacher behaviors, this review seeks to bridge the gap between theory and practice, offering insights into how educators can better support student motivation.

In summary, this review will examine how teacher-implemented events, either autonomy-supportive or controlling, impact students' motivational processes. By analyzing the implications of these behaviors through SDT and CET, this review will provide valuable insights into improving teaching practices to foster sustained motivation and academic success in students.

Methodology:

This review employs a structured analysis of empirical studies that examine the downstream effects of teacher-initiated social and environmental events on student motivation, focusing on Self-Determination Theory (SDT) and Cognitive Evaluation Theory (CET). The methodology follows a comprehensive approach, synthesizing findings from peer-reviewed journal articles and empirical studies in the field of educational psychology to provide a coherent framework for understanding the influence of autonomy-supportive and controlling teacher behaviors on students' intrinsic motivation, engagement, and academic outcomes.

Data Collection and Study Selection

The studies included in this review were selected based on specific inclusion criteria:

1. The studies had to focus on the impact of teacher behaviors (autonomy-supportive or controlling) on student motivation.
2. Studies employing SDT and/or CET as the theoretical framework were prioritized.
3. Empirical studies with quantitative, qualitative, or mixed-methods approaches were included.
4. The studies were published in peer-reviewed journals within the last two decades to ensure relevance to current educational practices.

Databases such as "PsycINFO", "ERIC", "Google Scholar", and "JSTOR" were used to identify studies. Search terms included combinations of the following keywords: "Self-Determination Theory," "Cognitive Evaluation Theory," "teacher autonomy support," "controlling teaching behaviors," "student motivation," and "academic outcomes."

Population and Sampling Method:

The primary population of interest in the reviewed studies included students from diverse educational levels, predominantly middle school and secondary school students (Grades 6–12). The studies often took place in classroom settings, where teacher behaviors were observed or reported, and student motivation was measured through self-reported surveys or direct observation. Sampling methods in these studies were typically random or stratified, ensuring that various demographic groups (e.g., gender, socioeconomic background, and academic ability) were represented to generalize the findings.

For instance, in a study by Jang, Reeve, and Deci (2010), a sample of 500 middle school students was randomly selected to participate in a longitudinal survey examining the effects of autonomy-supportive teaching on motivation and academic achievement. Other studies, like that of Assor, Kaplan, and Roth (2002), used stratified sampling to ensure diversity across schools in different socioeconomic contexts. This ensures that the findings are applicable to a broader student population, enhancing external validity.

Measures and Instruments:

The studies reviewed utilized a range of validated instruments to measure student motivation, teacher behavior, and student outcomes. A common tool used to assess motivation was the *Self-Regulation* Questionnaire *(SRQ)*, which measures intrinsic and extrinsic motivation in educational settings (Deci & Ryan, 2000). In many cases, teachers' autonomy-supportive or controlling behaviors were measured using the *Teacher as Social Context Questionnaire (TASC-Q)*, which assesses how much autonomy, competence, and relatedness teachers provide to their students (Belmont, Skinner, Wellborn, & Connell, 1992).

Additionally, student engagement and academic performance were often measured through classroom observations, self-reports, and academic achievement records (Niemiec & Ryan, 2009). Observational data, as used by Reeve and Jang (2006), provided direct evidence of teacher behaviors, while student self-reports offered insights into their subjective experiences of motivation and engagement.

Analytical Techniques:

A variety of analytical techniques were employed in the reviewed studies to assess the relationships between teacher behaviors and student outcomes. These included both quantitative and qualitative methods. Quantitative analysis methods frequently used included regression analysis, which was applied to assess the impact of autonomy-supportive and controlling teaching on motivation and academic performance. Structural equation modeling (SEM) was also commonly used to explore complex relationships between multiple variables, such as in the study by Reeve and Jang (2006), which

analyzed how teacher autonomy support predicted changes in students' intrinsic motivation over time.

Qualitative data, such as interview responses and classroom observations, were analyzed using thematic analysis, which allowed researchers to identify patterns and themes in teacher-student interactions. For example, thematic analysis was used by Assor et al. (2002) to identify specific controlling behaviors that negatively impacted student motivation.

Internal and External Validity:

Internal Validity:

The internal validity of the studies was generally strong due to the use of reliable and validated instruments (e.g., SRQ, TASC-Q) and well-controlled experimental designs. Many studies employed longitudinal designs, which strengthened causal inferences by tracking changes in student motivation over time. Random assignment of participants or classrooms to experimental and control conditions further enhanced internal validity by minimizing selection bias (Jang et al., 2010). However, some studies relied on self-reported data, which could introduce biases such as social desirability or recall bias.

External Validity:

External validity was supported through the diverse sample populations across studies, including different age groups, school types, and geographic locations. This diversity ensures that the findings can be generalized to various educational settings. For example, the stratified sampling method used by Assor et al. (2002) ensured representation across different socioeconomic groups, enhancing the applicability of the results beyond a single context. However, it should be noted that most of the studies focused on Western or developed country contexts, which may limit generalizability to other cultural or educational settings.

Conclusion on Methodology:

In conclusion, the methodological approaches in the reviewed studies ensured rigorous examination of the effects of teacher instructional behaviors on student motivation, with strong internal and external validity. By utilizing a combination of self-reports, classroom observations, and academic performance measures, these studies provided a comprehensive understanding of how autonomy-supportive versus controlling teacher behaviors impact student motivation and outcomes. The application of validated instruments and diverse sampling methods further enhanced the robustness of the findings.

Analysis

Self-Determination Theory

Self-Determination Theory (SDT), developed by Deci and Ryan (1985, 2000), posits that human motivation is influenced by the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. Autonomy refers to the need to feel in control of one's actions, competence involves the need to feel effective and capable, and relatedness is the need to feel connected to others. When these needs are satisfied, individuals are more likely to experience intrinsic motivation, which is characterized by engagement and enjoyment in activities for their own sake.

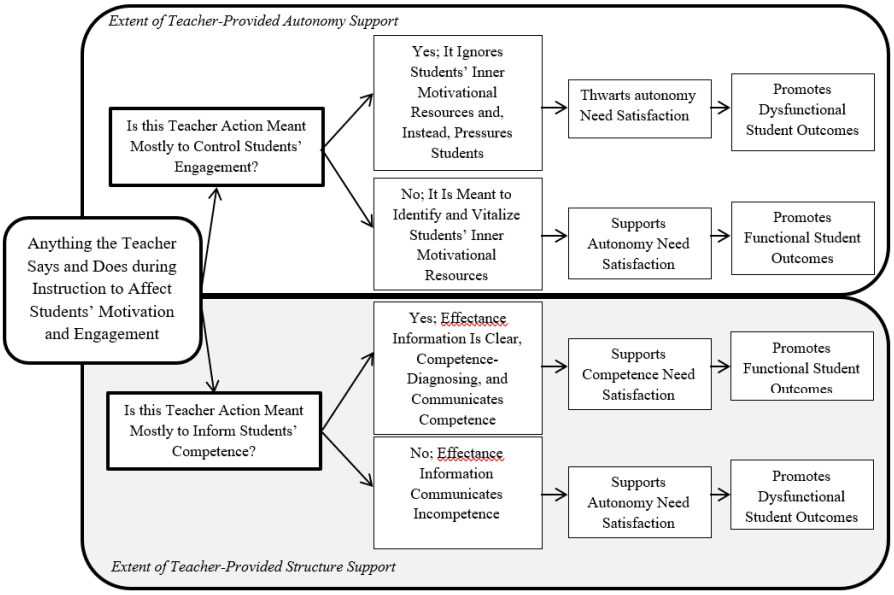
Cognitive evaluation theory is one of the five mini-theories within the broader self-determination theory framework (Ryan & Deci, 2002; Vansteenkiste, Niemiec, & Soenens, 2010). Its goal is to predict how any teacher-initiated social or environmental event will influence students' motivation. The theory outlines when an instructional event designed to motivate and engage students will enhance motivation (if seen as informational) versus when it will hinder motivation (if seen as controlling). It has been applied to forecast the positive or negative motivational impacts of rewards (Deci, Koestner, & Ryan, 1999), praise (Henderlong & Lepper, 2002; Ryan, 1982), rules (Koestner, Ryan, Bernieri, & Holt, 1984), feedback (Vallerand & Reid, 1984), and competition (Reeve & Deci, 1996). The theory's key insight is that the motivating or demotivating effect of an instructional event (e.g., reward, praise, and rule) depends not on the event itself but on the teacher's purpose behind it (whether to control behaviour or to inform competence).

An Analysis through Cognitive Evaluation Theory

Teachers introduce various "social and environmental events" to influence students' motivation and engagement. To spark initial interest in a learning activity, they might present a goal, rule, rationale, choice, incentive, directive, contract, schedule, deadline, request, or standard of excellence. To sustain engagement, teachers might use prompts, reminders, praise, encouragement, rewards, criticism, feedback, suggestions for improvement, tips, hints, strategies, offers of help, or coaching and mentoring techniques. Reeve and Cheon (2014) expanded cognitive evaluation theory's focus to encompass "anything the teacher says and does during instruction to affect students' motivation and emotion," as summarized in their framework in Fig. 1. Often, teachers aim to influence or control student behaviour through directives to encourage specific actions. Another goal is to provide feedback on the student's competence or progress in completing an assignment.

