



VOL. 17, 2025

SRI LANKAN JOURNAL OF EDUCATIONAL RESEARCH

DEPARTMENT OF RESEARCH AND DEVELOPMENT

NATIONAL INSTITUTE OF EDUCATION

SRI LANKA

SRI LANKAN JOURNAL OF EDUCATIONAL RESEARCH

Vol. 17 - 2025



**DEPARTMENT OF RESEARCH AND DEVELOPEMNT
NATIONAL INSTITUTE OF EDUCATION
SRI LANKA**

Sri Lankan Journal of Educational Research

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ISSN 1391 – 1589

ISSN (Online)- 3084-9276

Published by Department of Research and Development

National Institute of Education

Sri Lanka

<http://research.nie.ac.lk/nie>

Printed by: Department of Printing and Publications

National Institute of Education

SRI LANKAN JOURNAL OF EDUCATIONAL RESEARCH

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ADAPTATION AND VALIDATION OF A SELF-DIRECTED LEARNING READINESS SCALE FOR ADVANCED- LEVEL STUDENTS IN SRI LANKA: SL-SDLRS-AL

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Abstract: This study aimed to adapt and validate a contextually relevant Self-Directed Learning Readiness scale (SDLRS) for advanced-level students in Sri Lanka. Drawing from three widely recognized SDLRSs: SDLRSNE (Fisher et al., 2001), SRSSDL (Williamson, 2007), and DSVS-SDLR (Dulloo et al., 2023), a 46-item preliminary scale was developed, encompassing five dimensions: Awareness, Learning Strategies and Styles, Motivation, Team Building, and Evaluation. Content validity was established through a two-round Delphi process. In Round One, 14 experts evaluated the items, resulting in the exclusion of one item for failing to reach the 80% consensus threshold and 14 items based on qualitative feedback. In Round Two, eight experts assessed the remaining 31 items for relevance and clarity. Item. I-CVI were calculated by dividing the number of experts rating an item as relevant by the total number of experts, with a threshold of ≥ 0.78 . All items met this threshold, achieving an I-CVI of 1.00. The S-CVI was $S-CVI/Ave = 1.00$ and $S-CVI/UA = 1.00$, confirming excellent content validity. Consensus was achieved as all experts independently rated the items as relevant, with no re-rating required. Subsequently, a pilot study was conducted with 64 students from five academic streams across two educational zones in the Northern Province of Sri Lanka. The preliminary 31-item scale demonstrated strong internal consistency ($\alpha = .848$). Two items were removed due to item-total correlations below 0.30, resulting in a finalized 29-item scale, which maintained strong internal consistency ($\alpha = .853$). Construct validity was initially evaluated using item-total correlations as a preliminary check, with all retained items exceeding the 0.30 threshold, indicating acceptable alignment with their respective dimensions. These findings support the SL-SDLRS-AL as a valid and reliable tool for assessing SDLR among advanced-level students in Sri Lanka. The instrument offers practical implications for educators and researchers aiming to enhance autonomous learning capabilities in advanced-level education.

Keywords: *Self-Directed Learning Readiness, Scale Validation, Delphi Technique, Pilot Study, Advanced-level Students, Sri Lankan Education*

Introduction

Recently, the global education system has increasingly emphasized the need for learners to become more independent, reflective, and proactive in their learning processes due to rapid technological advancement. Furthermore, the global education system aims to cultivate 21st-century skills among students and attain the Sustainable Education Goals. This shift has placed greater importance on the concept of Self-Directed Learning (SDL). Consequently, this concept has become the central concept

in modern Education. SDL refers to a process in which learners take the initiative to diagnose their learning needs, set learning goals, find suitable learning materials and resources, select and implement effective learning strategies, and evaluate their learning outcomes (Knowles, 1975). Similarly, Leatemia et al. (2016) and Iwasiw (1987) defined the SDL as a process in which learners plan, implement, monitor, and evaluate their learning activities. It is now widely accepted that developing the ability to learn independently is a vital skill for success in both academic and lifelong learning settings.

From a definitional standpoint, SDL is viewed from different perspectives by different scholars. It is viewed as an attribute (Dulloo et al., 2023; Fisher et al., 2001; Kasworm, 1983; Williamson, 2007), a process (Candy, 1991; Grow, 1991; Knowles, 1975), or a combination of both (Brockett & Hiemstra, 1991; Garrison, 1997). Among these perspectives, the attribute view of SDL is referred to as Self-Directed Learning Readiness (SDLR). Wiley (1983) defines the SDLR as the degree to which an individual possesses the attitudes, talents, and personality traits necessary for SDL. Similarly, El-Gilany (2013) defines SDLR as the extent to which individuals have developed the necessary skills and traits to engage successfully in SDL. In addition, Fisher et al. (2001) define the SDLR as the extent to which an individual is prepared to take responsibility for their own learning and identify their learning needs. They view SDLR as an attribute, particularly as a skill that can be developed and improved. According to their perspective, SDLR exists along a continuum and is shaped by a person's abilities, attitudes, and personal characteristics. However, it can be enhanced through regular engagement in independent learning experiences.

Furthermore, it encompasses several dimensions, including motivation (Cadorin et al., 2013, 2020; Cheng et al., 2010; Deng, 1995; Dulloo et al., 2023; EUL KYOO BAE & Minyoung Lee, 2010; Oddi, 1986), self-management (Fisher et al., 2001; Timothy et al., 2010), self-monitoring (Cheng et al., 2010), learning strategies (Cadorin et al., 2013; Dulloo et al., 2023; Williamson, 2007), Team building (Cadorin et al., 2013; Cheng et al., 2010; Oddi, 1986; Williamson, 2007), Evaluation (EUL KYOO BAE & Minyoung Lee, 2010; Suh et al., 2015; Williamson, 2007) and awareness (Cadorin et al., 2013; Dulloo et al., 2023; Williamson, 2007). This multidimensional perspective of SDLR reveals the multifaceted nature of SDLR. Students with high SDLR are more likely to be responsible for their own learning, utilize effective learning strategies, and demonstrate resilience in overcoming learning difficulties.

Many scholars have developed various distinct scales to measure SDLR in different contexts, including those by Guglielmino (1977, as cited in Hoban et al., 2005), Deng (1995), Fisher et al. (2001, 2010), Williamson (2007), Cheng et al. (2010), Timothy et al. (2010), Cadorin et al. (2013, 2020), Askin (2015, as cited in Tekkol & Demirel, 2018), Suh et al. (2015), H. Lee & Mori (2021), and Dulloo et al. (2023). Among these, the scales developed by Guglielmino (1997, as cited in Hoban et al., 2005), Fisher et al. (2001), later refined in 2010, and Williamson (2007) are widely used to measure SDLR in various contexts. More recently, a scale was developed by Dulloo et al. (2023) in the Asian context. These scales have utilized to measure SDLR in various

fields, including tertiary level education such as nursing (Cheng et al., 2010; Fisher et al., 2001; Fisher & King, 2010; Fooladvand & Nadi, 2019), health sector (Williams & Brown, 2013), medical field (Hoban et al., 2005; Kumar et al., 2021), teachers and student-teachers (Karataş & Başbay, 2014; Torabi, Abdollahi, et al., 2013; Torabi, Aslani, et al., 2013), engineering (Stewart, 2007), as well as secondary education levels (Jaleel & O.M., 2017). These instruments were developed and validated in specific cultural and educational settings, such as America, Australia, the UK, China, Korea and India. When applied in other countries, particularly in developing countries experiencing economic crises such as Sri Lanka, the validity and reliability of these scales may be affected by cultural and systemic differences.

In Sri Lanka, there is growing concern among educators and researchers regarding students' readiness to engage in self-directed learning, especially at the advanced level, as this is the stage preparing them for tertiary education. However, the Sri Lankan school system still relies heavily on a teacher-centred approach and an examination-oriented, rote learning process (National Education Commission, 2022). Additionally, the widespread prevalence of private tuition (National Education Commission, 2022) further limits opportunities for students to engage in SDL. As a result, students often lack both the opportunity and encouragement to take responsibility for their own learning. In response to this situation, the newly proposed curriculum emphasized the importance of developing SDL habits among students by promoting SDL rather than directed instruction to cultivate lifelong learning (Ministry of Education, 2020; National Education Commission, 2022). To achieve this, various suggestions are proposed, including the introduction of a module system and elective subjects to ensure flexibility in choice, the implementation of a credit system similar to those used in university-level education, and a focus on reforming the existing examination system (Ministry of Education, 2020). However, the absence of structured efforts in practice to foster SDL skills in schools highlights the importance of assessing the current level of SDLR among advanced-level students.

Despite the significance of this issue, there is currently no standardized or culturally adapted tool available to measure SDLR among advanced-level students in Sri Lanka. Although a small number of research studies have been conducted in the field of SDL in Sri Lanka, most existing research on SDL in the country focuses on university students or teacher education programs. Among these, a very few studies have utilized scales to measure SDLR (Piratheeban, 2023). Therefore, there is a clear need to adapt and validate an SDLR instrument that suits the educational context of Sri Lankan advanced-level students. Such a scale can help identify strengths and weaknesses in students' learning readiness, supporting educational policy and practice in designing interventions to promote SDL.

Considering these gaps, this study aims to adapt and validate an SDLR scale specifically for advanced-level students in Sri Lanka. The adapted version, named the Sri Lankan Self-Directed Learning Readiness Scale for advanced-level students (SL-SDLRS-AL), draws on selected items from the scales developed by Fisher et al. (2001, 2010), Williamson (2007), and Dullo et al. (2023). Selected items from these scales were modified to suit the local school environment, particularly for an

advanced-level classroom, student understanding, and socio-cultural context. The study adhered to standard psychometric procedures, including expert validation to ensure content validity and pilot testing to assess reliability and construct validity, using data collected from advanced-level students in the Northern Province of Sri Lanka.

Through this effort, the research aims to enhance student-centered learning practices in secondary-level education and support the development of more independent and self-motivated learners in Sri Lanka. The findings of this study will also be helpful for policymakers, curriculum developers, teachers, educational planners, and researchers who aim to integrate SDL into school-level education. Ultimately, a culturally appropriate SDLR scale can serve as a foundation for promoting lifelong learning competencies among young learners in the country. Given the relatively small pilot sample, construct validity findings should be interpreted as preliminary, serving as an initial step toward full-scale validation in future studies.

Aim of the Study

The aim of this study is to adapt and validate a contextually appropriate SDLR Scale for advanced-level students in Sri Lanka, in order to assess their readiness for engaging in self-directed learning.

Objectives of the study

1. To adapt items from existing SDLR scales developed by Fisher et al. (2001, 2010), Williamson (2007), and Dullo et al. (2023) to suit the educational context of Sri Lankan advanced-level students.
2. To establish the content validity of the adapted Scale (SL-SDLRS) through expert evaluation using the Delphi technique.
3. To examine the reliability and construct validity of the adapted scale through a pilot study with advanced-level students.
4. To finalize a validated tool for assessing SDLR of the advanced-level students in Sri Lanka.

Literature Review

The Concept of SDL

SDL is a concept that has gained wide attention in modern educational research and practice. It was first defined in detail by Malcolm Knowles (1975), who described it as, “a process in which individuals take the initiative - either with or without the help of others - to diagnose their learning needs, set learning goals, find resources, choose strategies, and evaluate their outcomes” (p.18).

SDL is now recognized as a critical skill for success in higher education, professional development, and lifelong learning. As science and technology continue to evolve rapidly, the ability to learn independently is essential for learners and professionals adapting to continuous changes in society and the workplace.

Many researchers agree that SDL helps learners become more responsible, motivated, and engaged in their learning (Garrison, 1997; Lounsbury et al., 2009; Loyens et al., 2008). Students who are self-directed are better at managing their time, setting realistic goals, monitoring their progress, and evaluating their outcomes. SDL is closely linked to other educational outcomes, such as achievement motivation, academic self-concept, interest in learning (Ramli et al., 2018), general self-efficacy (Karataş & Başbay, 2014), academic self-efficacy (Saeid & Eslaminejad, 2016; Samarasooriya et al., 2019; Shohoudi et al., 2015), critical thinking (Karataş & Başbay, 2014), and academic achievement (Jaleel & O.M., 2017; Karataş & Başbay, 2014; Khalid et al., 2020). Because of its importance, many educators and policymakers now encourage the development of SDL skills across all levels of education.

The Concept of SDLR

While SDL focuses on the learning process itself, understanding a learner's readiness to engage in such a process requires a shift toward the concept of SDLR. SDLR embodies the attribute perspective of SDL. This perspective was introduced by Guglielmino in 1977, offering a new dimension to SDL research that fostered deeper conceptual understanding and inspired numerical studies.

Wiley (1983) defined SDLR as, "the degree the individual possesses the attitudes, talents and personality features necessary for self-directed learning" (p.182). Similarly, El-Gilany and Abusaad (2013) described the SDLR as the extent to which learners have acquired the capabilities to effectively engage in SDL. Furthermore, Fisher et al. (2001) noted that SDLR refers to the degree to which one is prepared to be accountable for their own learning and learning needs and importantly added that it is a skill that can be taught (as cited in Justus et al., 2022).

Based on these definitions, SDLR can be understood as the extent to which an individual possesses the attitudes, abilities, personality traits, and acquired capabilities necessary to take initiative, manage, and take responsibility for their own learning needs and processes. It encompasses the preparedness to engage effectively in self-directed learning, and it is a skill that can be nurtured and developed over time through teaching.

Students with high SDLR are more likely to succeed in environments where they are expected to take responsibility for their own learning. Accordingly, SDLR has become a critical area of research, as it enables educators to assess the extent to which learners are ready for engaging in SDL and to design instructional practices accordingly.

Grow (1991), in his Staged Self-Directed Learning (SSDL) model, categorized learners into four types based on their readiness for SDL: dependent learners, interested learners, involved learners, and self-directed learners. Similarly, Williamson (2007) classified students into three groups based on the scores obtained from her SDLR scale: scores between 60 and 140 indicate a low level of SDLR, scores between 141 and 220 indicate a moderate level, and scores between 221 and 300 indicate a high level of SDLR.

Understanding students' levels of readiness for engaging in SDL can help educators tailor their instructional strategies. For instance, if students demonstrate low SDLR, teachers may need to provide structured guidance and scaffolding to support their learning. In contrast, for students identified as involved learners, minimal guidance can be offered to encourage autonomy and deeper engagement in SDL tasks.

Over time, various scholars have proposed different dimensions of SDLR based on the context in which their research was conducted. The presence of overlapping, yet distinct, dimensions across different SDLR measurement scales highlights the importance of developing context-specific tools. In the Sri Lankan context, particularly for advanced-level students transitioning to tertiary education or employment, there is a pressing need for a uniquely tailored SDLR scale that accurately captures their readiness and supports appropriate pedagogical interventions.

Existing SDLR Scales

In response to this conceptual development, several instruments have been designed to measure SDLR across different populations and educational settings. These scales vary in structure, scope, and applicability.

To begin with, one of the earliest tools is the Self-Directed Learning Readiness Scale (SDLRS) developed by Guglielmino (1977, as cited in Hoban, 2005). This scale comprises 58 items across eight dimensions: openness to learning opportunities, effective learner, initiative and independence in learning, informed acceptance of responsibility for their learning, love of learning, creativity, positive orientation to the future, and ability to use basic study skills and problem-solving skills. The SDLRS has been foundational in SDLR research and is often used as a benchmark in subsequent studies.

Similarly, the Self-Directed Learning Readiness Scale for Nursing Education (SDLRSNE) developed by Fisher et al. (2001) was specifically designed for nursing students. The original version included 40 items organized into three dimensions: self-management, desire for learning, and self-control. This scale was later refined in 2010 with 27 items, while retaining the exact three dimensions. It has gained wide application in health education and has demonstrated strong psychometric properties in terms of reliability and validity.

In addition, the Self-Rating Scale of Self-Directed Learning Readiness (SRSSDL) by Williamson (2007) is another significant instrument. It includes 60 items categorized under five dimensions: awareness, learning strategies, learning activities, evaluation, and interpersonal skills. This scale has been employed with undergraduate and postgraduate students across various disciplines.

Moreover, in a more recent contribution, Dulloo et al. (2023) developed a new SDLR scale tailored for medical students in India. This instrument, known as DSVS-SDLR, comprises 42 items distributed across four dimensions: awareness, learning strategies and styles, team building, and motivation. Its development in the Indian context,

culturally and educationally comparable to Sri Lanka, emphasizes its potential relevance in South Asian settings.

Apart from these widely recognized scales, several other tools have been created to capture different aspects of SDL. For example, Oddi's Continuing Learning Inventory (OCLI) (1986) is a scale designed to measure the personal traits associated with self-directed learners (Merriam, 2001). This tool focuses more on personality characteristics than skill-based dimensions.

Furthermore, Pilling-Cormick (1996) developed the Self-Directed Learning Perception Scale (SDLPS) to assess the conduciveness of a learning environment to self-direction. This emphasizes the external factors that influence SDLR.

Another notable tool is the Learner Autonomy Profile (LAP), initially developed by Confessore & Confessore (1994) and later expanded by Carr (1999), Ponton (1999), Meyer (2001), and Derrick (2001), as cited in Guglielmino et al. (2004). This instrument is described as a battery of tests designed to measure behavioural intentions related to self-direction in learning (Guglielmino et al., 2004).

Additionally, various other instruments have emerged in the field of SDL to address diverse educational contexts and learner populations. These include the Self-Directed Learning Skills Scale (SDLSS) (Askin, 2015, as cited in Tekkol & Demirel, 2018), the Self-Directed Learning Competency Scale (SDLCS) (H. Lee & Mori, 2021), and the Self-Directed Learning Inventory (SDLI) (Suh et al., 2015).