Figure 4

Cognitive evaluation theory analyses of the motivational implications of what teachers say and do during instruction



Cognitive evaluation theory highlights the dual role of teacher actions during instruction: controlling behaviour and informing competence. This theory, outlined by Deci and Ryan (1985), distinguishes between the "controlling aspect" and the "informational aspect" of instructional events. As depicted in the upper part of Fig. 1,

if students perceive praise or help as controlling, it disregards their inner motivational resources, instead pressuring them to comply with teacher expectations, thus undermining their autonomy and leading to negative outcomes. Conversely, if these actions are seen as energizing students' internal motivation, they support autonomy and foster positive outcomes. The critical factor in changing students' motivation is their perception of the teacher's intent, not the teacher's actual intention.

Teachers often aim to spark and maintain student engagement, defined as active involvement in learning activities (Christenson, Reschly, & Wylie, 2012). Engagement comprises four interconnected dimensions: behavioural (effort, attention, persistence), emotional (positive emotions, absence of anxiety), cognitive (use of strategic learning methods), and agentic (proactive contribution to instruction) (Fredricks, Blumenfeld, & Paris, 2004; Reeve, 2013). Engagement is a latent variable characterized by the shared variance among these aspects (Reeve & Lee, 2014), and Fig. 1 illustrates the classroom application of cognitive evaluation theory.

Global intervention programs aim to help teachers foster functional student outcomes (e.g., engagement) and reduce dysfunctional ones (e.g.,

amotivation). Functional outcomes result from nurturing students' inner motivational resources and satisfying their autonomy needs, while dysfunctional outcomes stem from neglecting and frustrating these resources. Teachers' motivational styles play a significant role in this process: a "controlling motivating style" focuses on behavioural control, while an "autonomy-supportive motivating style" enhances students' internal motivation (Reeve, 2009). Fig. 1 emphasizes why working on teachers' motivating styles is crucial for promoting student motivation and positive educational outcomes.

Additionally, the lower half of Fig. 1 is equally important, as it addresses teacher-provided structure, which involves giving clear guidance and information to help students develop skills and achieve goals (Farkas & Grolnick, 2010; Grolnick & Pomerantz, 2009). Lack of structure leads to confusion and impedes students' competence satisfaction, resulting in negative outcomes (Skinner, Zimmer-Gembeck, & Connell, 1998). Thus, effective structure from teachers promotes competence and functional outcomes, while confusion thwarts competence and leads to dysfunction.

Teachers motivating style and students' inner motivational resources

The two key explanatory constructs involved in the upper half of Fig. 1 are (1) what teachers say and do during instruction and (2) students' inner motivational resources.

Teachers' Motivating Style

All teachers face the challenge of motivating students to engage with and benefit from learning activities. For some, the controlling aspect of their approach is more prominent, while for others, the autonomy-supportive aspect is more noticeable. What often stands out to students is the teacher's tone—whether it feels like pressure or support. When these tones become consistent, they reflect the teacher's "orientation toward control versus autonomy" (Deci, Schwartz, Sheinman, & Ryan, 1981), or their "motivating style" (Reeve, 2009). This style is generally stable over time (Brekelmans, 1989; Cheon, Reeve, Yu, & Jang, 2014), ranging from a controlling style, which is prescriptive and insistent, to an autonomy-supportive style, which is respectful and encouraging (Deci et al., 1981).

A controlling motivating style is characterized by the teacher prescribing students' thoughts, feelings, and actions, and applying pressure to ensure compliance (Assor, Kaplan, Kanat-Maymon, & Roth, 2005; Reeve, 2009). This style involves behaviours such as using extrinsic motivators, pressuring language, neglecting rational explanations, pushing for quick results, and countering negative emotions (Reeve, 2009, 2011).

Conversely, an autonomy-supportive style involves adopting the student's perspective, respecting their initiatives, and encouraging their thoughts and feelings (Deci et al., 1981; Reeve, 2009). This style includes behaviours like

nurturing students' internal motivation, using informational language, providing rationales, showing patience, and acknowledging students' negative emotions (Reeve, 2009, 2011).

The motivating style of a teacher is crucial because students with autonomy-supportive teachers tend to show greater engagement, conceptual learning, achievement, and psychological well-being (Assor et al., 2002; Cheon, Reeve, & Moon, 2012; Reeve, 2009). Autonomy support benefits students by satisfying their psychological needs, particularly autonomy (Cheon et al., 2012; Reeve & Jang, 2006). Research has demonstrated that autonomy support causally enhances students' motivation and outcomes (Cheon & Reeve, 2013; Reeve, Nix, & Hamm, 2003). On the other hand, a controlling motivating style harms students by frustrating their psychological needs, particularly autonomy, and inducing negative emotions like anger and anxiety (Assor et al., 2002; Reeve & Tseng, 2011). This results in amotivation, restricted engagement, and impaired learning and well-being (Cheon & Reeve, 2014a; Soenens, Sierens, Vansteenkiste, Goossens, & Dochy, 2012).

Students' Inner Motivational Resources: The Fuel for Learning

Beyond external factors like teacher styles, students possess inherent inner motivational resources. When these resources are nurtured, they significantly boost engagement and learning. According to Reeve and Cheon (2021), an inner motivational resource is an inherent energizing and directing force that all students possess, regardless of age, gender, nationality, or academic ability. When supported, these resources invigorate engagement (e.g., effort, exploration, challenge seeking, interest, positive affect, cognitive elaborations, strategic thinking, initiative, agency) and enhance well-being. Six key resources, highly relevant to the classroom, are listed in Table 1, which also includes instructional strategies for each resource and supporting references.

Table 1

Six inner motivational resources each paired with an instructional strategy and supportive reference.

Inner Motivational Resource	**Instructional Strategy to Vitalize that Inner Motivational Resource**	**Supportive Reference**
Autonomy psychological Need	Offer students an opportunity for self-direction within the learning activity	Deci et al. (1982)
Competence psychological Need	Offer students an optimal challenge to strive for	Shapira (1976)

Relatedness psychological Need	Offer students an opportunity to engage in communal social interaction	Carvallo and Gabriel (2006)
Curiosity	Ask a curiosity-inducing question	Jang (2014)
Intrinsic goal	Frame the learning activity as an opportunity for personal growth or skill development	Vansteenkisteet al. (2005)
Self-endorsed value	Provide an explanatory rationale for why engagement in the learning activity is personally worthwhile	Jang (2008)

In the context of self-determination theory, these inner resources are the ultimate source of students' classroom engagement (Reeve, Deci, & Ryan, 2004). One such resource is the need for autonomy, an inherent psychological process that, when nurtured, drives the proactive desire for self-direction in behaviour initiation and regulation (Deci & Ryan, 1985). Autonomy involves being the origin of one's actions and is experienced as an inner endorsement of one's goals and behaviours (Ryan & Deci, 2000).

The autonomy need is satisfied when students feel a heartfelt affirmation to questions like "Is this what I want to do?" and "Do I fully agree with this decision and course of action?" Teachers can nurture this need by allowing self-direction in learning activities (Deci et al., 1982; Jang, Reeve, & Halusic, 2014; Nix et al., 1999; Reeve & Jang, 2006; Reeve et al., 2003). The competence need, another inherent psychological process, fuels the desire to interact effectively with the environment, seeking optimal challenges and exerting effort until mastering them. This need is satisfied when students experience personal growth while exercising and expanding their skills in challenging tasks. Teachers can support this by providing optimal challenges in a failure-tolerant environment (Clifford, 1990; Harter, 1978; Keller & Bless, 2008; Shapira, 1976). The relatedness need involves forming close emotional bonds and attachments, characterized by mutual concern and acceptance (Baumeister & Leary, 1995; Ryan, 1991; Ryan & Powelson, 1991). This need is satisfied when students can relate authentically and meaningfully to others (La Guardia & Patrick, 2008; Ryan, 1993). Teachers can nurture relatedness by fostering communal social interactions (Carvallo & Gabriel, 2006; Ryan & Powelson, 1991).

Table 1 omits intrinsic motivation as an inner resource, defining it instead as motivation arising from psychological need satisfaction (Deci & Ryan, 1985; Ryan & Deci, 2000). Therefore, by including autonomy, competence, and relatedness in Table 1, intrinsic motivation is indirectly covered. Curiosity, triggered by an unexpected knowledge gap (Loewenstein, 1994; Silvia, 2008), motivates exploratory behaviour. Teachers can spark curiosity by posing intriguing questions, introducing suspense, or encouraging

exploration (Jang, 2014; Abuhamdeh et al., 2014; Proyer, Ruch, & Buschor, 2013).

An intrinsic goal, focused on personal growth and development, fosters psychological need satisfaction and adaptive outcomes like engagement and well-being (Vansteenkiste et al., 2006; Kasser & Ryan, 1996; Vansteenkiste et al., 2004, 2008). Teachers can support intrinsic goals by framing activities as opportunities for personal development (Vansteenkiste et al., 2007, 2004, 2008). Value, or the perceived attractiveness of a task, relates to seeing the task as useful or important (Eccles & Wigfield, 2002). Teachers can enhance this sense of value by providing rationales that explain the personal utility of tasks (Jang, 2008; Koestner et al., 1984; Reeve et al., 2002).

Table 1 is significant for two reasons. First, it clarifies the term "inner motivational resource," defining at supporting these motivational assets. Second, it includes references to successful experimental manipulations, demonstrating that these motivational states are both malleable and educationally beneficial. Collectively, the examples show that students' inner motivational resources can be nurtured and strengthened through instruction.

Discussion:

This review has explored the downstream effects of teacher-initiated social and environmental events on students' motivation through the lens of Self-Determination Theory (SDT) and Cognitive Evaluation Theory (CET). The findings consistently demonstrate that autonomy-supportive teaching practices—such as providing students with choices, offering constructive feedback, and acknowledging their perspectives—enhance intrinsic motivation, engagement, and academic performance (Deci & Ryan, 2000; Reeve, 2009). In contrast, controlling teaching behaviors, which include external rewards, punishments, and rigid directives, undermine students' psychological needs for autonomy and competence, leading to reduced motivation and disengagement (Assor, Kaplan, & Roth, 2002; Reeve, 2009). The evidence supports the application of SDT principles in educational settings, highlighting the importance of creating learning environments that satisfy students' basic psychological needs.

Limitations:

Despite the valuable insights gained from this review, several limitations should be acknowledged. First, the majority of the empirical studies reviewed were conducted in Western contexts, which may limit the generalizability of the findings to non-Western or developing countries. Cultural differences in teaching styles, student-teacher relationships, and classroom structures could influence how autonomy-supportive or controlling behaviors affect student motivation (Jang, Reeve, & Ryan, 2009). Second, much of the data in the studies relied on self-report measures, which can introduce biases such as social desirability or inaccurate recall. Although some studies included

classroom observations, future research would benefit from incorporating more objective measures of student motivation and teacher behavior.

Another limitation concerns the short-term nature of many studies. While there is evidence that autonomy-supportive practices enhance motivation in the short term, less is known about the long-term effects of such practices on student engagement and academic success. Longitudinal studies are needed to examine whether the benefits of autonomy support are sustained over time and how these effects might vary across different educational levels and contexts (Niemiec & Ryan, 2009).

Implications:

The implications of this review are far-reaching for both educators and policymakers. First, teachers should be encouraged to adopt autonomy-supportive practices in the classroom to foster a motivating environment that promotes intrinsic motivation and engagement. Professional development programs that train teachers in these strategies are essential, as many educators may not be familiar with the benefits of autonomy-supportive teaching or may lack the skills to implement it effectively (Reeve, 2009). Schools and educational institutions should prioritize teacher training that emphasizes the importance of supporting students' psychological needs for autonomy, competence, and relatedness. This shift in teaching practice could lead to improved student motivation, higher academic achievement, and better well-being.

For policymakers, the findings suggest that educational systems should be designed to support autonomy at both the teacher and student levels. Curriculum design should allow for greater flexibility and choice, enabling students to pursue interests and goals that align with their intrinsic motivations (Deci & Ryan, 2000). Additionally, performance evaluation systems for teachers should recognize and reward those who foster autonomy and engagement in their students, rather than focusing solely on standardized test scores or rigid compliance with curricular standards.

Recommendations for Further Research:

To address the limitations identified, future research should focus on exploring the cross-cultural applicability of SDT and CET in non-Western educational settings. Comparative studies that examine how different cultural contexts influence the effects of autonomy-supportive and controlling teaching behaviors would provide valuable insights into the generalizability of these findings. Furthermore, longitudinal studies are needed to assess the long-term impact of autonomy-supportive teaching on student motivation, engagement, and academic performance over several years and across different developmental stages (Jang, Reeve, & Deci, 2010).

Research should also explore the role of relatedness-the third psychological need outlined in SDT-in shaping student motivation. While much of the focus

in existing studies has been on autonomy and competence, understanding how teacher-student relationships and peer interactions contribute to motivation could provide a more holistic understanding of student engagement (Niemiec & Ryan, 2009). Finally, future studies should incorporate more objective measures, such as classroom observations and academic performance data, to complement self-reported measures and enhance the reliability of the findings.

Conclusion:

In conclusion, this review highlights the importance of autonomy-supportive teaching practices in enhancing student motivation, engagement, and academic success. By applying the principles of Self-Determination Theory and Cognitive Evaluation Theory, teachers can create classroom environments that satisfy students' psychological needs for autonomy, competence, and relatedness, fostering intrinsic motivation and promoting positive educational outcomes. Although controlling teaching behaviors may provide short-term compliance, they ultimately undermine motivation and engagement. Future research should address the limitations identified, particularly regarding cultural contexts, longitudinal effects, and relatedness, to deepen our understanding of how to support sustained motivation in students across diverse educational settings.

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THINKING OUTSIDE THE BUBBLE: UNVEILING UNDERGRADUATES' PERCEPTIONS ON THE SELECTED ALTERNATIVE ASSESSMENT TOOLS IN THE ESL CLASSROOM

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Abstract: The study explores the integration of digital storytelling and e-portfolios as alternative assessment tools in the undergraduate ESL (English as a Second Language) classroom. It investigates the perspectives of the undergraduates regarding the selected alternative assessment tools. In this study it was expected to examine the potentials, challenges, and limitations of implementing digital storytelling and e-portfolios via the perspectives. Herein, a purposive sampling technique was employed, involving 14 voluntary participants who were first year undergraduates at a government university in Sri Lanka. Qualitative data has been gathered by utilizing a questionnaire with open-ended questions and reflective writings provided by the participants. Qualitative thematic analysis was employed to identify key themes and patterns in the data. The findings of the study shed light on the potential benefits of integrating digital storytelling and e- portfolios as alternative assessment tools. Participants reported enhanced engagement, motivation, and creativity when using these tools to showcase their language proficiency. They also highlighted the opportunities for self-reflection and self-assessment facilitated by digital storytelling and e-portfolios. However, several challenges and limitations were identified in implementing the selected alternative assessment tools. Technical issues, limited access to digital resources, time consuming nature were among the challenges reported by participants. Future studies could explore the impact of these tools on students' language learning outcomes and investigate strategies for integrating them effectively into ESL curricula.

Keywords: *Alternative Assessments, Digital Storytelling, E-portfolio, Technology Integration, Undergraduates' Perspectives*

Introduction

The study is mainly focused on the prospects of alternative assessment approaches in the second language learning environments within the context of higher education in Sri Lanka. After the pandemic and the advancement of AI (Artificial Intelligence) technology, online learning environments and integrating technology in language learning and teaching in higher education are expanding and the aspect of assessment is increasingly being recognized as a critical issue. Language learning has undergone diverse changes throughout the years although the methods of evaluation and testing still mainly rely on exams and quizzes to get an idea on students' progress.

Presently, language learning demands a wider range of skills which cannot be measured and observed entirely via traditional evaluation tools.

The study was conducted in a government university with the participation of 14 voluntary participants who were first year undergraduates during the period of their first year second semester [15 weeks]. The participants belonged to the stream of Information and Communication Technology, and they have been exposed to the selected alternative assessment tools in other disciplinaries. The main focus of the study was to identify the undergraduates' perceptions on the selected alternative assessment tools which were utilized in their English as a Second Language (ESL) module. Owing to the lack of studies which were conducted on the sphere of utilizing technology supported tools as alternative assessment tools in the higher education context of Sri Lanka, it has been decided to conduct this study.

When considering the aspect of Alternative Assessment (AA), it can often be identified as the utilization of non-traditional approaches in judging students' performance. Alternative Assessments target a student's level of proficiency in a subject as opposed to the student's level of knowledge and aim at measuring complex constructs and employing rich assessment tasks. During the implementation of alternative assessment, it approaches more instructional, creative, and formative assessments by moving away from multiple choice and restrictive forms of assessments. One of the selected tools of AA in this study is e- portfolios. E-Portfolios are the digital tools where learners gather their projects, lesson materials and creations by depicting individual growth over a given period. Specifically, e-portfolios create a space for language learners to work collaboratively by sharing their work and knowledge with the expectation of extending their learning. Moreover, this study draws upon the undergraduates' thoughts regarding digital storytelling as another alternative assessment tool. In recent years, the field of language education has witnessed a surge in interest regarding the integration of digital technologies to enhance teaching and learning experiences. One of those areas of particular interest is the use of digital storytelling as an alternative assessment tool in ESL classrooms.