Other tools, such as the Self-Directed Learning Ability Inventory (SDLAI) (Eul Kyoo Bae & Minyoung Lee, 2010) and the Self-Directed Learning with Technology Scale (SDLTS) (Timothy et al., 2010) have focused on technological dimensions of SDL. Instruments like the Self-Directed Learning with Technology for Young Students (SDLTYS) and the Self-Directed Learning Readiness Scale for Online Learning Environments (SDLRSOLE) have specifically targeted digital learning contexts. In addition, several tools have been developed to capture learning preferences and orientations, including the Learning Orientation Questionnaire (LOQ), the Bartlett-Kotrlik Inventory of Self-Learning (BISL), and the Learning Preference Assessment (LPA).

Culturally adapted versions have also been developed, including the Traditional Chinese Version of the Self-Directed Learning Readiness Scale (TC-SDLRS) (Deng, 1995), the Self-Rating Scale of Self-Directed Learning Readiness - Italian Version (SRSSDLIta) (Cadorin et al., 2013), and the Self-Rating Scale of Self-Directed Learning Readiness in Older People (SRSSDLO) (Cadorin et al., 2020). These instruments collectively reflect the growing recognition of SDL across educational levels, learning environments, and cultural contexts.

These instruments have significantly contributed to measuring SDLR in various learner populations and educational modalities. However, it is important to note that most of these tools were developed and validated in specific cultural and educational contexts such as China, Italy, and Korea. Therefore, their direct application in other

countries, such as Sri Lanka, may not yield accurate or meaningful results without proper adaptation.

In conclusion, while these tools offer valuable insights into the construct of SDLR, a compelling need remains for a context-specific scale tailored to the Sri Lankan setting, particularly for advanced-level students who are transitioning from secondary education to tertiary education or the workforce.

Cultural and Contextual Considerations in Scale Adaptation

Despite the widespread use of these instruments, their effectiveness is often limited when applied in culturally different or structurally distinct educational environments. Measurement tools must be carefully adapted to reflect the local language, culture, and learning context.

Beaton et al. (2000) emphasized the importance of cultural and linguistic adaptation when using instruments in cross-cultural research. Without this process, the tool may not accurately reflect the experiences or understanding of the target population. Adaptation includes rewording items, translating the scale if necessary, and testing its validity and reliability in the new setting.

In Sri Lanka, students at the advanced-level stage are at a crucial transition point between school and higher education. However, the current educational system in many regions still follows a traditional, teacher-centered approach. There are few structured efforts to encourage SDL, and students often depend heavily on teachers and tuition providers. As such, it is important to develop and validate a scale that reflects the unique learning environment and challenges faced by Sri Lankan advanced-level students.

Need for an SDLR Scale in the Sri Lankan School Context

In the Sri Lankan context, such cultural and systemic considerations are especially pertinent given the prevailing instructional approaches and learner characteristics. Although studies on SDL have been conducted in Sri Lankan universities (Bandara, 2017, 2022; Munasinghe et al., 2020; Samarasooriya et al., 2019) and teacher education programs (Danushka, 2022; Piratheeban, 2023), there is a lack of empirical research at the school level, particularly among advanced-level students.

This is a significant gap because advanced-level education plays a critical role in shaping students' readiness for university-level learning. Without a contextually specific and reliable tool to measure SDLR, researchers are unable to conduct empirical studies in the field of SDL.

Moreover, many Sri Lankan students face unique challenges, such as a lack of access to digital learning tools, limited exposure to learner-centered teaching methods, and pressure to perform well in high-stakes exams (National Education Commission, 2022). These factors may affect their SDLR. Therefore, adapting an existing SDLR scale to suit this population is both timely and necessary.

Rationale for the Current Study

Recognizing these challenges and the gap in available tools, this study aimed to adapt and validate the SDLR Scale for advanced-level students. The new scale, titled the Sri Lankan Self-Directed Learning Readiness Scale for advanced-level students (SL-SDLRS-AL), draws upon the work of Fisher et al. (2001, 2010), Williamson (2007), and Dulloo et al. (2023). Items from these scales were selected, modified, and reworded to suit the Sri Lankan educational and cultural context. The scale includes five dimensions: awareness, learning strategies and styles, motivation, team building, and evaluation.

The current study also contributes to the field by following a rigorous validation process, including expert reviews, pilot testing, and reliability testing. It is hoped that this adapted instrument will provide a meaningful way to assess the SDLR of Sri Lankan advanced-level students and support efforts to foster independent, confident learners.

Methodology

For this purpose, the scale was initially adapted from the three selected scales: SRSSDL, SDLRNSE, and DSVS-SDLR. Then, to ensure content validity, two rounds of Delphi were conducted. Finally, to confirm construct validity and reliability, and to determine the scale's appropriateness for the local context, a pilot study was conducted. Details of these procedures are explained below.

Scale Adaptation Process

Among all the tools developed and adapted to measure SDLR, the SDLRSNE, SDLRS, and SSDLR have been identified as the most frequently used scales. Similarly, SRSSDL and SDLRNSE are recognized as the top-cited tools among those developed to measure SDLR (Piratheebean & Bandara, 2025).

To adapt existing SDLR scales to the context of advanced-level students in Sri Lanka, the review focused on these two widely used and highly cited tools: the SRSSDL by Williamson (2007), the SDLRSNE developed by Fisher et al. (2001), and one recently developed tool specifically for the South Asian context, the DSVS-SDLR developed by Dulloo et al. (2023). The details regarding these scales are presented in Table 1 below.

Table 1

Summary of Selected SDLR Scales

Author	Year	Name of the Scale	Number of items	Dimensions	Number of items for each dimension
Fisher et al.	2001	SDLRSNE	40	Self-management	13
				Desire for learning	12
				Self-control	15

Williamson	2007	SRSSDL	60	Awareness	12
				Learning strategies	12
				Learning activities	12
				Evaluation	12
				Interpersonal skills	12
Dulloo et al.	2023	DSVS-SDLR	42	Awareness	12
				Learning strategies and styles	15
				Motivation	06
				Team building	09

Based on this review, five core dimensions were selected for inclusion in the adapted scale: awareness, learning strategies and styles, motivation, team building, and evaluation.

The awareness dimension (Dulloo et al., 2023; Williamson, 2007) was retained as it captures learners’ understanding of their own learning processes, including their strengths, limitations, and needs. This metacognitive insight is a foundational prerequisite for self-directed learning. The learning strategies and styles dimension (Dulloo et al., 2023; Williamson, 2007) was included to reflect learners’ ability to apply, adapt, and monitor appropriate learning methods. This dimension merges both cognitive strategies and individual learning preferences, offering a holistic view of the learner’s planning and regulatory capacity.

The motivation dimension (Dulloo et al., 2023; M. Fisher et al., 2001) was selected due to its pivotal role in initiating and sustaining SDL. It encompasses learners’ intrinsic desire to engage in learning tasks, which is considered essential for autonomous engagement. Team building (Dulloo et al., 2023; Williamson, 2007) was included to acknowledge the importance of collaborative learning in the Sri Lankan educational context. While SDL emphasizes learner autonomy, the ability to work productively within peer groups is especially relevant in collectivist cultures. Lastly, the evaluation dimension (Williamson, 2007) was retained to capture learners’ capacity for self-assessment, reflection, and monitoring of learning outcomes. This dimension supports the development of autonomy, responsibility, and continuous improvement.

Conversely, some dimensions present in the original scales were omitted to ensure conceptual clarity and avoid redundancy. Self-management and self-control, as found in the SDLRSNE, were considered to overlap significantly with the selected dimensions of learning strategies and evaluation. For example, the items included in SDLRNSE, such as *“I like to evaluate what I do”*, *“I learn from my mistakes”*, and *“I evaluate my own performance”*, can be considered under the dimension of evaluation. Likewise, items such as *“I solve problems using a plan”*, *“I will alter my practices when presented with the facts”*, and *“I set specific times for my study”* can be considered under the dimension of learning styles. These constructs, while important, are represented indirectly within the selected framework.

Similarly, the dimension of learning activities, as identified in the SRSSDL, was excluded because it falls under the dimension of learning strategies and styles. For

instance, the items included in SRSSDL, such as “*I rehearse and revise new lessons*” and “*I identify the important points when reading a chapter or an article,*” can be considered learning strategies and styles. The interpersonal skills dimension was also omitted, as it was regarded as broader and less specific to the collaborative functions addressed by the more targeted team-building dimension.

Hence, the selection of the five dimensions was guided by both theoretical consistency and contextual relevance. The final set of dimensions was deemed to provide a balanced representation of the cognitive, motivational, social, and reflective aspects of SDLR suitable for advanced-level learners in Sri Lanka.

Participant Selection

For the Delphi Study

Selecting suitable experts is a critical aspect of the Delphi method, as the quality and validity of the findings rely heavily on the insights provided by these participants (Ashton, 1986; Bolger & Wright, 1994; Parente et al., 1984). In this study, experts were selected using judgmental sampling, which is consistent with the criteria outlined by Adler and Ziglio (1996, as cited in Skulmoski et al., 2007). These criteria include relevant expertise and experience with the problem under investigation, willingness and ability to engage in the process, sufficient availability, and effective communication skills. Based on these considerations, 26 experts were invited to participate in the first round of the Delphi process, while a smaller group of nine experts was selected for the second round.

For the Pilot study

The minimal reasonable sample size for the pilot study must be a minimum of 30 (Bujang et al., 2024; Johanson & Brooks, 2010). According to Hertzog (2008), the minimal sample size for a pilot study in social science research must be 10 to 40 per group. On this basis, 64 students, including those from the streams of Bio Science, Physical Science, Arts, Commerce, Biosystems Technology, and Engineering Technology, were selected purposively from two educational zones, Vadamardchy and Kilinochchi South, in the Northern Province, for the pilot study. Gender representation was also taken into consideration during the sample selection.

Data Presentation and Analysis

Delphi Round One

The scale for the Delphi round one encompassed 46 items, including 10 items for the dimension of awareness, 15 items for the dimension of learning strategies and styles, six items for the dimension of motivation, nine items for the dimension of team building, and six items for the dimension of evaluation.

Among the invited 26 experts, only 15 responded. Of these, one response was incomplete. Therefore, 14 responses were used to determine consensus. As suggested by Phillips et al. (2014), it was determined that items with consensus agreement below 80% should be excluded for the second round.

The item number and the consensus rate are shown in Table 2 below.

Table 2

Consensus Rate in the First Round of the Delphi

Awareness		Learning Strategies and Styles		Motivation		Team Building		Evaluation	
Item No	Consensus Rate	Item No	Consensus Rate	Item No	Consensus Rate	Item No	Consensus Rate	Item No	Consensus Rate
1.1	92.86	2.1	100.00	3.1	100.00	4.1	92.86	5.1	100.00
1.2	100.00	2.2	100.00	3.2	100.00	4.2	100.00	5.2	100.00
1.3	92.86	2.3	100.00	3.3	92.86	4.3	100.00	5.3	92.86
1.4	78.57	2.4	85.71	3.4	92.86	4.4	100.00	5.4	85.71
1.5	100.00	2.5	92.86	3.5	100.00	4.5	100.00	5.5	85.71
1.6	100.00	2.6	100.00	3.6	100.00	4.6	100.00	5.6	92.86
1.7	100.00	2.7	100.00			4.7	100.00		
1.8	100.00	2.8	100.00			4.8	92.86		
1.9	92.86	2.9	100.00			4.9	100.00		
1.10	92.86	2.10	92.86						
		2.11	100.00						
		2.12	100.00						
		2.13	100.00						
		2.14	92.86						
		2.15	92.86						

Based on the consensus rate, the item that fell below 80% of the rate, item 1.4, '*I make efforts to update the recent developments related to my studies*', was excluded.

In addition to the above, although the remaining 45 items reached the consensus threshold, the following items were excluded based on the qualitative comments provided by the experts, taking into account the length of the questionnaire and how well they conveyed the same meaning. Details of these excluded items are shown in Table 3 below, along with their dimensions.

Table 3

Excluded Items Based on Qualitative Feedback from Delphi Round One

Dimension	Item No	Item
Awareness	1.6	<i>I can identify my weak areas in the subjects I study.</i>
	1.9	<i>I feel that I am overly dependent on teachers for my learning.</i>
	1.10	<i>I try to connect the new information I learn with my existing knowledge.</i>
Learning Strategies and Styles	2.1	<i>I learn better by discussing topics with my classmates in a study group.</i>
	2.2	<i>I find it helpful when my classmates explain topics to me.</i>

	2.5	<i>I study sincerely only after the school announces the exam dates.</i>
	2.6	<i>I change my approach to my studies based on what works best.</i>
	2.10	<i>I depend on my peers to point out the key points in a topic.</i>
	2.11	<i>I am able to comprehend a variety of information from the different subjects I study.</i>
	2.14	<i>I clarify my doubts by asking teachers questions.</i>
	2.15	<i>I prefer to study independently without relying on others.</i>
Team building	4.3	<i>I value feedback from teachers and peers to improve my learning outcomes.</i>
	4.4	<i>I am encouraged by the approach used for my studies.</i>
	4.5	<i>I am motivated to connect new topics with existing knowledge.</i>

Accordingly, three items in the awareness dimension, eight items in the learning strategies and styles dimension, and three items in the team building dimension were removed. As mentioned earlier, these items were excluded based on expert feedback indicating redundancy in meaning with other items and to reduce the length of the questionnaire.

The items in the motivation and evaluation dimensions remained unchanged. As a result, the final 31 items included six under the awareness dimension, seven under the learning strategies and styles dimension, six under the motivation dimension, six under the team building dimension, and six under the evaluation dimension, and these were considered for the second round of the Delphi process.

Delphi Round Two

The structure of the scale for the second round of the Delphi is shown in Table 4 below.

Table 4

Structure of the Scale of SDLR for the Second Round of Delphi

Awareness		Learning Strategies and Styles		Motivation		Team Building		Evaluation	
Item	Item	Item	Item	Item	Item	Item	Item	Item	Item
No in Roun d 1	No in Roun d 2	No in Roun d 1	No in Roun d 2	No in Roun d 1	No in Roun d 2	No in Roun d 1	No in Roun d 2	No in Roun d 1	No in Roun d 2
1.1	1.1	2.1	E	3.1	3.1	4.1	4.1	5.1	5.1

1.2	1.2	2.2	E	3.2	3.2	4.2	4.2	5.2	5.2
1.3	1.3	2.3	2.1	3.3	3.3	4.3	E	5.3	5.3
1.4	E	2.4	2.2	3.4	3.4	4.4	E	5.4	5.4
1.5	1.4	2.5	E	3.5	3.5	4.5	E	5.5	5.5
1.6	E	2.6	E	3.6	3.6	4.6	4.3	5.6	5.6
1.7	1.5	2.7	2.3			4.7	4.4		
1.8	1.6	2.8	2.4			4.8	4.5		
1.9	E	2.9	2.5			4.9	4.6		
1.10	E	2.10	E						
		2.11	E						
		2.12	2.6						
		2.13	2.7						
		2.14	E						
		2.15	E						
10	6	15	7	6	6	9	6	6	6
Total Number of Items									

Note: The E denotes ‘Excluded’.

Among the nine experts invited, only eight responded. Therefore, based on the responses received from these eight experts, a content validity analysis was conducted based on I-CVI and S-CVI, as described by McCoach et al. (2013), to ensure and improve the content validity of the scale.

The calculated I-CVI results, based on aspects of relevance and clarity, are shown in Table 5 below.

Table 5

Expert Ratings of Content Validity: I-CVI and S-CVI Scores

Dimension	Item No	Relevant (Rating 3 or 4)	Irrelevant (Rating 1 or 2)	I-CVI	UA	Clarity (Rating 3 or 4)	Clarity (Rating 1 or 2)	I-CVI	UA	Interpretation
Awareness	1.1	8	0	1.00	1	8	0	1.00	1	Appropriate
	1.2	8	0	1.00	1	8	0	1.00	1	Appropriate
	1.3	8	0	1.00	1	8	0	1.00	1	Appropriate
	1.4	8	0	1.00	1	8	0	1.00	1	Appropriate
	1.5	8	0	1.00	1	8	0	1.00	1	Appropriate
	1.6	8	0	1.00	1	8	0	1.00	1	Appropriate
Learning Strategies and Styles	2.1	8	0	1.00	1	8	0	1.00	1	Appropriate
	2.2	8	0	1.00	1	8	0	1.00	1	Appropriate
	2.3	8	0	1.00	1	8	0	1.00	1	Appropriate

	2.4	8	0	1.00	1	8	0	1.00	1	Appropriate
	2.5	8	0	1.00	1	8	0	1.00	1	Appropriate
	2.6	8	0	1.00	1	8	0	1.00	1	Appropriate
	2.7	8	0	1.00	1	8	0	1.00	1	Appropriate
Motivation	3.1	8	0	1.00	1	8	0	1.00	1	Appropriate
	3.2	8	0	1.00	1	8	0	1.00	1	Appropriate
	3.3	8	0	1.00	1	8	0	1.00	1	Appropriate
	3.4	8	0	1.00	1	8	0	1.00	1	Appropriate
	3.5	8	0	1.00	1	8	0	1.00	1	Appropriate
	3.6	8	0	1.00	1	8	0	1.00	1	Appropriate
Team building	4.1	8	0	1.00	1	8	0	1.00	1	Appropriate
	4.2	8	0	1.00	1	8	0	1.00	1	Appropriate
	4.3	8	0	1.00	1	8	0	1.00	1	Appropriate
	4.4	8	0	1.00	1	8	0	1.00	1	Appropriate
	4.5	8	0	1.00	1	8	0	1.00	1	Appropriate
	4.6	8	0	1.00	1	8	0	1.00	1	Appropriate
Evaluation	5.1	8	0	1.00	1	8	0	1.00	1	Appropriate
	5.2	8	0	1.00	1	8	0	1.00	1	Appropriate
	5.3	8	0	1.00	1	8	0	1.00	1	Appropriate
	5.4	8	0	1.00	1	8	0	1.00	1	Appropriate
	5.5	8	0	1.00	1	8	0	1.00	1	Appropriate
	5.6	8	0	1.00	1	8	0	1.00	1	Appropriate
S-CVI/Average (Based on I-CVI)				1.00			1.00			
S-CVI/Average (Based on PR)				1.00			1.00			
S-CVI/Average (Based on UA)					1.00			1.00		

Note: I-CVI denotes the item-level content validity index, S-CVI denotes the scale-level content validity index, S-CVI/Average (Based on PR) indicates the scale-level content validity index calculated using the proportion relevance method, and S-CVI/Average (Based on UA) refers to the scale-level content validity index based on the universal agreement method, as proposed by Davis (1992), Lynn, (1986), Polit et al. (2007), and Polit & Beck (2006).