Literature Review

The language assessment in Sri Lankan tertiary education system belongs to one of the most under researched areas. However, Brunfaut and Green (2019) analyzed the language assessments in Sri Lankan education system through document analysis, questionnaires, and interviews. Overall, as they have emphasized, the language assessments and tests in Sri Lanka cannot provide a true picture of test takers' language ability. From secondary education to tertiary education, a common scenario prevails in learning and assessing English as a second language is the over-emphasis of linguistic accuracy and memorization at the expense of authentic language use. Furthermore, the second language assessment in Sri Lanka is highly focused on its summative

aspect. As indicated by Bandary (2014), in an empirical study on classroom assessment in Sri Lanka, most formats used were traditional pen-and- paper, knowledge-oriented tests. Although conducting formative assessments has been encouraged in Sri Lanka (Asian Development Bank, 2017), owing to the limited assessment literacy, increasing number of workload and students, limited use of assessment tools and methods, conducting formative assessments has been reduced in the second language evaluation phenomenon of Sri Lanka.

Because of the issues mentioned above, the educational potential of assessment is vastly underused. Too little of the assessment carried out is positively exploited for providing regular feedback, feeding forward, and designing remedial interventions. Assessment is not well-integrated in the learning-teaching process but seen as an isolated event (Brunfaut and Green 2019). Therefore, the competence-based approach in the English language assessment along with a match between language use as tested and language used for real- world demands should be created in Sri Lanka.

The aspect of Alternative Assessment (AA) represents a conception of language that is diametrically opposed to that of traditional tests (Fox, 2008, p.97). As indicated by Reeves (2000), traditional assessment, which is generally called testing, is challenged by alternative assessment approaches. At the same time, alternative assessments stress the importance of the contextual and authentic use of language instead of keeping the practice of the target language confined within the four walls of the classroom. In a country where English is regarded as the second language, its application would be more productive because the tools of alternative assessments are multi culturally sensitive (Nasab, 2015). Alternative assessment is a learner-oriented practice which supports enhancing learner autonomy in the ESL classroom. Therefore, it focuses on the growth of the students, which allows the students to correct their mistakes if there are any at the beginning (Huba and Freed, 2000).

When it comes to the sphere of learning English as a second language in the tertiary education level, the affordances of portfolios become significant for both language learners and native speakers of English as tools for contemplation and reflection, for setting goals, and for documenting learning over time (Cummins & Davesne, 2009). The study analyzes undergraduates' viewpoints on the use of e- portfolios as an alternative assessment tool. As defined by DiBiase (2002) e- portfolios are "personalized, Web-based collections that include selective evidence from coursework, artifacts from extra-curricular activities, and reflective annotations and commentary related to these experiences" (p. 2). As indicated by Rhodes (2011),"Electronic portfolios have a greater potential to alter higher education at its very core than any other technology application" (p.07). Moreover, e-portfolios provide a comprehensive record of students' learning, which can be used to assess their progress and evaluate their performance (Fernando et al., 2020).

The study further analyzes the selected participants' opinions on their experience with Digital Storytelling (DST) in the ESL classroom. DST takes the traditional aspect of oral storytelling and along with it connects a set of technical tools in order to create personal stories in a digital manner by incorporating graphics and technology. DST grants the opportunity for the students to transform information to knowledge while enhancing technical and research skills (Robin 2008). It is one of the 21st century emerging tools that creates an approach for the students to view their content in a critical manner and present the matter technically (Shelby-Caffey, Jenkins, 2014). Thus, as emphasized by Robin (2008), DST has a significant potential for educational model of the present era.

Aims and Objectives

The study mainly aims at identifying the undergraduates' perceptions and experience regarding the utilization of the selected alternative assessments. Identifying the incorporation of alternative assessment into ESL classroom, its barriers, challenges, and opportunities via the participants' perceptions is vital in a context like Sri Lankan higher education sector, since it mainly conducts traditional assessment types since years.

Identifying the functioning of AA in the ESL classroom through participants' opinions can be considered as another objective of this study. In many of the Sri Lankan universities, traditional assessment marks the end of the course. Usually, the students are supposed to sit an end semester examination and their level of language proficiency is entirely measured through the examinations. In many times, providing teacher feedback does not take place and even if the feedback is provided, the student is not equally assessed in all four skills of English language. In this scenario, the assessment is rather seen as an end in itself than an integral part of instruction. Peer evaluation, self-evaluation and teacher evaluation are considered as some essential aspects in alternative assessments.

Identifying the barriers, challenges and opportunities that are pertaining towards the integration of AA via participants' opinions is another objective of the study. The focus group of the study who are currently in their first year have obtained their secondary education in Sinhala and Tamil media and they are supposed to follow their degree program in English medium which itself has become a challenge for them. Moreover, throughout their secondary education they have been exposed to traditional methods of assessments. Although after entering the university, they have encountered some alternative assessments, student perceptions and the convenience of students with those assessments have not been taken into account.

Research Questions

The research mainly focuses on finding responses from the participants regarding the function of alternative assessments in ESL classroom in the

tertiary education platform with respective of their perceptions, reflections, and experience. Thus, the main research questions of this study were:

I. As per the participants' perceptions, what are the specific advantages and disadvantages of using e-portfolios and digital storytelling as alternative assessment tools in language learning?
II. Based on participants' experiences, what are the practical challenges and opportunities associated with integrating the selected alternative assessment tools into ESL classrooms?
III. From the perspectives of participants, what are the primary reasons supporting or opposing the continued use of e-portfolios and digital storytelling as alternative assessment tools in future ESL education, and how do they envision the evolution of these methods in teaching and learning?

Research Methodology

To address the research questions, a qualitative research design was employed, incorporating both qualitative data collection and analysis techniques. The qualitative data collection procedure pursued in two phases of collecting responses from the participants for a questionnaire which contained open ended questions and by asking the participants to compose reflective writings on their perspectives of the selected AA tools as the second phase. The data collected has undergone an inductive analysis by seeking to identify emerging themes and patterns within the undergraduates' responses.

The data collection sample of the population was a group of first year undergraduates of a government university in Sri Lanka and out of the entire sample of 25 undergraduates, 14 voluntary participants have participated in the study. The selected participants are affiliated to the degree program of bachelors' honors in Information and Communication Technology and Information Systems. They belong to the age category of 20-23 and this group consists of both female and male voluntary participants.

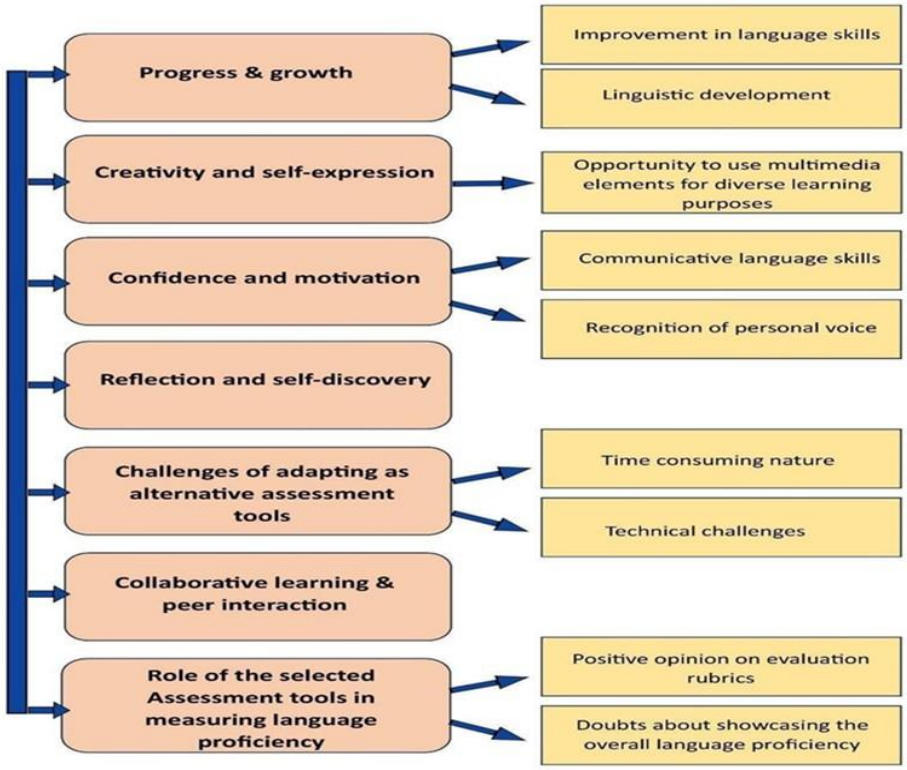
As per the previous second language-based evaluations and assessments, they belonged to the B1- intermediate level of language proficiency as per the Common European Framework References for Languages levels (CEFR levels). They are supposed to study English as a supplementary subject and their present language module was Presentation Skills for ICT. The participants belong to diverse cultural and demographic backgrounds. Moreover, the majority have studied in Sinhala medium in their secondary education and there were four participants who have completed their secondary education in Tamil medium. Overall, purposive sampling has been employed in this study with the purpose of selecting participants who possess specific characteristics or experiences relevant to the research objectives.