According to Zamanzadeh et al. (Zamanzadeh et al., 2015), items with an I-CVI below 0.70 should be eliminated, those scoring between 0.70 and 0.90 should be revised, and items with an I-CVI greater than 0.90 may be retained without modification. Similarly, Raharjanti et al. (2022) noted that an I-CVI value exceeding 0.79 indicates adequate relevance, and an S-CVI/Ave of 0.90 or higher reflects excellent overall content validity. Based on these criteria, all 31 items in the current scale achieved an I-CVI score of 1.00, suggesting excellent content validity (Raharjanti et al., 2022) and supporting the retention of all items without the need for revision (Zamanzadeh et al., 2015). Furthermore, the S-CVI based on I-CVI, PR, and UA also reached the maximum value of 1.00. As all items received perfect scores for both relevance and clarity, they were retained in full and included in the subsequent pilot testing phase.

Pilot Study

The responses of the 64 students were analysed to ensure the reliability and construct validity of the scale and to verify its appropriateness in the local context. The results of the pilot study are shown in Table 6 below.

Table 6

Pilot Study Results: Reliability and Construct Validity of 31-item scale

Dimension	Item No	No of Items	Corrected Item-total correlation	Cronbach's Alpha	Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Awareness	1.1	06	.580	.743	.682	
	1.2		.506		.698	
	1.3		.475		.708	
	1.4		.520		.694	
	1.5		.485		.704	
	1.6		.341		.747	
Learning Strategies and Styles	2.1	07	-.011	.656	.708	
	2.2		.502		.573	
	2.3		.481		.582	
	2.4		.387		.632	
	2.5		.430		.601	
	2.6		.358		.623	
	2.7		.477		.584	
Motivation	3.1	06	.426	.722	.692	.848
	3.2		.425		.694	
	3.3		.595		.635	
	3.4		.489		.673	
	3.5		.493		.674	
	3.6		.307		.721	
Team building	4.1	06	.377	.645	.602	
	4.2		.488		.560	
	4.3		.010		.719	
	4.4		.440		.580	
	4.5		.520		.544	
	4.6		.450		.572	
Evaluation	5.1	06	.450	.729	.697	
	5.2		.496		.681	
	5.3		.577		.662	
	5.4		.507		.678	
	5.5		.364		.718	
	5.6		.409		.706	

The reliability coefficient, Cronbach's alpha, is a widely accepted measurement that calculates the internal consistency of a scale (Raharjanti et al., 2022). According to Straub et al. (2004) and Hinton et al. (2004), as cited in Taherdoost (2016), a reliability coefficient of 0.60 or higher is considered acceptable for pilot studies. According to Hinton et al. (2004, as cited in Taherdoost, 2016), reliability levels can be categorised into four groups: excellent (≥ 0.90), high (0.70–0.90), moderate (0.50–0.70), and low (≤ 0.50). Additionally, as cited in Said (2018), Wim et al. (2008) proposed that an alpha value in the range of 0.60 to 0.80 is acceptable. Here, as all

five dimensions have the Cronbach’s alpha value greater than .60, it was concluded that the reliability level of each dimension is high. Furthermore, achieving a Cronbach’s alpha value of .848 for the overall scale indicates that the reliability of this scale is also high.

The item-total correlation method and the inter-item correlation method can be used to assess the construct validity of a scale in the preliminary stage. For this study, the item-total correlation method was employed as a preliminary approach to assess the scale’s construct validity, given the small sample size of the pilot study. While exploratory factor analysis (EFA) or confirmatory factor analysis (CFA) are more robust methods for establishing construct validity, they were not feasible with the current sample size (n = 64). Therefore, the present analysis provides only initial insights into the construct coherence of the items. The corrected item-total correlation value indicates the correlation between a specific item and the total scores of all other items on the scale. Robinson (2010) recommends that when the item-total correlation exceeds 0.50, the construct validity is established. Additionally, a score above 0.5 indicates a strong, positive correlation, while a score between 0.3 and 0.5 is considered acceptable (Raharjanti et al., 2022).

In the item analysis, eight items demonstrated strong correlations (≥ 0.50), and 21 items showed acceptable correlations (between 0.30 and 0.49). However, two items, Item 2.1, ‘I feel interactive classroom discussions are more effective than merely teaching’, and Item 4.3, ‘I struggle to express my ideas clearly due to language barriers’, with item-total correlations of -0.011 and 0.010, respectively, displayed negative and very low correlations. The negative value for Item 2.1 suggests a potential inconsistency with the overall construct, possibly due to misinterpretation or poor alignment with the other items. As such, both items were excluded from further analysis to improve the scale’s internal reliability.

After the exclusion of the two items with low item-total correlations, the reliability and construct validity were recalculated for the remaining 29 items. The results of this refined analysis are presented in Table 7.

Table 7

Pilot Study Results: Reliability and Construct Validity of 29-item scale

Dimension	Item No (Old)	Item No (New)	No of Items	Corrected Item-total correlation	Cronbach’s Alpha	Cronbach’s Alpha if Item Deleted	Cronbach’s Alpha
Awareness	1.1	1.1	06	.580	.743	.682	.848
	1.2	1.2		.506		.698	
	1.3	1.3		.475		.708	
	1.4	1.4		.520		.694	
	1.5	1.5		.485		.704	
	1.6	1.6		.341		.747	
	2.1	E	06	E	.708	E	

Learning Strategies and Styles	2.2	2.1		.525		.640
	2.3	2.2		.511		.645
	2.4	2.3		.412		.693
	2.5	2.4		.434		.671
	2.6	2.5		.325		.700
	2.7	2.6		.514		.649
Motivation	3.1	3.1	06	.426	.722	.692
	3.2	3.2		.425		.694
	3.3	3.3		.595		.635
	3.4	3.4		.489		.673
	3.5	3.5		.493		.674
	3.6	3.6		.307		.721
Team building	4.1	4.1	05	.458	.719	.679
	4.2	4.2		.466		.676
	4.3	E		E		E
	4.4	4.3		.518		.657
	4.5	4.4		.521		.653
	4.6	4.5		.429		.693
Evaluation	5.1	5.1	06	.450	.729	.697
	5.2	5.2		.496		.681
	5.3	5.3		.577		.662
	5.4	5.4		.507		.678
	5.5	5.5		.364		.718
	5.6	5.6		.409		.706

As shown in Table 7, all remaining items demonstrated acceptable item-total correlations ($\geq .30$), and the Cronbach's alpha values for each dimension exceeded the recommended minimum threshold of .60.

These results confirm that the refined 29-item SL-SDLRS-AL scale possesses satisfactory internal consistency and preliminary construct validity, supporting its suitability for further large-scale validation. Thus, the pilot analysis provided preliminary evidence of the SL-SDLRS-AL's construct validity and strong internal consistency, warranting further large-scale validation.

Summary of Delphi and Pilot Study Results

A summary of the key findings from the Delphi validation and pilot testing phases is presented below to consolidate the major outcomes of the scale development process. The validation of the Sri Lankan Self-Directed Learning Readiness Scale for Advanced-Level Students (SL-SDLRS-AL) demonstrated strong psychometric properties. Across two Delphi rounds, expert consensus was achieved, resulting in a refined 31-item scale with excellent content validity (I-CVI = 1.00; S-CVI/Ave = 1.00; S-CVI/UA = 1.00). The subsequent pilot study, conducted with 64 students, further confirmed the reliability and preliminary construct validity of the instrument. All five dimensions recorded Cronbach's alpha values above 0.6, while the overall

reliability coefficient reached .841, indicating high internal consistency. Two items with low item-total correlations ($< .30$) were excluded, resulting in a final 29-item scale distributed across five dimensions. These findings affirm that the adapted instrument is a valid and reliable tool for assessing the SDLR of advanced-level students in the Sri Lankan context. The finalized 29-item SL-SDLRS-AL scale is provided in Appendix A.

Discussion

Taken together, the findings from the Delphi rounds and pilot testing support the successful adaptation and validation of an SDLR scale tailored to the specific educational context and developmental needs of advanced-level students in Sri Lanka. Employing a rigorous three-phase validation process, which included two rounds of the Delphi technique and a pilot study, the adapted instrument demonstrated strong psychometric properties, particularly in terms of content validity, internal consistency, and construct validity.

The Delphi process played a critical role in refining the instrument by incorporating expert consensus to ensure theoretical alignment and cultural appropriateness. The involvement of experts across multiple rounds facilitated the identification and elimination of ambiguous or non-representative items, ultimately enhancing the relevance and clarity of the scale. All retained items exhibited high item-level content validity indices ($I-CVI = 1.00$), indicating unanimous agreement among experts regarding their relevance and clarity. Moreover, the scale-level CVI ($S-CVI = 1.00$) further confirmed the instrument's overall content validity.

The high reliability coefficients observed across all five dimensions support the internal consistency of the scale. Strong corrected item-total correlations further attest to the coherence of the scale, suggesting that the retained items contribute meaningfully to measuring the broader construct of SDLR in this student population.

This study addresses a notable gap in the Sri Lankan educational context: the lack of a culturally validated instrument to measure SDLR among advanced-level students. Given the increasing emphasis on independent learning skills and self-regulation in modern education, particularly in high-stakes academic environments, the development of such a tool is both timely and necessary. The adapted scale offers potential applications in educational research, classroom diagnostics, and the design of interventions aimed at enhancing learners' readiness for self-directed learning.

However, the study has limitations. The pilot testing was conducted on a relatively small sample, limiting the statistical generalizability of the findings. Furthermore, students from non-government schools were omitted, which may affect the generalizability of the scale. These factors warrant caution in interpreting the results and underscore the need for broader validation efforts.

Conclusion

In summary, SDLR is a critical competency that underpins students' ability to take ownership of their learning, adapt to academic demands, and engage meaningfully

with knowledge. Although SDLR has been extensively studied in international contexts, Sri Lankan educational settings, particularly at the advanced level, have lacked a validated, contextually appropriate tool to measure this construct.

This study sought to fill that gap by adapting and validating an SDLR scale specifically for advanced-level students in Sri Lanka. Through expert validation using the Delphi technique and preliminary psychometric evaluation via pilot testing, the scale has demonstrated strong content validity and internal consistency. The resulting instrument is both culturally sensitive and psychometrically sound, providing a valuable resource for researchers, educators, and policymakers aiming to foster autonomous learning behaviours in students.

Going forward, future research should focus on large-scale validation across diverse regions and linguistic groups within Sri Lanka. Additionally, further studies could explore the relationship between SDLR and other psychological or contextual variables such as self-efficacy, academic performance, institutional support, and the learning environment. Longitudinal studies may also help examine the predictive validity of SDLR in relation to academic and personal outcomes over time.

References

- Ashton, R. H. (1986). Combining the judgments of experts: How many and which ones? *Organizational Behavior and Human Decision Processes*, 38(3), 405–414.
- Bandara, L. M. K. (2017). SELF-DIRECTED LEARNING (SDL): ACADEMICS' PERCEPTIONS TOWARDS STUDENTS' LEARNING. *Proceedings of 84th The IRES International Conference*, 7–9.
- Bandara, L. M. K. (2022). Self-Directed Learning in Higher Education in Sri Lanka: Challenges in Implementing Policy. *Sri Lanka Journal of Education*, 1(1), 89–104.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191.
- Bolger, F., & Wright, G. (1994). Assessing the quality of expert judgment. *Decision Support Systems*, 11(1), 1–24. [https://doi.org/10.1016/0167-9236\(94\)90061-2](https://doi.org/10.1016/0167-9236(94)90061-2)
- Brockett, R. G., & Hiemstra, R. (1991). *Self-direction in adult learning: Perspectives on theory, research, and practice*. Routledge.
- Bujang, M. A., Omar, E. D., Foo, D. H. P., & Hon, Y. K. (2024). Sample size determination for conducting a pilot study to assess reliability of a questionnaire. *Restorative Dentistry & Endodontics*, 49(1), e3. <https://doi.org/10.5395/rde.2024.49.e3>

- Cadorin, L., Bortoluzzi, G., & Palese, A. (2013). The Self-Rating Scale of Self-Directed Learning (SRSSDL): A factor analysis of the Italian version. *Nurse Education Today*, 33(12), 1511–1516. <https://doi.org/10.1016/j.nedt.2013.04.010>
- Cadorin, L., Grasseti, L., Paoletti, E., Cara, A., Truccolo, I., & Palese, A. (2020). Evaluating self-directed learning abilities as a prerequisite of health literacy among older people: Findings from a validation and a cross-sectional study. *International Journal of Older People Nursing*, 15(1), e12282. <https://doi.org/10.1111/opn.12282>
- Candy, P. C. (1991). *Self-direction for lifelong learning: A comprehensive guide to theory and practice* (1. ed). Jossey-Bass.
- Cheng, S.-F., Kuo, C.-L., Lin, K.-C., & Lee-Hsieh, J. (2010). Development and preliminary testing of a self-rating instrument to measure self-directed learning ability of nursing students. *International Journal of Nursing Studies*, 47(9), 1152–1158. <https://doi.org/10.1016/j.ijnurstu.2010.02.002>
- Danushka, S. A. N. (2022). *BEST INSTRUCTIONAL STRATEGY FOR FLIPPED MODEL OF BLENDED LEARNING: A CASE STUDY WITH TECHNOLOGY TEACHERS IN A VIRTUAL LEARNING ENVIRONMENT*.
- Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied Nursing Research*, 5(4), 194–197. [https://doi.org/10.1016/S0897-1897\(05\)80008-4](https://doi.org/10.1016/S0897-1897(05)80008-4)
- Deng, Y. L. (1995). Adult teaching and self-directed learning. *Wu-Nan, Taipei (in Chinese)*.
- Development of the Self-Directed Learning Perception Scale*. (1996). [University of Totranto]. <http://www.collectionscanada.ca/obj/s4/f2/dsk3/ftp04/NQ41543.pdf>
<http://hdl.handle.net/1807/13188>
- Dulloo, P., Singh, S., Vedi, N., & Singh, P. (2023). Development and implementation of a self-directed learning readiness scale for undergraduate health professional students. *Journal of Education and Health Promotion*, 12(1). https://doi.org/10.4103/jehp.jehp_900_22
- El-Gilany, A.-H., & Abusaad, F. E. S. (2013). Self-directed learning readiness and learning styles among Saudi undergraduate nursing students. *Nurse Education Today*, 33(9), 1040–1044. <https://doi.org/10.1016/j.nedt.2012.05.003>
- EUL KYOO BAE, & Minyoung Lee. (2010). The Development of the Self-Directed Learning Ability Inventory for Employees in HRD Companies. *The Korean Journal of Human Resource Development Quarterly*, 12(3), 1–26. <https://doi.org/10.18211/KJHRDQ.2010.12.3.001>

- Fisher, M. J., & King, J. (2010). The self-directed learning readiness scale for nursing education revisited: A confirmatory factor analysis. *Nurse Education Today*, 30(1), 44–48. <https://doi.org/10.1016/j.nedt.2009.05.020>
- Fisher, M., King, J., & Tague, G. (2001). Development of a self-directed learning readiness scale for nursing education. *Nurse Education Today*, 21(7), 516–525. <https://doi.org/10.1054/nedt.2001.0589>
- Fooladvand, M., & Nadi, M. (2019). Validation of revisited self-directed learning readiness scale for nursing education among Iranian nursing and midwifery students. *Journal of Education and Health Promotion*, 8(1), 266. https://doi.org/10.4103/jehp.jehp_82_19
- Garrison, D. R. (1997). Self-Directed Learning: Toward a Comprehensive Model. *Adult Education Quarterly*, 48(1), 18–33. <https://doi.org/10.1177/074171369704800103>
- Grow, G. O. (1991). Teaching Learners To Be Self-Directed. *Adult Education Quarterly*, 41(3), 125–149. <https://doi.org/10.1177/0001848191041003001>
- Hertzog, M. A. (2008). Considerations in determining sample size for pilot studies. *Research in Nursing & Health*, 31(2), 180–191. <https://doi.org/10.1002/nur.20247>
- Hoban, J. D., Lawson, S. R., Mazmanian, P. E., Best, A. M., & Seibel, H. R. (2005). The Self-Directed Learning Readiness Scale: A factor analysis study. *Medical Education*, 39(4), 370–379. <https://doi.org/10.1111/j.1365-2929.2005.02140.x>
- Iwasiw, C. (1987). The role of the teacher in self-directed learning. *Nurse Education Today*, 7(5), 222–227. [https://doi.org/10.1016/0260-6917\(87\)90005-0](https://doi.org/10.1016/0260-6917(87)90005-0)
- Jaleel, S., & O.M., A. (2017). A Study on the Relationship between Self Directed Learning and Achievement in Information Technology of Students at Secondary Level. *Universal Journal of Educational Research*, 5(10), 1849–1852. <https://doi.org/10.13189/ujer.2017.051024>
- Johanson, G. A., & Brooks, G. P. (2010). Initial Scale Development: Sample Size for Pilot Studies. *Educational and Psychological Measurement*, 70(3), 394–400. <https://doi.org/10.1177/0013164409355692>
- Justus, B. J., Rusticus, S. A., & Stobbe, B. L. P. (2022). Does Self-directed Learning Readiness Predict Undergraduate Students' Instructional Preferences? *The Canadian Journal for the Scholarship of Teaching and Learning*, 13(1). <https://doi.org/10.5206/cjsotlrceaca.2022.1.10879>
- Karataş, K., & Başbay, M. (2014). Predicting Self Directed Learning Readiness Level In Terms Of Critical Thinking Disposition, General Self Efficacy and Academic Achievement. 13(3), 916–933.