Results and Discussion

Thematic analysis has been employed as a suitable method for analyzing the gathered data. Moreover, an inductive approach was adopted, allowing the data to guide the identification of themes. Given the researcher's focus on prioritizing participants' expressed opinions, a semantic approach was further utilized to analyze the explicit content of the data. Data gathered from the above-mentioned data collection instruments have been integrated to foster the following common themes.

Figure 1

Main themes and sub themes



Progress and growth

The theme of progress and growth emerged prominently in the reflective writings and responses of the questionnaire. Participants recognized the value of e-portfolios and digital storytelling in documenting their language learning journey and providing tangible evidence of their improvement. Further, the selected alternative assessment tools promote continuous and formative assessment practices. As indicated by the participants, they could actively engage in the documentation of their learning process, reflecting on their strengths and weaknesses, identifying areas for improvement, and setting goals for future development. This ongoing monitoring and self-assessment

enable students to take ownership of their learning, fostering a proactive and reflective approach to their academic journey. In order to protect the anonymity of the participants' responses, they are identified with pseudonyms in the order of the alphabetical order from Letter A to N.

"...as I started collecting my work samples and reflecting on my learning, I saw how much progress I had made. "(Student B)
"It was like putting together puzzle pieces to see the bigger picture." (Student F)

One of the sub themes emerged from the above-mentioned main theme was recognizing improvement in language skills. Participants reported a positive shift in their language skills and highlighted their progress in areas such as writing, speaking fluency, and comprehension. Conventionally, the exam-oriented assessment system prioritizes the students' written English proficiency and other skills are being devaluated and rarely taken into consideration. The selected alternative assessment tools exhibit a paradigm shift from this and attempt to consider all language skills alike.

"I could see my writing improving, my speaking becoming more fluent, and my understanding of English getting better." (Student B)

The subtheme of showcasing linguistic development emerged from the data analysis, indicating that participants utilized e-portfolios to document their language learning journey and highlight their accomplishments. Through the selection and organization of their best work samples, participants were able to visually demonstrate their growth in linguistic abilities. Furthermore, digital storytelling emerged as a valuable tool for enhancing speaking skills and reducing language learning anxiety among participants.

Creativity and Self-expression

The ability to be creative and express oneself through multimedia elements was a significant theme identified in the analysis. Robin (2016) further affirms this finding by emphasizing the potential of digital storytelling in fostering creativity and self-expression in educational contexts in his study. Participants who have mainly been exposed to the paper and pencil driven learning throughout their entire life so far, have engaged in storytelling and utilize visuals, videos, and recordings to enhance their narratives. Herein they have indicated the advantage of utilizing multimedia elements for individual learning purposes can be indicated as a sub theme of the main theme. Moreover, the participants have mentioned that the selected alternative assessment tools have granted them the opportunity to integrate their identical creative abilities in language learning.

"Since I'm into painting and drawing, I could use those skills here." (Student N)
"The ability to incorporate multimedia elements has allowed me to show my creativity and engage my audience." (student G)

Confidence and Motivation

As per the participants' perceptions, both E-portfolios and digital storytelling were found to boost their confidence in their language skills. Sharing their work with others, receiving feedback, and recognizing the value of their voice contributed to an increased sense of motivation to learn English.

"It made me realize that my voice mattered and that I had something valuable to contribute." (Student D)

Increased confidence in improving specific language skills is one of the generated sub themes. Participants reported a boost in confidence as they observed their progress and realized their ability to communicate more effectively in English. This increase in self-confidence is crucial in language learning, as it positively influences learners' willingness to take risks and engage in communicative activities. In the Sri Lankan tertiary education system, adult learners usually exhibit reticence to talk in English and to utilize English practically in front of their peers in the ESL classroom. This occurs owing to their lack of confidence in which they think that others might laugh at them or criticize them when they use English with errors. This leads to language learning anxiety among many students. The selected two types of alternative assessments can be used as apt additions to mitigate these issues which highly prevail in the ESL context.

Positive feedback and recognition of personal voice can be considered as the other sub theme. The feedback received from peers and teachers regarding their e-portfolios and digital stories played a significant role in enhancing participants' confidence and motivation. This recognition of their unique voice and ideas validated their efforts and motivated them to further develop their language skills. The undergraduates showcase a lack of motivation to study English owing to several reasons. Mainly since English is offered as a non-credit subject, they do not want to obtain a good grade for English, and they merely consider it as another subject and easily give it up. Moreover, owing to the issues that took place during the secondary education system of the undergraduates such as lack of English teachers and lack of other resources, they lose the opportunity of obtaining a sound English knowledge. Through options like integrating e-portfolios and DSTs these issues can be solved and through this study itself the participants have expressed that these tools could foster their language learning motivation.

Reflection and Self-discovery

The integration of e-portfolios and digital storytelling in language learning has provided participants with a valuable platform for engaging in reflective practices, enabling them to gain profound insights into their language learning journey. Through the thoughtful curation of their language learning artifacts, participants have been able to identify and examine their strengths, weaknesses, and areas for improvement in a comprehensive and systematic manner.

"It's a representation of my unique journey allowed me to make a personal connection with my language learning experience, making it more meaningful and memorable." (Student E).

Challenges of Adapting as Alternative Assessment Tools

The participants in the study expressed concerns about the time-consuming nature of creating and updating e-portfolios and digital storytelling as alternative assessment tools. In comparison to other conventional assessment methods, which typically require students to complete specific tasks within a given timeframe, the integration of e-portfolios and digital storytelling necessitates additional time and effort from learners. The process involves composing written reflections, gathering and organizing various artifacts, and compiling them into a cohesive and visually appealing presentation.

"...time-consuming nature of creating and updating an e-portfolio can be overwhelming, especially when struggling with other multiple assignments and responsibilities." (Student H)

While the time commitment may initially seem burdensome, it is argued that the benefits of these tools, such as promoting deep learning, fostering metacognitive skills, and enhancing self-regulation, outweigh the additional time investment (Micallef, 2013).

A notable sub-theme that emerged from the study is issues pertaining to mastering the technical aspects associated with e-portfolios and digital storytelling. The participants expressed a sense of pressure to prioritize the visual design elements of their portfolios and stories, often at the expense of the substantive content and reflective components. Additionally, they voiced concerns regarding the technical functionality and usability of these new assessment tools.

"I was worried by the technical requirements and struggle to effectively present my work." (Student M)

Collaborative Learning and Peer Interaction

The collaborative function and nature of e-portfolios and digital storytelling was another prominent aspect highlighted by the participants. They actively engaged in discussions, shared their work, and provided feedback to their peers within a collaborative learning environment. This collaborative approach fostered a sense of community and encouraged active participation among the participants. Additionally, the participants benefited from the expertise and experiences of their peers, as they shared resources, strategies, and insights, thereby creating a supportive and enriching learning environment.

"When doing the digital storytelling assignments, we could work with other team members, share ideas and improve ourselves. By sharing e- portfolios with each other also we could improve our knowledge." (Student J)

The Role of Selected Alternative Assessment Tools in Measuring Language Proficiency

In traditional educational settings, the evaluation and grading of students' performance have primarily relied on conventional assessment methods such as written exams. These long-standing practices have shaped the participants' understanding of assessment criteria and expectations. However, the integration of technology- driven alternative assessment tools, such as e-portfolios and digital storytelling, has raised concerns regarding the reliability of the evaluation and grading process.

The introduction of these new assessment methods has posed challenges for participants who are accustomed to traditional assessment formats. The shift to technology-integrated tools has generated doubts and uncertainties regarding the validity, fairness, and consistency of the evaluation process. Participants have expressed concerns about the objectivity of grading and the alignment between the new assessment tools and the intended learning outcomes.

"Although we get good marks from marking list, I think from exams I could get a better idea about my English knowledge." (Student I)

"… a significant amount of time and effort goes into the design and technical aspects rather than the substance of my work." (Student H)

To address these concerns and ensure reliability in the assessment process, the utilization of assessment rubrics has been implemented. These rubrics provide clear criteria and guidelines for evaluating participants' performance in digital storytelling and e-portfolio assessments.

"Since the rubrics evaluate our assessments, I got the opportunity to see my weaknesses and correct them." (Student G)

Conclusion and Implications

The findings of the study suggest that the use of e-portfolios and digital storytelling in language assessment has the potential to increase student engagement and ownership over their learning. The role of e-portfolios and digital storytelling in promoting self-reflection and metacognitive skills among the undergraduates has been further depicted in this research through the perspectives of the participants. The study findings further indicate that the use of e-portfolio and digital storytelling has a positive impact on students' confidence and motivation in language learning. As students observe their progress and realize their ability to communicate more effectively in English, their confidence in their language skills is boosted. Furthermore, in an increasingly digital world, integrating e-portfolios and digital storytelling helps students to develop essential digital literacy skills. Through the process of creating and sharing their work online, students

become familiar with digital tools, multimedia production, and online platforms.

The study also shed light on the challenges that may arise when integrating e- portfolios and digital storytelling in the ESL classroom. The time-consuming nature of creating and updating these assessment tools was one of the issues raised. To address this, proper planning and scaffolding are essential. Teachers can allocate specific time frames for portfolio development and digital storytelling projects, breaking them down into manageable tasks spread throughout the course. Moreover, technological integration in language learning should be aligned with pedagogical goals and learning outcomes. It is important to critically assess whether the benefits of e- portfolios and digital storytelling outweigh the time investment required. The participants have further raised apprehensions about the technical aspects and functionality of the selected tools, which affected their confidence in the assessment process. Therefore, there is a crucial requirement for adequate technical support and training for both students and teachers to ensure smooth implementation of these tools. Issues related to the alignment of the selected alternative assessments with the language learning outcomes can be considered as another implication of this study. Ensuring alignment between the learning outcomes and the assessment tasks is crucial for effective assessment.

Moreover, while digital tools have become increasingly integrated into daily life, some students may still exhibit resistance or reluctance to adopt technology in their language learning process. Such resistance may stem from learner factors and contextual factors such as lack of digital literacy skills, cultural norms, diverse language learning styles, or personal preferences. This issue has been clearly seen in this study and therefore it is crucial to consider these challenges when adapting e-portfolios and digital storytelling in the ESL classroom.

Furthermore, the integration of e-portfolios and digital storytelling may be more challenging for students at lower language proficiency levels. Although this issue has not emerged much in this study due to the sound language proficiency of the students, this can affect in a different manner in the ESL contexts when diverse proficiency levels prevail among the students. Thus, differentiating instruction and providing additional support for students with varying proficiency levels is essential for addressing this issue.

While the integration of e-portfolios and digital storytelling as alternative assessment tools in the undergraduate ESL classroom holds great potential, it is crucial to acknowledge and address the issues associated with their implementation. By recognizing and addressing these hindrances, educators and researchers can optimize the use of e-portfolios and digital storytelling, ensuring their effective implementation in language learning environments.

Limitations and Future Studies

The research focused specifically on undergraduate ESL classrooms, and the findings may not be directly transferable to other educational contexts or different levels of language proficiency. Moreover, the study may have limitations regarding the sample size and representativeness of participants. The findings were based on a specific group of undergraduates who have voluntarily participated in the study, and thus the generalizability of the results to a broader population may be limited. As another limitation, the study relied primarily on self-reported data from participants, which may be subject to recall bias or social desirability bias. Participants' responses may not always align with their actual behaviors or experiences. Future research could incorporate additional data collection methods, such as classroom observations or interviews, to triangulate findings and enhance the validity of the results. As another factor, the study focused primarily on internal factors related to the integration of e-portfolios and digital storytelling. External factors, such as institutional policies, cultural norms, and technological advancements, may also influence the implementation and limitations of these tools.

To gain a deeper understanding of the long-term effects of integrating e-portfolios and digital storytelling in ESL classrooms, future research should consider conducting longitudinal studies. Further, future research could benefit from conducting comparative studies. These studies would involve comparing the outcomes of students who receive traditional assessment methods with those who engage with e-portfolios and digital storytelling. Since the integration of e-portfolios and digital storytelling requires both technical and pedagogical expertise, future work should focus on developing effective teacher training and professional development programs. These programs would equip educators with the necessary skills and knowledge to implement these assessment tools effectively. Another important aspect to address in future research is the issue of accessibility and inclusivity. To ensure equitable access to alternative assessment tools, researchers should focus on overcoming barriers related to technology access, digital literacy, and language proficiency levels. By addressing these factors, researchers can contribute to a more comprehensive understanding of the long-term effects and implications of using e-portfolios and digital storytelling in ESL education.

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INVESTIGATING THE CLASSROOM DETERMINANTS OF SELF-ESTEEM AMONG GIFTED JUNIOR SECONDARY STUDENTS IN SRI LANKA: A CASE STUDY

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Abstract: This research explores the influence of classroom environment variables on the self-esteem of gifted students at the Junior Secondary level in Sri Lanka. Utilizing a sample survey methodology, the study encompasses 102 gifted male and female students from two distinct geographical provinces. Participants were identified via the snowball sampling technique, employing the Ravens Standardized Matrix Test in conjunction with teacher recommendations. The Coppersmith Self-Esteem Inventory was utilized to assess the self-esteem of these gifted children, while a custom-developed screening tool was employed to identify influential classroom environment factors. The findings indicated that gifted students experienced significant triggers within the classroom environment, including issues related to teaching and learning, teacher neglect, dissatisfaction with teachers, lack of teacher attention, inadequate teaching skills and methods, peer pressure, and challenges in peer relationships. As a result of these classroom influences, the children exhibited various psychological difficulties, including physical, emotional, and behavioral challenges. Among these, emotional difficulties were the most pronounced. Analysis of self-esteem revealed that forty-seven children had overall low scores, compared to those with average or high scores within the sample. There was a significant positive correlation between emotional, behavioral, and physical difficulties and self-esteem. Consequently, the study underscores the necessity for enhancing professional skills and providing additional teacher training in special education. Furthermore, it highlights the importance of integrated professional counseling services to bolster the self-esteem and well-being of gifted children within the school system.

Keywords: *Classroom environment, influences, gifted children, psychological difficulties, self-esteem.*

Introduction

The Sri Lankan education system encompasses 13 years of schooling, divided into four distinct cycles. Primary education spans Grades 1 to 5, catering to children aged 5 to 10, who take a scholarship examination at the end of Grade 5. Junior Secondary education includes Grades 6 to 9, for children aged 11 to 14. Senior Secondary education covers Grades 10 and 11, for students aged 15 to 16, culminating in the General Certificate of Education Ordinary Level

(GCE O/L) examination at Grade 11. Finally, the collegiate level comprises Grades 12 and 13, for students aged 17 to 18, who sit the General Certificate of Education Advanced Level (GCE A/L) examination. Among these examinations, the Grade 5 scholarship exam is considered one of the most competitive. It provides entry to better schools with superior facilities and awards a cash prize to top achievers. Students who excel in this exam gain admission to prestigious schools, often including gifted children. Consequently, children from remote areas can attend urban, well-regarded schools, often living in hostels away from their families. This separation can result in unmet psychological needs, as these children live apart from their parents' love, care, and protection. Following the Grade 5 exam, all students progress to Junior Secondary level, starting from Grade 6. Gifted children, along with their peers, must adapt to the typical school environment within the Sri Lankan education system. According to the Salamanca Statement, gifted children are classified under Special Educational Needs (SEN) due to their above-average Intelligence Quotient (IQ). While some countries have established specialized schools for gifted children, Sri Lanka does not have such institutions, requiring gifted students to integrate into standard classroom settings. Gifted children encounter unique challenges within the conventional classroom setting, which can lead to a range of psychological, social, and behavioral issues. Research by Kourkouta, Ilitadis, and Monios (2015), Fallon, Danielle, and Emina (2020), Blaas (2014), and Lee, Olszewski, Makel, and Putallaz (2015) highlights that gifted students in typical classrooms often face difficulties such as anxiety, stress, sleep disturbances, social isolation, and emotional problems. According to Mustika and Harini (2017), self-esteem and classroom dynamics significantly shape an individual's psycho-social development. Research by Kroesbergen et al. (2016), Pilarinos and Solomon (2017), and Crone and Dahl (2012) illustrate that gifted children often grapple with lower self-esteem due to classroom-related challenges, with up to one-third to one-half experiencing this issue, particularly during early adolescence.

In the Sri Lankan educational landscape, students of varying intelligence quotient levels, ranging from 70 to over 130, are placed together in typical classrooms. This diversity poses significant challenges for both teachers and students in the teaching-learning process. The prevalent exam-oriented nature of the Sri Lankan education system places immense pressure on students, driven by the expectations of parents, teachers, principals, and education officers for high academic performance. This focus on exam results often overshadows genuine learning and the cultivation of well-rounded individuals. Consequently, many students grapple with tension and stress, leading to psychological and social issues, particularly among gifted adolescents. The emphasis on academic achievement tends to overshadow the holistic development of students, as highlighted by numerous empirical studies by international scholars. Despite the wealth of international research in this area, there is a noticeable gap in the context of modern-day Sri Lankan

society. Hence, the research problem addressed by this study is to identify the classroom environment factors influencing gifted children and to explore the relationship between self-esteem and psychological difficulties in this population.

Aim and Objectives of the Study

Finding the trigger variables in a classroom setting that lead to psychological issues and affect gifted children's self-esteem is the primary goal of this research. More specifically, this study aims:

To identify how gifted junior secondary students identify the psychological difficulties they encounter within the typical classroom environment;

To examine the relationship between psychological difficulties including emotional, physical and behavioral difficulties and the self-esteem of gifted children.