- Kasworm, C. (1983). Self-Directed Learning and Lifespan Development. *International Journal of Lifelong Education*, 2(1), 29–46. <https://doi.org/10.1080/0260137830020103>
- Khalid, M., Bashir, S., & Amin, H. (2020). Relationship between Self-Directed Learning (SDL) and Academic Achievement of University Students: A Case of Online Distance Learning and Traditional Universities. *Bulletin of Education and Research*, 42(2), 131–148.
- Knowles, M. S. (1975). *Self directed learning: A guide for learners and teachers* (11. print). Cambridge Adult Education.
- Kumar, A. P., Omprakash, A., Mani, P. K. C., Swaminathan, N., Maheshkumar, K., Maruthy, K. N., Sathiyasekaran, B. W. C., Vijayaraghavan, P. V., & Padmavathi, R. (2021). Validation of Internal structure of Self-Directed Learning Readiness Scale among Indian Medical Students using factor analysis and the Structural equation Modelling Approach. *BMC Medical Education*, 21(1), 614. <https://doi.org/10.1186/s12909-021-03035-6>
- Leatemia, L. D., Susilo, A. P., & Van Berkel, H. (2016). Self-directed learning readiness of Asian students: Students perspective on a hybrid problem based learning curriculum. *International Journal of Medical Education*, 7, 385–392. <https://doi.org/10.5116/ijme.582e.021b>
- Lee, H., & Mori, C. (2021). Reflective practices and self-directed learning competencies in second language university classes. *Asia Pacific Journal of Education*, 41(1), 130–151. <https://doi.org/10.1080/02188791.2020.1772196>
- Lounsbury, J. W., Levy, J. J., Park, S.-H., Gibson, L. W., & Smith, R. (2009). An investigation of the construct validity of the personality trait of self-directed learning. *Learning and Individual Differences*, 19(4), 411–418. <https://doi.org/10.1016/j.lindif.2009.03.001>
- Loyens, S. M. M., Magda, J., & Rikers, R. M. J. P. (2008). Self-Directed Learning in Problem-Based Learning and its Relationships with Self-Regulated Learning. *Educational Psychology Review*, 20(4), 411–427. <https://doi.org/10.1007/s10648-008-9082-7>
- Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, 35(6), 382–386.
- McCoach, D. B., Gable, R. K., & Madura, J. P. (2013). *Instrument development in the affective domain* (Vol. 10). Springer.
- Merriam, S. B. (2001). Andragogy and Self-Directed Learning: Pillars of Adult Learning Theory. *New Directions for Adult and Continuing Education*, 2001(89), 3–14. <https://doi.org/10.1002/ace.3>

- Ministry of Education. (2020). *National Curriculum Framework for Secondary Education in Sri Lanka*. Ministry of Education, Sri Lanka. https://educationforum.lk/wp-content/uploads/2021/08/MoE_Framework_SecondaryEducation_2020Nov.pdf
- Munasinghe, D. S., Sutha, J., & Perera, K. J. T. (2020). *A Study of Factors Influences on Self-Directed Learning of Undergraduates (With Special Reference to Sri Lankan Universities)*. [Www.erepo.lib.uwu.ac.lk](http://www.erepo.lib.uwu.ac.lk). <http://www.erepo.lib.uwu.ac.lk/handle/123456789/1731>
- National Education Commission. (2022). *National Education Policy Framework (2020-2030)—Full Text* (p. 417). National Education Commission.
- Oddi, L. F. (1986). Development and Validation of an Instrument to Identify Self-Directed Continuing Learners. *Adult Education Quarterly*, 36(2), 97–107. <https://doi.org/10.1177/0001848186036002004>
- Parente, F. J., Anderson, J. K., Myers, P., & O'brien, T. (1984). An examination of factors contributing to Delphi accuracy. *Journal of Forecasting*, 3(2), 173–182.
- Phillips, A. C., Lewis, L. K., McEvoy, M. P., Galipeau, J., Glasziou, P., Hammick, M., Moher, D., Tilson, J. K., & Williams, M. T. (2014). A Delphi survey to determine how educational interventions for evidence-based practice should be reported: Stage 2 of the development of a reporting guideline. *BMC Medical Education*, 14(1), 159. <https://doi.org/10.1186/1472-6920-14-159>
- Piratheeban, K. (2023). Unravelling the Nexus between Self-directed Learning Readiness and Academic Attainment: A Study on Student-Teachers in Sri Lanka. *Symposium Proceedings*, 147–157.
- Piratheeban, K., & Bandara, L. M. K. (2025). Unpacking Self-directed Learning Readiness: A Mapping and Analysis of Measurement Scales. *Journal of Institute of Human Resource Advancement*, 12(1), 109–149.
- Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? critique and recommendations. *Research in Nursing & Health*, 29(5), 489–497. <https://doi.org/10.1002/nur.20147>
- Polit, D. F., Beck, C. T., & Owen, S. V. (2007). Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Research in Nursing & Health*, 30(4), 459–467.
- Raharjanti, N. W., Wiguna, T., Purwadianto, A., Soemantri, D., Indriatmi, W., Poerwandari, E. K., Mahajudin, M. S., Nugrahadi, N. R., Roekman, A. E., Saroso, O. J. D. A., Ramadianto, A. S., & Levania, M. K. (2022). Translation, validity and reliability of decision style scale in forensic psychiatric setting in

- Indonesia. *Heliyon*, 8(7), e09810.
<https://doi.org/10.1016/j.heliyon.2022.e09810>
- Ramli, N., Muljono, P., & Afendi, F. M. (2018). External Factors, Internal Factors and Self-Directed Learning Readiness. *Journal of Education and E-Learning Research*, 5(1), 37–42. <https://doi.org/10.20448/journal.509.2018.51.37.42>
- Robinson, J. (2010). *Triandis' Theory of Interpersonal Behaviour in Understanding Software Piracy Behaviour in the South African Context*. University of the Witwatersrand. <https://books.google.lk/books?id=LwAgMwEACAAJ>
- Saeid, N., & Eslaminejad, T. (2016). Relationship between Student's Self-Directed-Learning Readiness and Academic Self-Efficacy and Achievement Motivation in Students. *International Education Studies*, 10(1), 225. <https://doi.org/10.5539/ies.v10n1p225>
- Said, T. E. H. (2018). Statistical analysis: Internal-consistency reliability and construct validity. *International Journal of Quantitative and Qualitative Research Methods*, 6(1), 46–57.
- Samarasooriya, R. C., Park, J., Yoon, S. H., Oh, J., & Baek, S. (2019). Self-Directed Learning Among Nurse Learners in Sri Lanka. *The Journal of Continuing Education in Nursing*, 50(1), 41–48. <https://doi.org/10.3928/00220124-20190102-09>
- Shohoudi, M., Zandi, K., Faridi, M. R., Fathi, G., & Safari, Z. (2015). Relationship of Teaching Efficiency with Academic Self-Efficacy and Self-Directed Learning among English Language Students: University Students' Perspectives. *Educational Research in Medical Sciences*, 4(2).
- Skulmoski, G. J., Hartman, F. T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education: Research*, 6(1), 1–21.
- Stewart, R. A. (2007). Evaluating the self-directed learning readiness of engineering undergraduates: A necessary precursor to project-based learning. *World Transactions on Engineering and Technology Education*, 6(1).
- Suh, H. N., Wang, K. T., & Arterberry, B. J. (2015). Development and Initial Validation of the Self-Directed Learning Inventory With Korean College Students. *Journal of Psychoeducational Assessment*, 33(7), 687–697. <https://doi.org/10.1177/0734282914557728>
- Taherdoost, H. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *International Journal of Academic Research in Management*, 5(3), 28–36. <https://doi.org/10.2139/ssrn.3205040>

- Tekkol, İ. A., & Demirel, M. (2018). An Investigation of Self-Directed Learning Skills of Undergraduate Students. *Frontiers in Psychology*, 9, 2324. <https://doi.org/10.3389/fpsyg.2018.02324>
- Timothy, T., Seng Chee, T., Chwee Beng, L., Ching Sing, C., Joyce Hwee Ling, K., Wen Li, C., & Horn Mun, C. (2010). The self-directed learning with technology scale (SDLTS) for young students: An initial development and validation. *Computers & Education*, 55(4), 1764–1771. <https://doi.org/10.1016/j.compedu.2010.08.001>
- Torabi, N., Abdollahi, B., Aslani, G., & Bahrami, A. (2013). A Validation of a Self-directed Learning Readiness Scale Among Preliminary Schoolteachers in Esfahan. *Procedia - Social and Behavioral Sciences*, 83, 995–999. <https://doi.org/10.1016/j.sbspro.2013.06.185>
- Torabi, N., Aslani, G., & Bahrami, A. (2013). A Study on Self-directed Learning among Preliminary School Teachers in Esfahan. *Procedia - Social and Behavioral Sciences*, 83, 219–223. <https://doi.org/10.1016/j.sbspro.2013.06.043>
- Wiley, K. (1983). Effects of a self-directed learning project and preference for structure on self-directed learning readiness. *Nursing Research*, 32(3), 181–185.
- Williams, B., & Brown, T. (2013). A confirmatory factor analysis of the Self-Directed Learning Readiness Scale. *Nursing & Health Sciences*, 15(4), 430–436. <https://doi.org/10.1111/nhs.12046>
- Williamson, S. N. (2007). Development of a self-rating scale of self-directed learning. *Nurse Researcher*, 14(2), 66–83. <https://doi.org/10.7748/nr2007.01.14.2.66.c6022>
- Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A.-R. (2015). Design and Implementation Content Validity Study: Development of an instrument for measuring Patient-Centered Communication. *Journal of Caring Sciences*, 4(2), 165–178. <https://doi.org/10.15171/jcs.2015.017>

Appendix A

Finalized 29-Item Sri Lankan Self-Directed Learning Readiness Scale for Advanced-Level Students (SL-SDLRS-AL)

Dimension	Item No	Item
Awareness	1.1	I am able to identify the topics or areas I need to focus on for my learning.
	1.2	I know effective methods that help me learn better.
	1.3	I am aware that I am responsible for my own learning.
	1.4	I know about various resources I can use for my learning.
	1.5	I can set my learning goals.
	1.6	I am able to manage my time effectively for learning.
Learning Strategies and Styles	2.1	I study my subjects regularly.
	2.2	The way I learn depends on the subject or topic I am studying.
	2.3	I prefer understanding the concepts before memorizing them.
	2.4	I can identify the key points of a topic on my own.
	2.5	I feel more interested in topics when they are connected to real-life examples.
	2.6	I reflect on what I have learned by taking short notes.
Motivation	3.1	I feel self-motivated to take responsibility for my learning.
	3.2	My exam marks motivate me to study harder.
	3.3	I keep track of my study progress.
	3.4	I value feedback from others to improve my learning outcomes.
	3.5	I am encouraged by the approach used for my studies.
	3.6	I am motivated to connect new topics with existing knowledge.
Team Building	4.1	I share knowledge and ideas with my classmates.
	4.2	I feel confident when participating in group activities with my peers.
	4.3	I value the opinions of my group members during discussions.
	4.4	I provide constructive feedback to my classmates.
	4.5	I feel confident taking the lead in group activities.

Evaluation	5.1	I evaluate my work myself before seeking feedback from my teachers.
	5.2	I value feedback from classmates on my work.
	5.3	I am motivated to learn by my previous learning experiences.
	5.4	I review my notes regularly to check my progress.
	5.5	I find learning new topics to be stimulating and challenging.
	5.6	The others' achievements motivate me to improve.

Acknowledgment

The authors wish to express their sincere gratitude to Williamson (2007), Dulloo et al. (2023), and Fisher et al. (2001, 2010) for granting permission to adapt their self-directed learning readiness scales. Their work provided a strong foundation for developing the Sri Lankan Self-Directed Learning Readiness Scale for Advanced-Level Students (SL-SDLRS-AL), which has been tailored to the local educational and cultural context.

21ST-CENTURY SKILLS AND EMPLOYABILITY OF HUMANITIES UNDERGRADUATES IN SRI LANKA: A NARRATIVE LITERATURE REVIEW

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Abstract: Numerous research studies indicate that Humanities Undergraduates (HU) face challenges in securing higher-paying jobs due to a lack of employability skills. In this context, acquiring 21st-century skills (21CS) has become essential in higher education and for success in today's workforce. The study has identified the factors that influence employability, explored barriers and strategies for developing 21CS, and examined existing frameworks for fostering these skills among HU. Additionally, the research has investigated graduate capital theories related to employability to support a smooth transition into the workforce. The study has adopted an interpretivist paradigm and a qualitative approach. It has reviewed frameworks on 21CS and relevant literature regarding the employability of HU in Sri Lanka. The analysis was conducted in two stages. The first stage used thematic analysis to review existing literature, resulting in nine key themes. Major factors affecting employability included academic credentials, graduate capital, and experiential learning, while socio-demographic factors and academic excellence in the Arts were not considered key determinants. Barriers such as ineffective academic relationships, low motivation, exam-focused and traditional teaching methods, and systemic obstacles hindered the development of 21CS among HU. Conversely, collaborative student learning, comprehensive student development, and strategic infrastructure investments were identified as crucial for enhancing these skills and promoting sustainable growth. The second stage examined three frameworks on 21CS that signify global economic demands for employability, and identified fourteen critical skills, categorized into core skills, meta-skills, and social skills. The findings have important implications for policymakers, educators, and industry stakeholders, emphasizing the urgent need for collaborative efforts, informed policy-making, and strategic interventions to improve HU employability in Sri Lanka. Further research is recommended to develop and evaluate interventions to enhance 21CS among HU.

Keywords: *21st century skills, graduate employability, humanities undergraduates, Sri Lanka*

Introduction and background

The professional landscape has undergone profound changes due to globalization, rapid technological progress, and the integration of artificial intelligence, necessitating a fundamental shift in how graduates are prepared for the modern workforce (World Economic Forum, 2020). In today's rapidly

changing global economy, employers are seeking graduates with a diverse set of skills that extend beyond theoretical knowledge and technical proficiency, allowing them to succeed and adapt in the contemporary work environment (Binkley et al., 2012).

The growing mismatch between the labour market's demands for technologically skilled workers and the inadequate preparation of graduates has exacerbated unemployment rates, particularly in developing countries (World Bank, 2018). Compared to some developing countries such as Singapore, Thailand, and Malaysia, Sri Lanka's unemployment rate remains comparatively high (Wickramasinghe, 2010, as cited in Kanagasisingam, 2017). This presents a significant challenge, as the unemployed skilled and capable workforce could substantially contribute to the nation's economic growth (Weerasekara, 2022). The issue of unemployment among educated youth in Sri Lanka has been a longstanding concern, dating back to the late 1950s, and has evolved into a persistent socio-economic challenge over the years (Kanagasisingam, 2017).

The unemployment rate is a crucial macroeconomic indicator that reflects the overall performance and health of a country's economy (International Labour Organization, 2020). Prolonged youth unemployment can have a significant and lasting impact on Sri Lanka's gross domestic product (GDP) per capita, exacerbating economic challenges and hindering growth (Atigala et al., 2023). Further, unemployment harms individuals as it leads to mental stress (Jayathilake, 2020) has a negative impact as it generates youth unrest (Ariyawansa, 2008) and crime rates at a social level (Gunarathne & Jayasinghe, 2021). According to Cockshott et al. (2021), unemployed university graduates often experience significant mental health challenges, including feelings of disappointment, disorientation, shame, and humiliation, which can profoundly affect their well-being and self-esteem.

'Employability can be defined as the propensity of students to obtain a job' (Ambepitiya, 2016) and the ability to secure and perform a job effectively (Kanagasisingam, 2017). Yorke & Knight's (2004) as cited in Kanagasisingam (2017), the concept of graduate employability as a set of skills, achievements and personal attributes that facilitate graduates to seek and be successful in their chosen field of career and which has a positive impact on themselves, the workforce, the society and the economy of the country.

'Ensuring employability is believed to be a crucial concept of higher education' (Weerasekara, 2022). One of the main objectives of university education is to develop the necessary skills to face the challenges in society (De Silva, 1977, as cited in Ariyawansa, 2008). The higher education sector plays a vital role in producing employable graduates by fostering both academic and soft skills, thereby enabling them to contribute effectively to national development (Jalil et al., 2021; Karunaratne & Ariyawansa, 2022; Daka et al., 2023). The main goal of any higher education institution is to generate innovative knowledge and create quality education to build skilled

graduates to enter into a competitive labour market (Hossain et al., 2023). They should be able to respond to changing education and skill requirements of the nation and adopt flexible modes of organization and operation in the rapidly changing higher education landscape.

Accordingly, to meet these demands, higher education institutions must focus on developing graduates with a broad range of 21st-century skills (21CS) (Oraison et al., 2019) to improve work readiness. The 21CS reflects the changing demands of modern economies and societies, where information, technology, and innovation are central. Definitions of 21CS vary across disciplines and contexts and it is difficult to have one specific definition as it covers a wider spectrum. “The skills needed for education and the workplace in the current economy have been labeled 21CS”. “Different labels of the term ‘21CS’ used in the literature, such as ‘soft skills’, ‘transferable skills’ or ‘future skills’” (Karaca-Atik et al., 2023).

‘Soft skills’ were first discussed in 1972, and were not widely used until the early 1990s, although these skills existed in different forms (Ravindran & CMYSS2, 2015). Soft skills are often known as personal skills, non-academic skills, life skills, interpersonal skills, employability skills, behavioural skills, non-technical skills, social skills and emotional intelligence. (M.S.Rao, 2013; Rosie Garwood, 2012; Lei Han, 2014, as cited in Ravindran & CMYSS2, 2015).

However, state universities have faced criticism regarding the quality and applicability of the education they provide concerning securing employment (Chandrakumara, 2015; Rameez, 2019). This criticism is largely attributed to a considerable shortfall in soft skills, including English Language Proficiency (ELP) and IT skills (Ariyawansa and Perera, 2005, as cited in Ariyawansa, 2008; Ministry of Education, 2007, as cited in Wickramasinghe, 2018; World Bank, 2010, as cited in Wickramasinghe, 2018; Indraratna, 2018; Jayasingha & Suraweera, 2020; Y. Perera, 2024). Further, employers have cited a significant lack of soft skills, such as communication, problem-solving, teamwork, and critical thinking, as a major reason for not hiring graduates from state universities (Ministry of Education, 2007, as cited in Wickramasinghe, 2018).

Meanwhile, the National Education Commission (NEC) (2009) and the World Bank reports IRQUE (2003-2009) and HETC (2011-2015) have recommended that Information and Communications Technology (ICT) skills, ELP, and soft skills, including creativity, positive work attitudes, flexibility, initiative, team-orientation, communication and discipline students graduating from Sri Lankan universities need improvement (Silva & Jayathilaka, 2022). The quality and relevance of education offered by state universities have faced criticism (Rameez, 2019), with concerns raised about their ability to equip graduates with the skills and knowledge required for the modern workforce (Ministry of Education, 2007, as cited in Wickramasinghe, 2018).

Research problem

Humanities Undergraduates (HU) in Sri Lanka, in particular, have not developed the 21CS required for employability (NEC, 2022; Banda & Dharmadasa, 2022; Majid & Banu, 2024) and the Humanities and Social Sciences (HSS) encounter significant unemployment challenges (Chandrakumara, 2015). “Humanities Education has neglected the development of the skills” (M. Perera, 2022). According to the Tracer Study of Graduates, skills such as ELP, communication abilities, presentation skills, and leadership qualities are vital for securing employment in the labour market (University Grant Commission, 2018).

Graduates often lack essential skills such as communication, teamwork, and critical thinking, which are crucial for workplace success. A study indicated that over 50,000 humanities graduates were unemployed due to skills deficiencies and economic structural constraints (Banda & Dharmadasa, 2022). Accordingly, a considerable body of literature has indicated that Arts students represent the most significantly affected group concerning graduate unemployment in Sri Lanka (Ariyawansa, 2008; Chandrakumara, 2014; Asian Development Bank, 2016, as cited in Neranjani, 2018).

The Rationale of the Study

The study selects the HU as the majority of university entrants are in the Arts stream and the high unemployment level amongst Arts graduates (Asian Development Bank & International Labour Organization, 2017; Amarathunga et al., 2022) has been identified as a ‘socially and politically sensitive issue’ (Weerasekara, 2022) and this trend is continuing. In the Sri Lankan university system, Arts and Humanities faculties have become the largest academic disciplines in student enrollment (Banda & Dharmadasa, 2022). A major issue contributing to the unemployment within the humanities sector is the skewed distribution of subjects offered across schools in G.C.E. (A/L) education. According to the Annual School Census Report (2020), only 1000 schools (34.1%) out of 2932 were categorized as Type 1AB, providing education across all streams. The majority, comprising the remaining Type 1C schools (65.89%), offer only Arts and Commerce streams at the G.C.E. (A/L) level. This disparity is a primary factor behind the high enrollment in Arts and Commerce streams. Furthermore, the shortage of qualified teachers in science and mathematics at the senior secondary level, coupled with limited exposure to these subjects during primary education, contributes to students' reluctance to pursue science and mathematics at advanced levels. Additionally, apprehensions regarding university admissions further influence students' preference for Arts and Commerce streams. As a result, the highest percentage of students (60.5%) opt for Arts and Commerce streams. (NEC, 2022) Therefore, this contextual gap becomes relevant as it can increase employability among HU by developing the 21CS required for employability.

Further, the skewed distribution favouring soft disciplines is commonly observed in low-income countries. This trend is evident in Sri Lanka, which ranks first among 106 countries for the highest proportion of HSS students. This imbalance has cultivated a challenging environment, characterized by historically high unemployment rates among HSS graduates compared to their counterparts in engineering, science, and information and communication technology (NEC, 2022). This features another critical aspect that emphasizes the need for this study, as the rising number of Arts graduates necessitates that universities equip these graduates to confront future challenges.

The study also becomes significant as HU require the 21CS to direct their career paths due to the broad applicability of their degree, unlike degrees that often lead to specific career paths like medicine or engineering. Humanities graduates enter a diverse job market that requires transition between multiple roles and sectors, making these skills vital for long-term career success (Trent & Gannaway, 2008, as cited in Wijesekara & Nahallage, 2023).

Objectives

Accordingly, the objectives of the study are to:

1. Ascertain the determinants of employability for Humanities undergraduates.
2. Explore the barriers to developing 21st-century skills of the Humanities in the university system.
3. Explore strategies for developing 21st-century skills among Humanities undergraduates.
4. Examine existing frameworks to develop 21st-century skills for Humanities undergraduates

Literature review

Theoretical background

Human Capital Theory suggests that investments in education, training, and skills development increase an individual's productivity, making them more attractive to employers and enhancing their employability. This theory emphasizes the role of knowledge, skills, and competencies in generating economic value, ultimately leading to better job opportunities and career advancement (Becker, 1993). Human capital, encompassing qualifications, competencies, and skills, is developed through efforts by individuals, families, governments, and employers (Chandrakumara, 2015). It comprises many attributes, including knowledge, technical skills, qualifications, experience, and cognitive abilities like systems thinking, risk management, decision-making, and problem-solving (Bisschoff & Massyn, 2024). In the context of HU, human capital theory can develop the 21CS that are highly

valued in the labour market, adapting to the demands of the modern workforce.

Social Capital Theory emphasizes the value of social relationships, networks, and connections in achieving personal and professional goals (Bourdieu, 1986). It serves as a bridge between individuals and workplace stakeholders, facilitating connections and interactions (Bisschoff & Massyn, 2024). This refers to the attitudes, values, and behaviours that shape interactions among people, with customers, and within the workplace, promoting a positive environment and contributing to societal well-being (Tomlinson, 2017). This concept applies to HU, where leveraging social networks and academia-industry connections can significantly enhance their chances of securing employment.

Graduate Identity Theory focuses on how graduates present and position themselves in the labour market (Hinchliffe & Jolly, 2011). A strong positive identity within an organization can be a valuable asset, driving innovation, collaboration, and employee satisfaction, ultimately contributing to economic growth and a competitive edge (Tomlinson, 2017). The interaction between these attributes lays the groundwork for developing 21CS through ongoing reflection and self-improvement efforts and can be used to explore how HU develops its professional identities.

Frameworks on 21st century skills

The taxonomy and definitions from three seminal frameworks provide the structure for analyzing 21CS and are witnessed as the bridge between academic knowledge and success in the modern workplace. The international research project Assessment and Teaching of 21st Century Skills (ATC21S) categorizes 10 essential 21CS into four groups: ways of thinking (creativity and innovation; critical thinking, problem-solving, and decision-making; learning to learn and metacognition) ways of working (communication; collaboration), tools for working (information literacy; ICT literacy), and living in the world (citizenship; life and career skills; personal and social responsibility) (Binkley et al., 2012).

The Organisation for Economic Co-operation and Development (OECD) has also defined 21CS through various initiatives. Notably, the DeSeCo project (the acronym of Definition and Selection of Competencies: Theoretical and Conceptual Foundations) in 1997 identified three key categories: using tools interactively, interacting in heterogeneous groups and acting autonomously (OECD, 2005, as cited in Karaca-Atik et al., 2023). These categories highlight essential skills for success in today's world.

The Partnership for 21st Century Skills (P21), is another framework that focuses on student outcomes that prepare individuals for success in work and life. It categorizes 21CS into three areas: learning and innovation skills (creativity, critical thinking, problem-solving, communication, collaboration), information, media, and technology skills (information

literacy, media literacy, ICT literacy) and life and career skills (flexibility, adaptability, initiative, social skills, leadership, responsibility) (P21, Framework for 21st century learning, 2019). The P21 framework, developed by experts and educators, aims to equip students with the skills needed for the modern workforce (P21, Framework for 21st century learning definitions, 2019).

Research bases of the study

Fernando & Silva (2012), in their study based on factors influencing the successful employability of Arts graduates, aim to assess the impact of degree medium, class, and IT skills on employment outcomes. The study utilizes primary data from Sabaragamuwa University's Faculty of Social Sciences and Languages by circulating a mailed questionnaire and conducting statistical analysis to test hypotheses aligned with study objectives. The study reveals that the Arts graduates are mainly affected by the medium of their degree and IT skills. Further, the final grade of the degree determines the capacity of the graduates to demand high salaries. Further, it was evident from the respondents that industrial training (45%), additional English modules (37%), and IT modules (31%) would improve the quality of these graduates.

Chinthaka & Rathugama (2015) conducted a study to investigate whether the outcomes of current Bachelor of Arts (B.A) degrees from Sri Lankan state universities affect their employability in the job market. This helped to determine the relationships inherent among factors such as working experience, academic reputation, and soft skills that are possessed by a B. A graduate and the extent to which each one of these factors affects their employability. The results revealed that there are gaps in B.A. skills requirements between the Sri Lankan state university outcomes and the employers' expectations. These gaps are majorly in the soft skills, which include the oral and written communication skills, numeracy skills, computer skills, time management and responsibilities, professionalism, problem-solving skills, and graduates' such as taking initiative and willingness to learn, graduates' ability to work in a team, and their interpersonal skills. The research concluded that having studied at a popular university for a B. A degree is not a determinant of securing employment. In addition, B.A. skills requirements are invariant across employers from different industries.

The study by Chandrakumara (2015) goal was detecting the determinants of employability for new graduates in Sri Lanka. This study evaluates the importance of soft skills and social capital in comparison with hard skills and evaluates the influence of professional qualifications on employability. The study reveals that soft skills are crucial for employability, especially for Arts graduates. Science and Management graduates with professional qualifications have better job prospects. Both soft skills and social capital are important for job acquisition. Professional qualifications significantly enhance employment chances. Factors like gender, type of studentship do not

significantly influence employability. The study also discloses many policy implications, such as university intakes should align with national job market needs, encourage students to pursue professional qualifications alongside degrees and shift training focus from solely employer needs to broader societal requirements.

Gunarathne and Jayasinghe (2021) conducted a study that delves into addressing Sri Lanka's pressing issue of graduate unemployment by investigating the factors influencing the duration of unemployment among university graduates in the Science and Arts streams. The findings specified that female graduates from the Science stream tend to experience longer unemployment periods compared to their male counterparts. Arts stream graduates who undertook professional courses during their studies had better job prospects immediately after graduation compared to those who did not pursue any additional qualifications.

The study by Amarathunga et al. (2022) aims to identify determinants of employability skills for Arts graduates. The study employed an explanatory research strategy with a quantitative approach. Six hypotheses were tested in terms of relationships between demographic factors, extracurricular activities, English proficiency, internship training, university-industry linkages, and social media interactions with graduate employability skills. Extracurricular activities, ELP, social media interactions and internship training positively correlated with graduate employability skills. The findings also revealed the lowest positive correlation with demographic factors and the strongest positive correlation with university-industry linkages.

Karunarathne and Ariyawansa (2022) led a study concentrating on the development of soft skills within undergraduate degree programs in Sri Lankan state tertiary education. The research identified the paramount soft skills required by undergraduates, the obstacles hindering the delivery of these skills in a tertiary environment, and the capacity of public universities to foster soft skills development. This investigation utilized a pragmatic framework and a mixed-methods approach. The study unveiled three primary findings. Firstly, it was determined that communication, teamwork, ethics, and professionalism are the essential soft skills that must be nurtured among undergraduates. Secondly, major barriers to soft skills development included time constraints, overcrowded classrooms, and a lack of awareness among undergraduates of the significance of these skills. Thirdly, the development of undergraduates' soft skills is achievable through the presence of skilled lecturers and the provision of necessary infrastructural facilities. The study recommends that academia-industry collaborative efforts and the university curricula to incorporate opportunities for soft skills development.

The study conducted by Wijesekara & Nahallage (2023) examines the early careers of Arts graduates' employability and the factors inducing their job search success after graduation. The survey reveals that a significant percentage of Arts graduates struggle to find employment shortly after

completing their degree. It specifies that nearly 18% of these graduates secure a job within six months and raising concerns for the employability of Arts graduates. Several factors contribute to the difficulties faced by graduates in obtaining jobs: the mismatch of skills with the labour market and the perception that the duration of study may be too short for graduates to acquire the skills needed for permanent positions. It also reveals that the undergraduates are not confident enough to use English as a medium of instruction. However, the results reveal there is a significant relationship between medium of instruction and employability, where the rate of employment among English-medium arts graduates was comparatively higher than Sinhala-medium graduates. The paper concludes that the current findings do not fully capture the employability landscape for Arts graduates. However, the study reveals the medium and field of study, internship training programmes, and academic performance as some of the decisive factors of graduate employment.

Majid and Banu (2024) reveal the challenges faced by Arts graduates in the current labour market. The study aims to explore obstacles preventing Arts graduates from securing employment and propose recommendations for overcoming these challenges. The study reveals many findings. Arts graduates find it challenging to acquire jobs in the private sector, though there are ample opportunities due to a lack of knowledge and skills. They also seek government jobs due to job security and pension benefits. Meanwhile, those who have professional qualifications and completed internship training programmes have better job prospects. It was also obvious that there is a limited number of job opportunities for Arts graduates in the labour market. The study also reveals the attitudes and of Arts Undergraduates regarding jobs and challenges. As per the study, 63% of students believe the syllabus needs revision to meet job market demands, 39% feel university support for skill development is insufficient and 34% expect jobs related to their degree, while 44% prefer government jobs. Meantime, 82% of undergraduates lack professional qualifications due to financial constraints, 54% believe their courses do not provide the necessary IT and ELP skills and all students agree that internship training is beneficial for job acquisition.

On the whole, many studies highlight the need to develop 21CS in HU to improve employability. Meanwhile, no existing studies have utilized three distinct 21st-century skills frameworks to develop 21CS for HU for employability, integrating human capital, social capital, and graduate identity capital theories. These set the aim and direction of the study.

Methodology

Research Design: A Narrative Literature Review

An interpretivist research paradigm is used in this study to interpret and analyze texts and documents (Bryman & Bell, 2015). A qualitative research approach was employed to explore themes and meanings in the existing

documents (Creswell & Creswell, 2018). ‘A narrative review is a scholarly summary along with interpretation and critique’ (Greenhalgh et al., 2018) for synthesizing diverse bodies of literature from multiple theoretical perspectives to develop a comprehensive conceptual understanding of a complex issue (Greenhalgh et al., 2018). The study adopts a narrative literature review (Green et al., 2006) to address the four interconnected research objectives, which require the integration of graduate capitals (human, social and identity capitals) and pedagogical (21st-century skills frameworks) literatures to construct a holistic narrative about Humanities employability.

Primary searches were conducted in Google Scholar and Research Gate. Boolean searches combined key terms:

Population: (“Humanities undergraduates” OR “Arts Undergraduate” OR “Sri Lanka”)

Concepts: (“graduate employability” OR “21st century skills”)

Theory: (“human capital” OR “social capital” OR “identity capital”)

Searches were limited to English-language, Sri Lankan articles (2010–2025) capturing Arts students when searched took place based on ‘Population’. Further, literature was selected based on conceptual relevance to the research objectives rather than methodological homogeneity. The search was not linear but iterative. The reference lists of key articles (backward snowballing) and their citing articles on Google Scholar and Research Gate (forward snowballing) were examined to identify foundational texts and contemporary developments. This process continued until theoretical saturation was reached. Saturation, where document analysis continues until no new themes or insights emerge (Glaser & Strauss, 2012) providing novel conceptual insights relevant to the objectives. Non-English papers and abstract-only papers were excluded.

The analysis was conducted in two phases to fulfill the study's objectives. The initial phase was carried out to fulfill the first three objectives of the study, analyzing existing literature relevant to humanities graduates' employment within the Sri Lankan context. Thematic analysis was employed to identify, analyze, and interpret patterns and themes (Braun & Clarke, 2006). In the second phase, the study examined three frameworks dedicated to 21CS to satisfy the study's last objective.

Findings and discussions

PHASE 1

Twenty-three papers were reviewed and eight key papers were identified for the present study. Table 1 summarizes the details of these eight key studies.

Table 1: Papers Included for Analysis and their Key Findings

Source	Sample	Key Content
Fernando & Silva (2012)	Arts graduates	Arts graduates are affected by the medium of their degree and IT skills. The final grade of the degree determines high salaries. The quality of these graduates can be enhanced through industrial training, additional English courses and IT programmes.
Chinthaka & Rathugama (2015)	Arts	Skills gaps identified among B.A. undergraduates were in oral and written communication skills, numeracy skills, computer skills, time management and responsibilities, professionalism, problem-solving skills, and graduates' such as taking initiative and willingness to learn, graduates' ability to work in a team, and their interpersonal skills.
Chandrakumara (2015)	Arts Graduates	Soft skills, social capital, and Professional qualifications enhance the job prospects of Arts graduates. Gender, type of studentship, and internships do not significantly influence their job prospects.

Gunarathne and Jayasinghe (2021)	Arts and Science graduates	Gender and professional courses enhance the employment of Arts graduates and the Grade Point Average (GPA) and academic performance have less impact.
Amarathunga et al. (2022)	Arts graduates	Extracurricular activities, proficiency in English, social media interactions and internship training greatly influence the job prospects of Arts graduates, whereas demographic factors have very little impact.
Wijesekara & Nahallage (2023)	Arts graduates	The medium and field of study, internship training programmes, and academic performance have a great impact on the employment of Arts graduates.
Majid and Banu (2024)	Arts graduates	Skills gap identified as the main issue among Arts graduates. The private sector has ample opportunities. Arts graduates seek government jobs due to pension benefits. Professional training programmes and internship programmes have a positive impact on job prospects.