Literature Review

Blaas (2014) posited that gifted children, characterized by exceptional intelligence, represent a distinct minority whose educational requirements frequently go unrecognized within conventional classroom settings. In their study, Abdel-Khalek et al. (2012) discovered that children exhibiting elevated levels of self-esteem reported greater levels of joy, hopefulness, motivation, while experiencing reduced feelings of sadness and anxiety. Additionally, they fostered positive connections with peers. A high degree of self-esteem allowed children to enjoy good times, handle bad situations, face obstacles effectively, minimize behavioral, emotional, and peer problems, and increase their power. These are similar ideas put forth by Kostogianni and Andronikof (2014).

Noorsyakina et al. (2020) assessed the levels of depression, physical difficulties, and behavioural difficulties among gifted students in an empirical study with 112 samples (47 men and 65 females) in Malaysia. The findings indicated that gifted students exhibited elevated levels of depression and physical ailments, alongside decreased instances of behavioral challenges. Mueller and Winsor (2018) asserted that gifted adolescents demonstrated a heightened susceptibility to psychological and social issues, particularly those stemming from school-related matters influencing behavior. Orth and Robins (2013) echoed comparable notions, noting that gifted children grappling with low self-esteem often manifested negative emotions, encountered social challenges, harbored feelings of inferiority, and experienced psychological instability, all of which contributed to overall discontent in life.

On a related note, Maksic's (1998) study aimed to assess the reception of gifted students within typical classroom settings by their peers. The findings unveiled that while academically gifted adolescents were more readily

embraced in scholarly pursuits, their acceptance in other realms of peer interaction varied. Govier's (1993) research demonstrated that gifted students generally exhibited elevated levels of social skills and lower incidences of antisocial behavior. However, a minority subset of gifted children displayed deficient social skills and higher rates of behavioral issues. Contrastingly, Fabian et al.'s (2013) investigation revealed that gifted children with IQ scores of 130 or higher exhibited heightened behavioral problems across the spectrum. Interestingly, the study found no significant difference in behavioral problems between highly gifted and less gifted individuals. Further insights from Vialle, Heaven, and Ciarrochi (2007) studies indicated that gifted students achieved notably higher academic outcomes across various subjects. Teachers reported that these students adapted well to classroom settings and exhibited fewer behavioral challenges. However, the research also highlighted that gifted child grappled with feelings of sadness and perceived lower levels of social support compared to their non-gifted peers. Gross (2006) and Neihart (1999) conducted research affirming that highly gifted students often experience feelings of social isolation. Conversely, studies by Cynthia, Gerald, Carol, and Richard (1996) suggested that there were no discernible differences in the quality or satisfaction of peer relationships between gifted and average IQ students. Nonetheless, researchers have established that gifted children tend to withdraw from peer interactions as they transition into adolescence. Reviewing empirical evidence underscores the notion that classroom factors exert a negative psychological influence on gifted children.

Methods and Material

Utilizing a sample survey approach, 102 gifted children were identified within Junior Secondary classes, comprising 40 males and 62 females. The selection process spanned five districts within the Western and Sabaragamuwa Provinces of Sri Lanka, namely Colombo, Kalutara, Gampaha, Ratnapura, and Kegalle.

Gifted students were identified through a combination of teacher nominations and the Raven's Standard Matrix IQ test. Those scoring above the 95th percentile (over 51-53 level) in the IQ test, with a chronological age ranging from 12 to 14, were classified as gifted. Subsequently, a total of 40 boys and 62 girls were chosen from these two provinces.

Instruments

Two standardized assessments were utilized in this study: the Raven's Progressive Matrices Intelligence Quotient (IQ) test and the Cooper Smith's (2002) Self-Esteem Inventory. The Raven's IQ test was non-verbal in nature, consisting of 60 multiple-choice questions that progressively increased in difficulty. Each question presented a pattern, and participants were required to identify the missing element necessary to complete the pattern. Patterns were displayed in various matrix formats, including 6×6, 4×4, 3×3, or 2×2

arrangements. The reliability of the test was established at $\alpha = 0.71$. In assessing the self-esteem of gifted children, Coopersmith's (2002) Self-Esteem Inventory was employed, comprising 58 self-reported items. Participants responded to each item using a binary scale ('like me' = 1, 'unlike me' = 0). The inventory demonstrated a reliability and validity coefficient of $\alpha = 0.73$ in this study.

Furthermore, to gauge the factors and psychological difficulties influencing students within the classroom environment, a bespoke questionnaire was devised. This questionnaire encompassed dimensions such as emotional, physical, and behavioral challenges, along with the nature of peer relationships. Respondents indicated their agreement with various statements using a five-point Likert scale ranging from 'never' to 'always'. The questionnaire exhibited a reliability coefficient of $\alpha = 0.67$. As part of the study protocol, structured interviews were administered to the students to discern social challenges, including instances of peer pressure, feelings of isolation, and experiences of neglect by teachers. Prior to participation, informed consent was diligently obtained from all participants, and requisite permissions were secured from the school authorities. Ethical clearance for the study was duly granted by the faculty research committee of the Faculty of Education. Quantitative data analysis techniques formed the backbone of the methodology, encompassing statistical measures such as mean averages and standard deviations. Additionally, analytical tools including Chi-square tests and percentage calculations were employed to scrutinize the data comprehensively.

Results and Discussion

Out of the 102 participants in the survey, the majority, constituting 61% (62 individuals), were female, while the remaining 39% (40 individuals) were male. The study pinpointed classroom dynamics, particularly issues pertaining to the teaching-learning process, as significant trigger factors affecting gifted children, as depicted in Table 1.

Table 1
Teaching-Learning process with Gifted Children

Teaching Learning Process	**Mean**	**Mode**
Lack of teachers' attention to the unique development of gifted children	4.04	1.04
Teacher neglect	3.85	1.03
Limited opportunities afforded to gifted children within the classroom	3.29	1.05
The assessment framework does not prioritize academic achievement.	3.73	1.22
Tailored teaching and learning strategies were not employed for gifted individuals	2.97	1.61

Classroom teachers lack the necessary proficiency to effectively educate gifted students	4.11	0.98

The assessment revealed that "Teachers' lack of attention to the unique development of gifted children" received an average score of 4.04, with a standard deviation of 1.04. Similarly, "Class-teachers' deficiency in the required skills to instruct gifted children" scored an average of 4.11, with a standard deviation of 0.98, emerging as a significant negative factor impacting the students. Additionally, "Teachers' neglect" garnered an average score of 3.85, with a standard deviation of 1.03. Moreover, "Fewer opportunities provided for gifted children in the classroom" showed variability with a standard deviation of 1.05. The assessment indicated that "The evaluation system does not prioritize academic success" received an average score of 3.73, with a standard deviation of 1.22. Additionally, "Relevant teaching-learning methods were not tailored for specific gifted children" obtained an average score of 2.97, with a standard deviation of 1.61.

Table 2
Gifted children's emotional difficulties

Emotional Difficulties Items	**Never %**	**Seldom %**	**Sometimes %**	**Often%**	**Always%**	**Chi Square χ2**	**P-Value**
I felt un happy	2	10.8	17.6	39.2	30.4	61.039	.000
I felt my feeling are not so good anymore	2.9	15.7	24.5	31.4	25.5	24.961	.000
I hated myself	0	18.6	40.2	27.5	13.7	16.510	.001
When I feel lonely, I feel like no one loves me	5.9	15.7	24.5	36.3	17.6	27.314	.000
I get angry easily	5.9	16.7	20.6	27.5	29.4	25.941	.000

Regarding the emotional challenges faced by gifted children in the classroom, five items within the questionnaire were dedicated to exploring the nature of these difficulties. The results revealed significant emotional struggles among gifted children (see Table 2). Only a small fraction, two percent, indicated they "Never" felt unhappy. Conversely, 10.8% responded "Seldom," 17.6% responded "Sometimes," while a substantial portion, 39.2%, reported feeling "Often," and 30.4% indicated "Always" experiencing unhappiness. These findings are representative of the broader population of gifted children and were confirmed through the Chi-square test ($\chi 2 = 61.039$, $p = .000$).

When asked if there were moments when they thought that their feelings were not as good as they once were, twenty-four-point five percent (24.5%) of the children said "sometimes." When asked the same question, 31.4 percent of respondents said "Often," and 25.5% said "Always." Fifteen point seven per cent (15.7%) responded 'Seldom' and 2.9% responded 'Never'. The results can be generalized to the population ($\chi2 = 24.961$, $p = .000$). To the statement 'I hated myself', 40.2% responded 'Sometimes' and 27.5% chose 'Often' while 13.7% responded 'Always'; a clear indication that gifted children had significant emotional difficulties in a typical classroom environment ($\chi2 = 16.510$, $p = .001$). Only five point nine per cent (5.9%) of the children responded 'Never' to the statement: 'When I feel lonely, I feel like no one loves me'. 15.7% responded 'Seldom' and 24.5% responded 'Sometimes' while 36.3% responded 'Often' and 17.6% responded 'Always'. These were significantly high scores ($\chi2 = 7.314$, $p = .000$).