			Study findings reveal that the Arts stream syllabus needs to be revised, inadequate university support for skills development, including IT and ELP.
Karunaratne and Ariyawansa (2022)	Sri Lankan Undergraduates		<p>Communication, teamwork, ethics, and professionalism are key determinants of employment for Sri Lankan undergraduates.</p> <p>Time constraints, crowded classrooms and lack of awareness of the importance of soft skills are identified as barriers in developing soft skills among Sri Lankan undergraduates</p> <p>Soft skills can be developed through skilled lecturers and via the necessary infrastructure facilities.</p>

Source: Authors (2025)

The first phase involved analyzing existing literature relevant to humanities graduate employability within the Sri Lankan context, utilizing NVivo 15 (QSR International) software. Initially, five primary codes were generated based on the first three research objectives, and it was followed by 82 child codes, 29 focused codes and nine themes. Table 1 summarizes the codebook and the nine overarching themes derived from the analysis.

Table 2: Summary of the Codebook

Objectives	Child codes	Focused Codes	Themes
Objective 1 - Ascertain the determinants of employability for Humanities graduates.	44	10	Theme 1 - Academic Credentials Theme 2 - Graduate Capital and Experiential Learning Theme 3 - Socio-Demographic Factors and Academic Excellence in the Arts
Objective 2 - Explore the barriers to developing 21st-century skills of the Humanities in the university system.	18	11	Theme 4 - Unproductive Academic Relationships and Low Motivation Theme 5 -Exam-oriented and Traditional Pedagogies Theme 6 -Systemic Barriers
Objective 3 - Explore strategies in developing 21 st -century skills among Humanities undergraduates.	20	08	Theme 7 - Collaborative Student Learning Theme 8 - Holistic Student Development Theme 9 - Strategic Infrastructure Investment

Source: Authors (2025)

Objective 1 - Determinants of employability for Humanities undergraduates

The analysis revealed three significant findings.

Theme 1 - Academic Credentials

Academic credentials, including academic reputation (Chinthaka & Rathugama, 2015), the medium of instruction, classification of performance (Fernando & Silva, 2012), and types of degrees (Chandrakumara, 2015), significantly influence the employability of HU. According to Wijsekara & Nahallage (2023) the rate of employment among English-medium arts graduates was comparatively higher than Sinhala-medium graduates.

Theme 2 - Graduate Capital and Experiential Learning

Graduate capital manifests in various forms and claims that employability is a process of identity development and capital formation (Tomlinson, 2017). Therefore, employability is ‘not simply about encouraging the acquisition of skills, but rather in helping students to transition from the identity of a student towards that of a graduate worker’ (Artess et al., 2017, p 40). In other words, it is developing the employability capitals (including human, cultural, social and psychological capitals) in generating the identity (identity capital) of a graduate worker.

Human capital includes technical skills, knowledge, and expertise (Becker, 1993), such as IT proficiency, ELP skills, digital literacy, professional courses, entrepreneurial skills development, and soft skills. Majid and Banu's (2024) study reveals that students believe the syllabus needs revision to meet job market demands, university support for skill development is insufficient and their courses do not provide the necessary IT and ELP skills and all students agree that internship training is beneficial for job acquisition.

Social capital pertains to professional linkages, digital connections, relationships, collaborations, university-industry partnerships, and industry professional networks (Amarathunga et al., 2022). Recognizing industry trends and necessities (Karunaratne & Ariyawansa, 2022), as well as aligning oneself with professional potentials (graduate identity), are of utmost importance. The study by Jayamanne & Ramanayake (2017) findings reveal that enhancing job market awareness for Arts graduates is crucial. Self-motivation (Karunaratne & Ariyawansa, 2022) and self-awareness of career options both emphasize the significance of personal initiative and drive in career development and enunciate the formation of graduate identity. Experiential learning, including internships and industrial training (Fernando & Silva, 2012), facilitates the development of practical skills and enhances graduate capital by providing real experiences that showcase skills and adaptability.

The study findings of Hosain et al. (2021) validate that features such as academic skills, technical skills, problem-solving skills (signifying human capital), communication skills (signifying social capital), motivational skills (signifying psychological capital), personality qualities, and leadership qualities (signifying identity capital) all contribute to overall graduate employability. These findings also highlight the multidimensional nature of

graduate employability and the importance of diverse graduate capitals in determining employment prospects.

Theme 3 - Socio-Demographic Factors and Academic Excellence in the Arts

Socio-demographic variables such as age, gender, marital status, ethnicity, work experience, and residential area have a minimal impact on employability (Amarathunga et al., 2022). Conversely, academic excellence in the Arts, enrollment at a reputable university for a Bachelor of Arts degree, academic reputation (Chinthaka & Rathugama, 2015), and the nature of studentship (internal or external) (Chandrakumara, 2015) are not determinative factors for employability among Humanities graduates. ‘An Arts degree is not considered a foundational qualification for employment’ (Majid & Banu, 2024). ‘Many Arts graduates live in the mistaken belief that their degree is quite sufficient for employment’ (Weerasooria, 2018).

Objective 2 - Barriers to developing 21st-century skills of the Humanities undergraduates in the university system

The analysis revealed three significant findings.

Theme 4 – Unproductive Academic Relationships and Low Motivation

A negative rapport between students and lecturers can hinder the overall learning practice (Karunaratne & Ariyawansa, 2022). Undergraduate students habitually prioritize academic endeavors, often disregarding vital skills such as communication, teamwork, and time management, which are critical for career development. Limited awareness of their significance and absence in self-motivation can obstruct developmental progress (Karunaratne & Ariyawansa, 2022).

Theme 5 - Exam-oriented and traditional pedagogies

The prevalent exam-oriented culture, lectures delivered through traditional one-way communication (Karunaratne & Ariyawansa, 2022), the absence of internship training (Fernando & Silva, 2012), an unrevised syllabus (Chandrakumara, 2015), and the deficiency of industry-relevant skills—including information technology skills, ELP, computer literacy, and professional qualifications (Majid & Banu, 2024)—are among the challenges faced in cultivating 21CS among HU. According to Bandara (2018), the pedagogy-based teaching methods utilized in national universities, particularly in the HSS within a Teacher-Directed Learning environment, as cited in the World Bank (2009), impede the acquisition of professional skills that graduates require for their career advancement.

Theme 6 - Systemic Barriers

The semester system exerts pressure to complete the curriculum within a limited timeframe, possibly limiting lecturers' ability to explore topics in

depth or employ inventive teaching methodologies. The demand for consistency across core programs further constrains flexibility and imposes significant time limitations. Additionally, the absence of soft skill assessment in student evaluations, the medium of instruction for degrees, large class sizes (Karunaratne & Ariyawansa, 2022), and inadequate investment in education (Chinthaka & Rathugama, 2015) constitute substantial systemic barriers.

Objective 3 - Strategies for developing 21st-century skills among Humanities undergraduates

The analysis revealed three significant findings.

Theme 7 - Collaborative Student Learning

The integration of student-centered learning approaches (SCL) into curriculum development can enhance the acquisition of essential 21CS among HU. Activities such as case studies, group discussions, role-plays, and problem-based learning have been shown to foster critical thinking, teamwork, and communication skills. Furthermore, reflective responses, think-pair-share, jigsaw discussions, and fishbowl discussions can also contribute to the development of these skills (Karunaratne & Ariyawansa, 2022). Engaging Bachelor of Arts students in joint assignments and group discussions can improve graduate attributes such as initiative and teamwork (Chinthaka & Rathugama, 2015).

Theme 8 - Holistic Student Development

Extracurricular activities, including university clubs and career guidance units, play a dynamic role in shaping students' university experiences and facilitating personal development, skill improvement, and networking prospects. The incorporation of internships into degree programs provides students with valuable opportunities to develop soft skills and gain industry experience (Karunaratne & Ariyawansa, 2022). Moreover, enhancing ELP and IT skills can significantly improve students' employability and career prospects (Fernando & Silva, 2012). Gunarathne and Jayasinghe's (2021) study findings also reveal that graduates from the Arts stream who engaged in professional courses during their academic studies demonstrated improved job prospects, in contrast to those who did not seek any further qualifications.

The development of industry-related skills and time management skills is crucial for students to be job-ready and competitive in the job market. Further, annual forums provide a valued platform for stakeholders to discuss concerns, share perceptions, and collaborate on resolutions (Chinthaka & Rathugama, 2015). Work-integrated learning, interactive overseas learning opportunities, and strengthened faculty collaborations with industry partners can provide students with valuable experiences and skill development opportunities (Wijesekara & Nahallage, 2023).

The study by Amarathunga et al. (2022) reveals that extracurricular activities, ELP, social media interactions and internship training positively correlated with graduate employability skills and the strongest positive correlation with university-industry linkages. There is a pressing need for structural reforms in higher education to align curricula with market demands. This includes integrating soft skills training and practical experiences like internships (Chinthaka & Rathugama, 2015).

Theme 9 - Strategic Infrastructure Investment

Furthermore, investing in infrastructure and technologies can support the development of soft skills in university students (Karunarathne & Ariyawansa, 2022). Specifically, investing in computer labs, technicians, and infrastructure can help bridge the computer skills gap among B.A graduate (Chinthaka & Rathugama, 2015). According to Karunarathne and Ariyawansa (2022) that university curricula should incorporate opportunities for soft skills development, and it is feasible with skilled lecturers and the provision of necessary infrastructural facilities.

PHASE 2

Objective 4 – Frameworks to develop 21st-century skills of Humanities undergraduates

Table 2 was constructed based on three frameworks dedicated to 21CS - ATC21S, OECD and P21. The three frameworks outline various 21CS that are crucial for success in today's world, including graduate employability. These frameworks are not just theoretical; they are driven by employer demand and economic shifts. They provide a common language for the competencies that employers value in a global market. Table 3 presents a streamlined categorization of fourteen 21CS into Core Skills, Meta Skills, and Social Skills deemed vital for graduate employability, based on a synthesis of the ATC21S, OECD, and P21 frameworks, in line with the study's last objective.

Core skills are important for employability because they enhance critical thinking and problem-solving (P21, 2019); improve productivity and efficiency and allow adaptability and flexibility (OECD, 2005, as cited in Karaca-Atik et al., 2023) in the work environment. Meta skills are vital for graduate employability because they nurture innovation and entrepreneurship (P21, 2019) and upkeep lifelong learning and professional development (OECD, 2005, as cited in Karaca-Atik et al., 2023). Social skills are also crucial because they enrich communication and interpersonal relationships and support social responsiveness and community engagement. Education systems must prioritize these skills, integrating them alongside traditional subjects for success in the present dynamic, information-driven world (Binkley et al., 2012).

Table 3: 21st-century skills: Core Frameworks and Classifications

Source	Primary Classification	21 st Century Skills
Assessment and Teaching of 21st Century Skills (ATC21S)	ways of thinking	creativity and innovation; critical thinking, problem-solving, and decision-making; learning to learn and metacognition
Binkley et al., (2012)	ways of working	communication; collaboration
	tools for working	information literacy; ICT literacy
	living in the world	citizenship; life and career skills; personal and social responsibility
Partnership for 21st Century Skills (P21)	learning and innovation skills	creativity, critical thinking, problem-solving, communication, collaboration
P21, Framework for 21st century learning, (2019)	information, media, and technology skills	information literacy, media literacy, ICT literacy
	life and career skills	flexibility, adaptability, initiative, social skills, leadership, responsibility
Organisation for Economic Co-operation and Development (OECD) OECD, 2005, as cited in Karaca-Atik et al., 2023	DeSeCo project Definition and Selection of Competencies	using tools interactively interacting in heterogeneous groups acting autonomously

Source: Authors (2025)

Table 4: Twenty-first Century Skills for Humanities Undergraduates

Core Skills	Information literacy (ATC21S, P21)
	ICT literacy (ATC21S, P21)
	Media literacy (P21)
	Using tools interactively (OECD)
Meta Skills	Critical thinking, problem-solving, and decision-making (ATC21S, P21)
	Learning to learn and metacognition (ATC21S)
	Creativity and innovation (ATC21S, P21)
	Acting autonomously (OECD)
Social Skills	Communication (ATC21S, P21)
	Collaboration (ATC21S, P21)
	Interacting in heterogeneous groups (OECD)
	Life and career skills (ATC21S, P21) including:
	Flexibility and adaptability (P21)
	Initiative and self-direction (P21)
	Social and cross-cultural skills (P21)
	Leadership and responsibility (P21)
Citizenship (ATC21S)	
Personal and social responsibility (ATC21S)	

Source: Authors (2025)

Conclusion

The review offers valuable insights into the 21CS and the employability of HU in Sri Lanka and its impact in securing higher remunerative jobs in today's labour market. The study found that academic credentials, graduate capitals—including human, social, and identity capitals—and experiential learning significantly influence the employability prospects of HU. Furthermore, it highlights that socio-demographic factors and academic excellence in the Arts do not determine employability. Overall, the research indicates that 21CS and graduate capitals are equally vital, and both play a crucial role in determining graduate employability. In other words, it shows

that developing 21CS is important, but equally important is the simultaneous development of graduate capitals.

Additionally, the study uncovers barriers to developing 21CS among HU, such as negative relationships between students and lecturers, a lack of intrinsic motivation, exam-focused, teacher-led classrooms utilizing traditional pedagogy, and systemic obstacles. It also suggests strategies for fostering 21CS, including promoting collaborative learning, holistic student development, career guidance, internships, work-based learning, and professional programs. Moreover, the study advocates for investing in infrastructure to support the development of these skills for sustainable growth.

Further, the frameworks inculcate a disciplined structure for developing 21CS among HU and these can be adapted for career development and success in higher education and even for other educational settings. Meanwhile, to foster personal growth and development with the rapid growth of specialized knowledge and career opportunities, continuous learning and updating skills throughout one's career to achieve lifelong learning is essential.

Therefore, these findings have important implications for policy and practice in Sri Lankan universities. Policymakers should revise policies to enable universities to provide opportunities for developing 21st-century skills and industry-relevant education. Curricula need restructuring to better align with the skills necessary for employability. Strengthening ties between academia and industry is essential for providing practical training and creating job opportunities. Ultimately, the study highlights the need for collaborative efforts, policy reforms, and strategic interventions to enhance the employability prospects of graduates in Sri Lankan universities. Finally, the findings contribute to the existing body of knowledge and catalyze future research.

References

- Amarathunga, B., Talib, Z. B., & Khatibi, A. (2022). Determinants for Employability Skills of Arts Graduates in Sri Lankan State Universities. *European Journal of Science, Innovation and Technology*, 2(4), 13-23. Retrieved from https://www.researchgate.net/publication/378104409_Determinants_for_Employability_Skills_of_Arts_Graduates_in_Sri_Lankan_State_Universities_Graduates'_Perspective
- Ambeptiya, K. (2016). Employability of Graduates of Public and Private Management Education Institutes: A Case Study of Two Institutes in

- Sri Lanka. *OUSL Journal*, 113-133. doi:<https://doi.org/10.4038/ouslj.v11i0.7346>
- Aris Hanafi Abu Jalil, G. E. (2021). Theory and Model's: Development of Soft Skill Rubric for The Co-Curricular Subject Among's Matriculation Program Student of the Ministry of Education Malaysia. *International Journal of Academic Research in Progressive Education and Development*, 13-23. doi:Theory and Model's: Development of Soft Skill Rubric for The Co-Curricular Subject Among's Matriculation Program Student of the Ministry of Education Malaysia
- Ariyawansa, R. G. (2008). Employability of Graduates of Sri Lankan Universities. *Sri Lankan Journal of Human Resource Management*, 91-104. Retrieved from https://www.researchgate.net/publication/266419775_Employability_of_Graduates_of_Sri_Lankan_Universities
- Artess, J., Hooley, T., & Mellors-Bourne, R. (2017). *Employability: A review of the literature 2012 to 2016*. New York: Higher Education Academy. Retrieved from https://s3.eu-west-2.amazonaws.com/assets.creode.advancehe-document-manager/documents/hea/private/resources/employability_a_review_of_the_literature_1568037358.pdf
- Asian Development Bank, & International Labour Organization. (2017). *Sri Lanka Employment Diagnostic Study: Fostering Workforce Skills through Education*. Philippines.: Asian Development Bank. Retrieved from <https://www.adb.org/sites/default/files/publication/382296/sri-lanka-employment-diagnostic.pdf>
- Atigala, P., Maduwanthi, T., Gunathilake, V., Sathsarani, S., & Jayathilaka, R. (2023). A FLOURISHING OR FALTERING ECONOMY: UNEMPLOYMENT IMPACTING SRI LANKAN ECONOMIC GROWTH. *Sri Lanka Journal of Economic Research*, 10(2), 29-46. Retrieved from https://rda.sliit.lk/bitstream/123456789/3271/1/69_A%20Flourishing%20or%20Faltering%20Economy.pdf
- Banda, O. G., & Dharmadasa, P. D. (2022). An Economics Analysis of Employability and Unemployment of Humanities and Social Sciences Graduates in Sri Lanka. *Sage*. doi:<https://doi.org/10.1177/09715231221124714>
- Bandara, L. (2018). *Unlocking the Treasure Within: Through Self-Directed Learning*. Colombo: University of Colombo.
- Becker, G. S. (1993). *Human Capital*. The United States of America : The University of Chicago Press.

- Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). *Defining Twenty-First Century Skills in Assessment and Teaching of 21st Century Skills*. Australia: Springer. Retrieved from https://www.researchgate.net/publication/226284480_Defining_Twenty-First_Century_Skills
- Bisschoff, Z. S., & Massyn, L. (2024). A conceptual soft skills competency framework for enhancing graduate intern employability. *Higher Education, Skills and Work-based Learning*, 66-81. doi:<https://doi.org/10.1108/HESWBL-08-2023-0239>
- Bourdieu, P. (1986). *Handbook of Theory and Research for the*. New York: Greenwood Press.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 77-101. Retrieved from https://www.researchgate.net/publication/235356393_Using_thematic_analysis_in_psychology
- Bryman, A., & Bell, E. (2015). *Business Research Methods*. Oxford.: Oxford University Press.
- Chandrakumara, D. (2014). *EMPLOYABILITY OF NEW GRADUATES IN SRI LANKA: Implications for Policy Development*. Japan: Graduate School of International Development Nagoya University. Retrieved from https://www.researchgate.net/publication/282705328_EMPLOYABILITY_OF_NEW_GRADUATES_IN_SRI_LANKA_Implications_for_Policy_Development#:text=The%20study%20found%20that%20the,graduate%20employability%20in%20Sri%20Lanka
- Chandrakumara, D. (2015). Modeling Graduate Employability in Sri Lanka Using Binary Logistic Regression Modeling Graduate Employability in Sri Lanka Using Binary Logistic Regression. *International Journal of Multidisciplinary Research and Development*, 326-333. Retrieved from https://www.researchgate.net/publication/282704847_Modeling_Graduate_Employability_in_Sri_Lanka_Using_Binary_Logistic_Regression
- Chinthaka, A. A., & Rathugama, R. D. (2015). The Influence of Bachelor of Arts from Sri Lanka State Universities on the Graduates' Employability: A review of the Gaps between Bachelor of Arts Outcomes and the Employers' Expectations. *International Journal of Academic Research in Business and Social Sciences*, 5(4), 286-309. Retrieved from https://www.researchgate.net/publication/315931218_The_Influence_of_Bachelor_of_Arts_from_Sri_Lanka_State_Universities_on_the_Graduatesa_Employability_A_review_of_the_Gaps_b

etween_Bachelor_of_Arts_Outcomes_and_the_Employersa_Expectations

- Cockshott, C. J., Kiemle, G., Byrne, P., & Gabbay, M. B. (2021). A Fall from Grace: An Interpretative Phenomenological Analysis of Unemployment in UK University Graduates with Common Mental Health Issues. *Open Journal of Social Sciences*, 291-313. doi:<https://doi.org/10.4236/jss.2021.91021>
- Creswell, J., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (Fifth Edition ed.). United Kingdom: SAGE.
- Daka, H. M. (2023). Bridging the Gap: Addressing the Disparity between Higher Education Knowledge and Industry Needs. *International Journal of Social Science and Education Research Studies*. doi:<https://doi.org/10.55677/ijssers/V03I8Y2023-12>
- Fernando, S., & Silva, C. (2012). Factors Influencing Successful Employability of Arts Graduates. *Asian Journal of Multidimensional Research*, 69-81. Retrieved from <http://repo.lib.sab.ac.lk:8080/xmlui/handle/123456789/1767>
- Glaser, B. G., & Strauss, A. L. (2012). *The Discovery of Grounded Theory: Strategies for qualitative research*. United States of America: Aldine Transaction. Retrieved from http://www.sxf.uevora.pt/wp-content/uploads/2013/03/Glaser_1967.pdf
- Green, B. N., Johnson, C. D., & Adams, A. (2006). Writing narrative literature reviews for peer-reviewed journals: secrets of the trade. *JOURNAL OF CHIROPRACTIC MEDICINE*, 101-117. Retrieved from <https://pmc.ncbi.nlm.nih.gov/articles/PMC2647067/pdf/main.pdf>
- Greenhalgh, T., Thorne, S., & Malterud, K. (2018). Time to challenge the spurious hierarchy of systematic over narrative reviews? *European Journal of Clinical Investigation*, 48(6), 1-6. doi: 10.1111/eci.12931
- Gunarathne, L., & Jayasinghe, C. L. (2021). Factors Affecting Unemployment Duration of the Science and Arts Stream University Graduates in Sri Lanka. *Advanced Journal of Social Science*, 96-120. doi:<https://doi.org/10.21467/ajss.8.1.96-120>
- Hinchliffe, G. W., & Jolly, A. (2011). Graduate identity and employability. *British Educational Research Journal*, 1-22. Retrieved from https://www.researchgate.net/publication/233307113_Graduate_identity_and_employability

- Hosain, M. S., Mustafi, M. A., & Parvin, T. (2021). Factors affecting the employability of private university graduates: an exploratory study on Bangladeshi employers. *PSU Research Review*, 7(3), 163-183. doi:10.1108/PRR-01-2021-0005
- Hossain, M. A., Ahaduzzaman, M., Hossain, M. A., Khan, M. K., & Miah, G. (2023). Evaluation of quality attributes of graduate by employers to develop skilled manpower and ensuring the quality of higher education. *Bangladesh Journal of Veterinary and Animal Sciences*, 48-56. doi:<https://doi.org/10.60015/bjvas.v11i1.203>
- Indraratna, A. d. (2018). Higher Education for Sustainable Development . In D. Jayasuriya, *Education in Sri Lanka* (pp. 168-196). Sri Lanka: Asian Pathfinder Publishers and Booksellers.
- International Labor Organization. (2020). *World Employment and Social Outlook: Trends 2020*. Geneva: International Labour Office. Retrieved from https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_734455.pdf
- Jayamanne, I. T., & Ramanayake, K. P. (2017). A Study on the Waiting Time for the First Employment of Arts Graduates in Sri Lanka. *International Journal of Computer and Information Engineering*, 1153-1161. Retrieved from <http://192.248.16.117:8080/research/handle/70130/5205>
- Jayasingha, D., & Suraweera, S. (2020). An Analysis of the Factors Affecting the Graduates' Employability In Case Of Rajarata University of Sri Lanka. *ICONIC RESEARCH AND ENGINEERING JOURNALS*, 10-24. Retrieved from <https://www.irejournals.com/formatedpaper/1702342.pdf>
- Jayathilake, H. D. (2020). The Impact of Unemployed Youth on National Development in Sri Lanka. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, 2985-3005. Retrieved from https://www.researchgate.net/publication/340849361_The_Impact_of_Unemployed_Youth_on_National_Development_in_Sri_Lanka
- Kanagasigam. (2017). *Review on Graduates' Unemployment in Sri Lanka and the Globe*. USA: Global Journals Inc. Retrieved from https://socialscieresearch.org/index.php/GJHSS/article/view/101540/5-Review-on-Graduates-Unemployment_JATS_NLM_xml
- Karaca-Atik, A., Meeuwisse, M., Gorgievski, M., & Smeets, G. (2023). Uncovering important 21st-Century skills for sustainable career development of social sciences graduates: A systematic review.

- Educational Research Review*, 1-15. Retrieved from https://www.researchgate.net/publication/369073551_Uncovering_important_21st-Century_skills_for_sustainable_career_development_of_social_sciences_graduates_A_systematic_review
- Karunarathne, L., & Ariyawansa, R. G. (2022). *Soft Skill Development in Undergraduate Degree Programs in Sri Lankan Public Universities: General Trends, Potential, and Barriers*. Sri Lanka: Sri Lanka Journal of Education. doi:<https://ssrn.com/abstract=4495592>
- Law, B., & Watts, A. G. (1977). *The DOTS Analysis: Original Version*. Retrieved from Bill Law's career-learningcafé: <https://www.hihohiho.com/memory/cafdots.pdf>
- Majid, M. H., & Banu, M. I. (2024). Challenges Faced by Arts Graduates in the Current Job Market: A Sri Lankan Perspective. *Journal of Economics, Management and Finance*, 18-30. doi:<https://doi.org/10.58355/organize.v3i1.76>
- National Education Commission. (2022). *National Education Policy Framework (2020-2030)*. Sri Lanka: National Education Commission. Retrieved from https://nec.gov.lk/wp-content/uploads/2022/10/NATIONAL-EDUCATION-POLICY-FRAMEWORK-2020-2030_Full-Text.pdf
- Neranjani, E. (2018). *Developing a Model to Facilitate Bilingual Medium Education in the Faculty of Education*. Colombo: University of Colombo.
- Oraison, H., Konjarsk, L., & Howe, S. (2019). Does university prepare students for employment? Alignment between graduate attributes, accreditation requirements and industry employability criteria. *Journal of Teaching and Learning for Graduate Employability*, 10(1), 173–194. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1235685.pdf>
- P21. (2019). *Framework for 21st century learning*. Retrieved from https://static.battelleforkids.org/documents/p21/P21_Framework_Brief.pdf
- P21. (2019). *Framework for 21st century learning definitions*. Retrieved from https://static.battelleforkids.org/documents/p21/P21_Framework_DefinitionsBFFK.pdf
- Perera, M. (2022). Present Status of Humanities Education in Sri Lanka. In P. d. Silva, W. Hewamanage, A. N. Fernando, & L. Ananda, *HUMANITIES AND SOCIAL SCIENCES EDUCATION IN SRI LANKAN UNIVERSITIES: PAST, PRESENT, AND FUTURE* (pp. 49-

- 61). Colombo: University Grants Commission. Retrieved from <https://diglib.natlib.lk/bitstream/handle/123456789/53839/Full%20e-version%20of%20Humanities%20and%20Social%20Sciences%20Education%20Volume%20iii%20%281%29.pdf?sequence=1&isAllowed=y>
- Perera, Y. (2024). Evaluating the Value of Online Career Counseling Efforts for Management Undergraduates – A Study Associated with Sri Lankan Universities. *Wayamba Journal of Management*, 1-21. doi:<https://doi.org/10.4038/wjm.v15i2.7627>
- Rameez, A. (2019). English Language Proficiency and Employability of University Students: A Sociological Study of Undergraduates at the Faculty of Arts and Culture, South Eastern University of Sri Lanka (SEUSL). *International Journal of English Linguistics*, 199-209. doi:<https://doi.org/10.5539/ijel.v9n2p199>
- Ravindran, K., & CMYSS2, B. (2015). Factors Affecting Acquisition of Soft Skills and the Level of Soft Skills Among University Undergraduates (With Special Reference to Management Students of Rajarata University of Sri Lanka). *International Research Symposium Rajarata University of Sri Lanka*, 538-545.
- Silva, C. d., & Jayathilaka, G. (2022). *Reflections on the Growth and Development of University Education in Sri Lanka; A Historical Perspective*. Colombo: University Grants Commission. Retrieved from <https://www.researchgate.net/publication/369668934>
Reflections _on_the_Growth_and_Development_of_University_Education_in_Sri_Lanka_-_A_Historical_Perspective
- Tomlinson, M. (2017). Forms of Graduate Capital and their Relationship to Graduate Employability. *Emerald Publishing Limited*, 59(4), 338-352. Retrieved from https://www.researchgate.net/publication/313519005_Forms_of_Graduate_Capital_and_their_Relationship_to_Graduate_Employability
- University Grants Commission. (2018). *Tracer Study of Graduates Universities in Sri Lanka*. Sri Lanka: University Grants Commission.
- Weerasekara, C. M. (2022). *Employment opportunities and employability attributes of arts graduates in Sri Lanka*. Department of Economics . University of Colombo.
- Weerasooria, W. (2018). C.W.W. Kannangara Revisited: Quality Assurance in Higher Education. In D. Jayasuriya, *Education in Sri Lanka* (pp. 599-646). Sri Lanka: Asian Pathfinder Publishers and Booksellers.

- Wickramasinghe, V. (2018). Higher education in state universities in Sri Lanka: Review of higher education since colonial past through international funding for development. *International Journal of Educational Management*, 463-478. doi:<https://doi.org/10.1108/IJEM-01-2017-0028>
- Wijesekara, & Nahallage. (2023). Early careers of arts graduates towards the world of work. *International Journal of Multidisciplinary Studies (IJMS)*, 83-102. Retrieved from <https://journals.sjp.ac.lk/index.php/ijms/article/view/7636>
- World Bank. (2018). *World Development Report*. Washington: The World Bank. Retrieved from <https://www.worldbank.org/en/publication/wdr2018>
- World Economic Forum. (2020). *The Future of Jobs Report 2020*. Switzerland. Retrieved from <https://www.weforum.org/reports/the-future-of-jobs-report-2020>

CREATING SAFE LEARNING ENVIRONMENTS: UNDERSTANDING AND MANAGING STUDENT VIOLENCE

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Abstract: This study investigates the nature, causes, and school-level responses to violent behaviour among secondary school students in Sri Lanka. Using a mixed-methods approach, data were collected from 200 students and 50 teachers across ten secondary schools through questionnaires and semi-structured interviews. Quantitative results revealed high levels of physical aggression (68%), verbal abuse (45%), and disciplinary-related conflicts (40%), while cyberbullying and fear-related behaviours were reported less frequently. Teachers identified lack of training (70%), family-related stress (70%), large class sizes (50%), and inconsistent policy enforcement (40%) as major contributors to student aggression. The qualitative analysis further highlighted gaps in teacher-student relationships, inconsistent disciplinary practices, and limited support systems within schools. Findings suggest that school violence arises from the combined influence of home environments, peer dynamics, institutional factors, and emerging digital behaviours. The study concludes that a multidimensional approach emphasising teacher capacity-building, stronger policy implementation, improved supervision, and enhanced parent-school partnerships is essential for creating safer and more supportive learning environments in Sri Lankan schools.

Keywords: *school violence, Student Aggression, Bullying and Cyberbullying, Teacher Perspectives, Behaviour Management*

Introduction

Violent behaviour among school students has become a significant global concern, with increasing evidence showing that aggression, bullying, and other disruptive behaviours negatively affect students' academic engagement, emotional well-being, and overall school climate. Theoretical frameworks such as the Social Learning Theory, Ecological Systems Theory, and School Climate Models emphasise that student behaviour is shaped by interactions between individual characteristics, peer groups, family environments, school structures, and wider socio-cultural influences. These perspectives suggest that a single factor does not cause violent behaviour but emerges from complex and interrelated systems surrounding the child.

Although international research extensively documents the prevalence, predictors, and consequences of school violence, the Sri Lankan context remains comparatively underexplored. While some local studies, such as those published in the Sri Lankan Journal of Educational Research (National Institute of Education), highlight issues like bullying, disciplinary challenges,

and student aggression, they often lack deeper theoretical integration or fail to examine how Sri Lanka's unique socio-cultural norms, community structures, family dynamics, and resource-constrained school environments interact to influence student behaviour. Moreover, many studies focus on general disciplinary issues rather than systematically analysing the multiple ecological layers that contribute to violent behaviour in schools.

This study addresses this gap by investigating student violence through a context-specific, theoretically informed lens. Grounded in established behavioural and ecological theories, it examines how personal, familial, peer-related, and institutional factors contribute to violent behaviour among Sri Lankan secondary school students. By situating the problem within the local cultural and educational landscape, the study aims to provide a more comprehensive understanding of the root causes of student violence and offer evidence-based insights to support teachers, school leaders, and policymakers in designing targeted preventive strategies and interventions that promote safe, inclusive, and supportive learning environments across Sri Lankan schools.

Statement of the Problem

Violent behaviour among school students has become a growing concern in Sri Lankan educational settings. Despite various global studies on school violence, there is limited research that specifically examines the issue within the Sri Lankan socio-cultural context. Many schools continue to report incidents of bullying, aggression, and disruptive behaviour that negatively affect teaching and learning. Teachers often struggle to manage these behaviours due to inadequate training and a lack of context-appropriate interventions. Existing policies and programs do not fully address the underlying causes of student violence in local schools. Therefore, there is a need to investigate the specific factors contributing to violent behaviour among Sri Lankan students to develop effective, evidence-based solutions.

Literature Review

Adolescent violent behaviour in schools has been widely examined through multiple theoretical and empirical lenses. Bronfenbrenner's ecological systems theory (1979) provides a foundational understanding, emphasising how aggression emerges from the interaction of environmental systems such as family dynamics, peer relationships, school climate, and societal influences. Supporting this framework, research has demonstrated that disruptions in a student's microsystem, such as exposure to family conflict or negative peer pressure, significantly increase the likelihood of violent behaviour in classrooms.

Emotional regulation has also been identified as a key psychological factor influencing student aggression. Zhou et al. (2023) found that adolescents who practice cognitive reappraisal show lower levels of aggression, while those

relying on expressive suppression are more prone to hostility and violent outbursts. Similarly, Gupta and Shukla (2024) emphasised that high Emotional Intelligence (EI), especially in the areas of regulation and empathy, contributes to healthier social adjustment and reduced conflict behaviour in school settings, underscoring the need for EI-focused interventions.

Beyond individual factors, teacher training and school-wide practices play a crucial role in mitigating violence. Moreno-Morilla et al. (2023) highlighted the effectiveness of interactive teacher training programs, including modules on conflict resolution, bystander intervention, and classroom management, which were shown to reduce violent incidents and improve school climate. Supporting this, Devries et al. (2023) evaluated the ICC-T intervention in Tanzanian schools and found it significantly reduced physical and emotional violence by teachers, while also fostering a shift in disciplinary attitudes.

Whole-school approaches have also shown promise, particularly in addressing cyber-related aggression. Espelage et al. (2025) conducted a meta-analysis of universal school-based programs and found significant reductions in cyberbullying and online aggression, although the impact on in-person violence was limited. Additionally, research has highlighted the largely overlooked issue of teacher-directed violence, calling for urgent expansion of training and systemic support to protect educators and enhance their psychological well-being. Collectively, these studies emphasise the need for a multidimensional strategy that integrates psychological insight, teacher capacity-building, and whole-school interventions to create safe and supportive learning environments.

Recent literature provides a comprehensive overview of evidence-based strategies to prevent violent behaviour in school settings. Muñoz-Guzmán et al. (2025) evaluated Chile's pilot ACSA program, which adopts a whole-school approach by building competencies for violence prevention through the involvement of administrators, teachers, students, families, and communities. Similarly, Hawkins and Catalano (2020) emphasised the *Communities That Care* (CTC) framework, which promotes collaborative, data-driven planning between sectors to improve youth well-being and proactively prevent violence. Dlamini (2024) highlighted how stakeholder partnerships, including parents, police, and education agencies, are crucial in reducing campus threats like weapons and substance abuse in Eswatini schools.