Sixteen point seven per cent (16.7%) of the gifted children responded 'Seldom' to the emotional statement 'I get angry easily', while 20.6% responded 'Sometimes', 27.5% responded 'Often' and only 29.4% responded 'Always', although 5.9% responded 'Never' to the same question. The emotional difficulties of gifted children with regards to 'getting angry easily' presented significant scores ($\chi2 = 25.941$, $p = .000$). These findings are in line with previous studies done 247 responded 'Always', although 5.9% responded 'Never' to the same question. The emotional difficulties of gifted children with regards to 'getting angry easily' presented significant scores ($\chi2 = 25.941$, $p = .000$). These findings are in line with previous studies done by Orth and Robins (2013); Kourkouta, Ilitadis, and Monios, (2015); Fallon, Danielle, and Emina, (2020); Lee, Olszewski, Makel and Putallaz (2015).

Table 3
Gifted children's physical and behavioral difficulties

Physical and Behavioral Difficulties Items	**Never %**	**Seldom %**	**Sometimes %**	**Often %**	**Always %**	**Chi-Square $\chi2$**	**P-Value**
I feel so tired	1	27.5	37.3	16.7	17.6	37.314	.000
I get headaches easily	11.8	16.7	27.5	24.5	19.6	7.902	.092
I have sleeping difficulties	7.8	12.7	23.5	27.5	28.4	17.314	.002
I sit and do nothing in the classroom	1	29.4	35.3	13.7	20.6	36.992	.000
I can't manage things	5.9	10.8	16.7	24.5	42.2	26.137	.000
I do everything wrong	2	24.5	29.4	30.4	13.7	29.667	.000

I do not reach the goal that I have planned	3.9	13.0	26.5	36.3	19.6	30.843	.000

As shown in Table 3, concerning the inquiry into gifted children's physical challenges, specifically the statement "I feel so tired," the findings revealed various levels of response. Thirty-seven-point three percent (37.3%) of the participants indicated feeling tired "Sometimes," while 27.5% reported feeling this way "Seldom." Additionally, 16.7% responded feeling tired "Often," and 17.6% expressed experiencing this sensation "Always." Notably, only 1% of the sample children reported "Never" feeling tired. The results of the Chi-square analysis suggest a statistically significant association between gifted children and physical difficulties, particularly feelings of tiredness ($\chi2 = 37.314$, $p = .000$).

To the statement 'I get headaches easily', twenty-seven point five per cent (27.5%) responded 'Sometimes', 24.5% responded 'Often' and 19.6% responded 'Always'. 11.8% responded 'Never' and 16.7% responded 'Seldom' to the same question. However, the gifted children did not significantly present 'getting headaches easily due to classroom environment influences' ($\chi2 = 7.90$ $p = .092$). To the statement 'I have sleeping difficulties', 28.4% responded 'Always', 27.5% responded 'Often' and 23.5% responded 'Sometimes'. 7.8% responded 'Never' and 12.7% responded 'Seldom' to the same question. In general, gifted children presented with significant 'sleeping difficulties due to classroom factors' ($\chi2 = 17.314$, $p = .002$). As shown in Table 3, regarding the statement 'I sit and do nothing in the classroom', 35.3% responded 'Sometimes', 20.6% responded 'Always' and 13.7% responded 'Often', although 29.4% responded 'Seldom' to the same question. When generalizing this statement, the Chi square results showed significant scores of gifted children who 'sit and do nothing in the classroom' ($\chi2 = 36.992$, $p = .000$). Regarding the statement 'I do everything wrong', 30.4% responded 'Often' and 29.4% responded 'Sometimes', while 24.5% responded 'Seldom'. Gifted children significantly presented 'I do everything wrong' ($\chi2 = 26.997$, $p = .000$). Relating to the statement 'I do not reach the goal that I have planned', the results were ($\chi2 = 30.843$, $p = .000$). These findings are in line with previous studies done by Gover, (1993); Fabian, et, al. (2013); Noorsyakina, et., al. (2020).

Table 4
Nature of Peer Relationships

Peer Relationships Items	**Never %**	**Seldom %**	**Sometimes %**	**Often %**	**Always %**	**Chi Square $\chi2$**	**P-Value**
When I am with my friends, I avoid peers who do not belong to my group	9.8	10.8	15.7	30.4	33.3	25.157	.000

I compare my abilities with my peers	6.9	5.9	18.6	34.3	34.3	39.961	.000
It is more important to me to do what my peers expect me to do than to satisfy my desires	2	11.8	26.5	33.3	26.5	33.393	.000
I behave in a way that does not suit me, to fit in with the group	1	11.8	15.7	40.2	31.4	50.255	.000

According to Table 4, the majority of the gifted children indicated that they had no proper peer relations with their peers in the classroom. To the statement 'When I am with my friends, I avoid peers who do not belong to my group', 30.4% responded 'Often' and 33.3 % responded 'Always'. The Chi .000 the statement 'I behave in a way that does not suit me, to fit in with the group', the children presented ($\chi2 = 50.255$, $p = .000$). These findings are in line with previous studies done by Neihart (1999); Gross (2004); Cynthia, Gerald, Carol, and Richard, (1996) ; Mueller and Winsor (2018); Maksic (1998); Vialle, Heaven, and Ciarrochi (2007). square test results proved significant ($\chi2 = 25.157$, the $p = .000$). The Chi-square test also showed that the gifted children compared themselves with their peers with regard to their abilities ($\chi2 = 39.961$, $p = .000$). To the statement 'It is more important to me to do what my peers expect me to do than to satisfy my desires', thirty-three point three per cent (33.3%) responded 'Often' and 26.5% replied 'Always'. The gifted children in the sample significantly showed that their peers do not consider gifted children's desires ($\chi2 = 33.393$, $p = .000$). Regarding the statement 'I behave in a way that does not suit me, to fit in with the group', the children presented ($\chi2 = 50.255$, $p = .000$). These findings are in line with previous studies done by Neihart (1999); Gross (2004); Cynthia, Gerald, Carol, and Richard, (1996); Mueller and Winsor (2018); Maksic (1998); Vialle, Heaven, and Ciarrochi (2007).

The relationship between self-esteem and psychological difficulties in gifted children according to the self-esteem test, the average score obtained for the level of self-esteem is given in the Table 5 as below. The scores are segregated by gender. The average levels of self-esteem for males and females were 40 and 39, respectively. Very low self-esteem scores were shown for the males (33) and for the females (32). On the other hand, the male scores of 47 and the female scores of 46 were regarded as very high levels of self-esteem.

Table 5
Distribution of the Average Level of Self-esteem of Gifted Children

Level of self-esteem	Very Low		Low		Average		High		Very High	
	M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Gifted children (Frequency)	12	18	11	6	4	8	3	10	11	19
Self-esteem average scores	33	32	36	35	40	39	44	43	47	46

According to Table 5, twelve male and eighteen female gifted children had scores for a very low level of self-esteem (33-32). Both groups of children had scores for a low level of self-esteem (36-35) and both male and female-altogether 12 children-presented an average level of self-esteem (40-39). Thirteen children in the sample had high scores (44-43) and thirty children-11 male and 19 female-presented very high scores for levels of self-esteem (47-46). The overall low scores for self-esteem were presented by forty-seven children in comparison to the average and higher scores. Self-esteem low scores results are in line with previous studies done by Pilarinos and Solomon (2017); Kroesbergen et., al. (2016); Crone and Dahl (2012). The correlation results showed a significant relationship between the psychological difficulties and self-esteem of the gifted children. There is also a significant relationship between their emotional difficulties and self-esteem ($r = .378$, $p = .001$), physical difficulties and self-esteem presented a significant relationship ($r = 0.326$, $p = .029$) and behavioral difficulties stated ($r = .468$, $p = .000$) significantly.

Conclusion

Gifted children in the typical classroom environment encountered psychological issues leading to various emotional, behavioral and physical difficulties and problems with peer relations. Classroom factors influencing gifted children included teachers' neglect, fewer opportunities for gifted children in the classroom, a lack of proper methods of evaluation and a lack of relevance in the teaching-learning process. These factors negatively affected gifted children in the classroom. Consequently, these children encountered various emotional, physical and behavioral problems and difficulties with peer relationships. The majority of the children in the sample presented with low self-esteem. There is a significant positive correlation between emotional and behavioral problems and peer pressure difficulties and self-esteem, except for physical difficulties. Thus, it seems vital that teachers should develop professional skills and receive more teacher training related to special education within inclusive classrooms. It is also important to provide integrated professional counselling services in order to increase the self-esteem and psychological well-being of these talented children, in the school system.

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