Other studies focus on student-led and classroom-based interventions. Cook and Murphy (2023) demonstrated that peer mediation programs, when monitored effectively, can significantly reduce disciplinary actions and improve student relationships and academic outcomes. Coker et al. (2017) confirmed that the Green Dot Bystander Intervention program effectively trains students and staff to reduce violence using proactive and reactive techniques. At the same time, Bradshaw et al. (2024) found that Positive

Behaviour Interventions and Supports (PBIS), particularly culturally responsive variants (CR-PBIS), lower bullying, suspensions, and office referrals. Brown et al. (2023) provided further evidence showing that early implementation of social-emotional learning (SEL) and mindfulness activities enhances self-regulation and reduces aggression. Gerrard (2023) emphasised school-based family counselling (SBFC) as a vital strategy in high-risk communities to improve school belonging and support systems that guard against student aggression. Lastly, Goldberg and Wilson (2024) and Laird and Donnelly (2024) found that umbrella reviews and U.S.-based school studies consistently show small but meaningful reductions in aggression through anti-bullying, sports-based, and SEL-focused programs, highlighting their importance in creating safe and emotionally supportive learning environments.

Objectives of the Study

1. To identify the common forms and patterns of violent behaviour exhibited by secondary school students in Sri Lankan schools.
2. To examine the individual, familial, peer-related, and school-level factors that contribute to the development of violent behaviour among students.

Methodology

Sample

A sample survey research design was adopted for the study. Stratified random sampling was used to select the student sample. The strata were defined by school, grade level (9, 10, and 11), and gender. Within each stratum, students were randomly selected to achieve the required sample size while maintaining proportional representation from both urban and rural schools. For teachers, purposive sampling was used, and the 10 participating schools were also selected purposively to represent urban and rural settings. The sample for this study consists of 200 students and 50 teachers selected from 10 secondary schools.

Instruments

To obtain a comprehensive understanding of violent behaviour among school students and the school's response mechanisms, the study employed a combination of qualitative and quantitative instruments. These tools were designed to gather data from multiple perspectives: students and teachers.

Student and Teacher Questionnaires

The Student Questionnaire was designed to assess students' experiences and observations of physical aggression, verbal aggression, and cyberbullying, as well as their perceptions of school safety, awareness of school rules, and

coping or support strategies. The tool comprised five sections: Section A collected demographic information; Section B included items on the frequency and types of violence experienced or witnessed; Section C evaluated perceptions of school climate and safety; Section D examined students' knowledge of school policies and reporting mechanisms; and Section E explored coping strategies and available support systems. The questionnaire primarily consisted of closed-ended questions, such as 5-point Likert scales, with a few open-ended questions for brief explanations. The Teacher Questionnaire was designed to measure teachers' observations of violent incidents, perceived causes, classroom management practices, perceptions of policy effectiveness, and training needs, and it consisted of four sections—Section A on background information (qualifications, years of experience, and role), Section B on the frequency and types of incidents observed, Section C on management strategies, and Section D on training and policy perceptions—using Likert-scale items, frequency counts, and short open-ended questions.

Teacher Semi-Structured Interview

In this study, semi-structured interviews were used to understand teachers' experiences and views about student violence. The interview guide covered topics such as the types of violent incidents teachers have seen, what they think causes aggression, how they manage such behaviour, how effective school policies are, and what training they might need. Teachers were encouraged to explain their ideas in their own words and add any other points they felt were important. This method gave detailed and meaningful information that could not be gathered through questionnaires alone.

Data Analysis

Quantitative data were entered and analysed using SPSS (or similar statistical software). Descriptive statistics, including frequencies, percentages, were used to summarise the prevalence and types of violent incidents, as well as perceptions of safety. Qualitative data from focus semi-structured interview was analysed using thematic analysis, supported by NVivo software.

Validity

To ensure validity, the instruments were carefully developed based on previous research and reviewed by experts in education and psychology. The questionnaires and interview guides were checked to make sure they accurately measured student violence and related factors. A pilot test was carried out to identify unclear items and improve the tools before the main study.

Reliability

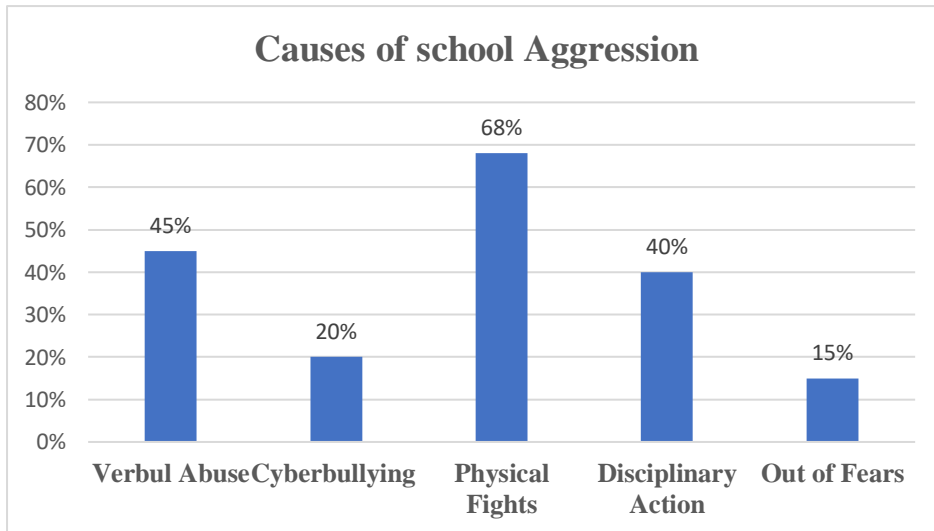
Reliability was maintained by using consistent procedures for data collection. The questionnaires included multi-item scales, and Cronbach's alpha was calculated to check internal consistency. For qualitative data, the coding process was reviewed by more than one researcher to ensure stable and dependable results.

Ethical Considerations

All participants were informed about the purpose of the study and their right to withdraw at any time. Permission was obtained from relevant school authorities, and consent was received from teachers and students (and parents where required). Participants' identities were kept confidential, and all data were used only for research purposes. Sensitive information was handled carefully to protect the privacy and dignity of everyone involved.

Results and Discussion

The bar chart 01 represents student experiences, perceptions of safety, and coping strategies related to bullying and discipline in school.



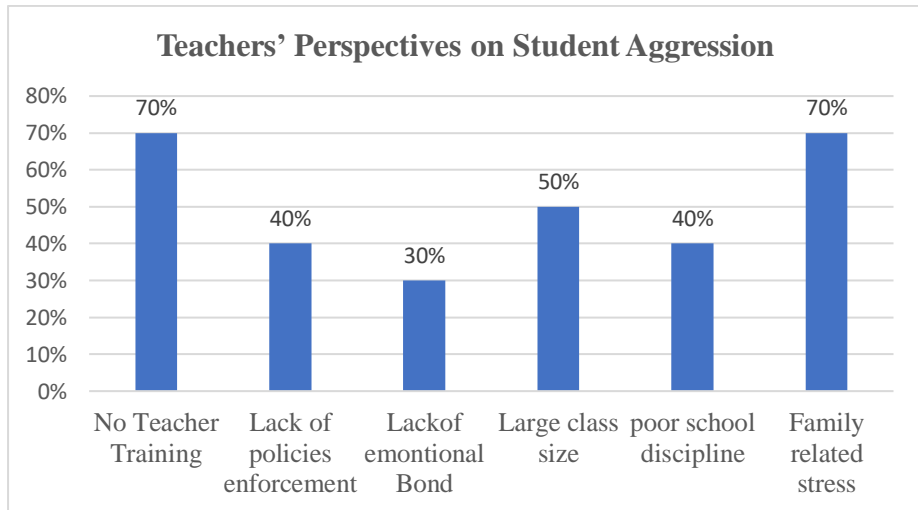
The analysis of student responses shows notable differences in the perceived causes of school aggression. As illustrated in Figure 01, physical fights were identified as the most common cause, reported by 68% of respondents. This indicates that direct physical conflict remains a central challenge within the school environment. Verbul abuse was the second most frequently reported cause (45%), suggesting that aggressive communication and confrontational language significantly contribute to school violence.

Disciplinary action was identified by 40% of students as a factor triggering aggressive behaviour, indicating that the way discipline is administered may sometimes escalate tensions rather than reduce them. Cyberbullying, although lower in frequency (20%), still represents a considerable concern, especially given the increasing use of digital devices among students. Meanwhile, fear-related reactions accounted for 15%, implying that some aggressive behaviours arise as defensive responses.

Overall, the data provide quantitative support for the view that aggression in schools is influenced by multiple factors, with physical altercations and verbal abuse being the most dominant triggers. These percentages highlight areas where targeted interventions such as conflict resolution programmes, improved disciplinary approaches, and digital safety training may be necessary.

Chart 02. Teachers' Perspectives on Student Aggression, Contributing Factors, and the Effectiveness of School Policies

The bar chart 02 shows student and teacher perspectives on school violence, covering frequency, causes, classroom challenges, and policy effectiveness.



The findings from the teacher survey reveal several key factors that contribute to student aggression in schools. As shown in Figure 02, lack of teacher training and family-related stress were identified as the most influential factors, each reported by 70% of teachers. This indicates that both school-level capacity issues and home-related pressures strongly shape students' aggressive behaviours. Large class size was also highlighted as a significant contributor by 50% of respondents, suggesting that overcrowded classrooms may limit teachers' ability to monitor behaviour, provide individual attention, and maintain discipline effectively.

In addition, 40% of teachers reported that poor enforcement of school policies and weak school discipline systems contribute to aggressive incidents, emphasising the need for consistent and well-implemented behavioural guidelines. A smaller yet important proportion (30%) pointed to the lack of emotional bond between teachers and students as a factor influencing aggression, indicating that relational gaps may undermine trust, communication, and conflict resolution within the classroom.

Overall, these results clearly show that student aggression is influenced by a combination of school-level, classroom-level, and family-level factors. The high percentages associated with teacher training gaps and family stress underscore the importance of strengthening professional development, improving parent-school collaboration, and enhancing structural support within schools to reduce aggressive behaviour.

Colour-Coded Thematic Findings of Student Violence

Colour Code	Theme	Sub-Themes	Key Findings
Red	1. Nature of Student Violence	Physical aggression	Verbal aggression
			Relational bullying
			Cyberbullying
	Physical and verbal conflicts are common; cyberbullying appears mostly among senior students; relational bullying happens quietly among peer groups.		
Blue	2. Causes of Violence	Peer influence	Home environment
			Classroom/School climate
			Social media use
	Peer pressure, family stress, overcrowded classrooms, and misuse of technology were identified as major contributors.		
Green	3. Teacher Response Strategies	Preventive actions	Immediate management
			Counselling
			Administrative referral
	Teachers use verbal warnings, seating changes, mediation, and		

	referrals to discipline teachers or principals.	
Yellow	4. Policy and System Gaps	Limited rule clarity
Weak enforcement		
Inconsistent discipline practices	Rules are not clearly communicated; disciplinary actions vary across teachers and schools.	
Purple	5. Teacher Challenges	Heavy workload
Lack of training		
Emotional stress		
Insufficient support	Teachers report stress, limited behavioural-management training, and a lack of counselling support in schools.	
Orange	6. Suggested Improvements	Student awareness programs
Parent involvement		
Strengthened school systems	Teachers recommend life-skills programs, more parent monitoring, additional counsellors, and better supervision mechanisms.	

The analysis of the thematic findings reveals that student violence in secondary schools occurs in multiple forms, with verbal and physical aggression being the most common. Cyberbullying is also emerging as a significant issue, especially among older students who have greater access to mobile phones and social media. These varying forms of violence (Red Theme) highlight the need for schools to address both traditional and technology-driven behaviours.

The causes of violence (Blue Theme) are found to be multidimensional, influenced by peer pressure, family-related stress, school climate, and social media exposure. Many teachers noted that overcrowded classrooms, inadequate supervision, and inconsistent discipline practices create an environment where conflicts can easily escalate. This suggests that student violence is not only a behavioural issue but also a reflection of environmental and contextual challenges within schools.

Teachers reported using a range of strategies to manage violent behaviour (Green Theme), including verbal warnings, separation of students,

counselling, and referrals to administrative staff. However, their responses often depended on the severity of the incident and the resources available. While preventive strategies and counselling were valued, time constraints and workload often limited their use, suggesting that teachers require additional support and structured intervention frameworks.

The findings also point to several gaps in school policies and systems (Yellow Theme). Although disciplinary rules exist, teachers noted that they are not always clearly communicated or consistently enforced. This inconsistency reduces the effectiveness of school discipline and may contribute to repeated incidents of aggression. Strengthening policy clarity and ensuring uniform implementation across staff members are critical areas for improvement.

Teachers reported significant professional challenges (Purple Theme), such as heavy workloads, lack of specialised training in behaviour management, and emotional stress due to frequent conflicts. These challenges hinder effective responses and highlight the need for capacity-building initiatives. The emotional burden experienced by teachers indicates that student violence affects not only learners but also the well-being of staff.

Finally, the proposed solutions (Orange Theme) emphasise a holistic approach that includes student awareness programs, increased parental involvement, and stronger school-level systems. Teachers suggested that life-skills education, better communication with parents, and the presence of trained counsellors would create a more supportive and safer school environment. These recommendations align with the need to address violence at multiple levels: individual, peer, family, and institutional.

Conclusion

The findings of this study demonstrate that violent behaviour among secondary school students in Sri Lanka is shaped by a complex interaction of individual, family, peer, and school-level factors. Both students and teachers reported frequent exposure to verbal and physical aggression, with emerging concerns about cyberbullying among older learners. Teachers highlighted that inadequate training, inconsistent implementation of school policies, large class sizes, and limited emotional connection between teachers and students contribute significantly to the escalation of aggressive behaviour. The thematic analysis further revealed that environmental stressors, particularly family-related issues and overcrowded learning spaces, intensify the likelihood of violence. Overall, the study confirms that school violence cannot be addressed through isolated strategies; rather, it requires coordinated, multi-layered intervention efforts involving teachers, parents, school management, and policy-level stakeholders. By understanding the roots and patterns of student aggression, educators and policymakers can develop more effective and contextually relevant strategies to foster a safer and more supportive learning environment.

Recommendations

Strengthen teacher professional development through regular training on conflict management, counselling, and identification of early warning signs. Enhance school, family collaboration by implementing structured communication channels, counselling sessions, and awareness programmes that support both students and parents.

References

- Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2024). The impact of schoolwide positive behavioural interventions and supports (PBIS) on student behaviour. *Journal of Positive Behaviour Interventions*, 26(2), 90-105. <https://doi.org/10.1177/1098300723116678>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Brown, J. L., Jones, S. M., LaRusso, M. D., & Aber, J. L. (2023). Mindfulness and SEL in schools: A longitudinal study of effects on aggression and prosocial behaviour. *Child Development*, 94(1), 45-61. <https://doi.org/10.1111/cdev.13856>
- Coker, A. L., Fisher, B. S., Bush, H. M., Swan, S. C., Williams, C. M., Clear, E. R., Davis, S., & Lindquist, J. (2017). Evaluation of the Green Dot bystander intervention to reduce interpersonal violence among college students across three campuses. *Violence Against Women*, 23(4), 496-506. <https://doi.org/10.1177/1077801216647814>
- Cook, D. A., & Murphy, J. (2023). Peer mediation as a violence prevention tool in high schools: A meta-synthesis. *School Psychology International*, 44(1), 35-51. <https://doi.org/10.1177/0143034322111256>
- Devries, K. M., Knight, L., Naker, D., Kyegombe, N., & Namy, S. (2023). Reducing violence by teachers in primary schools: A cluster randomised controlled trial of the ICC-T intervention in Tanzania. *Prevention Science*, 24(1), 34-49. <https://doi.org/10.1007/s11121-023-01550-0>
- Dlamini, S. (2024). Preventative strategies to curb school violence: A case study of selected schools in Eswatini. *Journal of Education and Social Policy*, 11(2), 45-56.
- Espelage, D. L., Low, S., Polanin, J. R., & Brown, E. C. (2025). Meta-analysis of whole-school interventions for preventing adolescent aggression: Impacts on cyber and in-person violence. *Journal of Youth*

- and Adolescence*, 54(2), 310-327. <https://doi.org/10.1007/s10964-025-02135-6>
- Gerrard, B. (2023). The potential of school-based family counselling in reducing student aggression. *International Journal for the Advancement of Counselling*, 45(1), 22-39. <https://doi.org/10.1007/s10447-023-09488-0>
- Goldberg, J. M., & Wilson, H. W. (2024). School-based interventions for aggression: An umbrella review of meta-analyses. *Trauma, Violence, & Abuse*, 25(1), 82-101. <https://doi.org/10.1177/15248380231195880>
- GuPTA, M., & Shukla, A. (2024). The role of emotional intelligence in adolescent adjustment: A systematic review. *Discover Psychology*, 4(1), Article 15. <https://doi.org/10.1007/s40894-024-00245-z>
- Hawkins, J. D., & Catalano, R. F. (2020). *Communities that care: Building community engagement and capacity to prevent youth problem behaviours*. Oxford University Press.
- Laird, K. A., & Donnelly, C. A. (2024). Promoting safe classrooms: The effectiveness of SEL and PBIS interventions. *Social Sciences*, 13(4), Article 222. <https://doi.org/10.3390/socsci13040222>
- Moreno-Morilla, C., Jiménez-Pérez, J., & Díaz-Aguado, M. J. (2023). Teacher training with social impact to overcome school violence: A systematic review. *Teaching, Research, and Innovation in Education*, 2(3), Article 11. <https://doi.org/10.3390/trieducation2030011>
- Muñoz-Guzmán, C., Sandoval-Obando, E., Castro-Castillo, C., & Bravo-Toro, L. (2025). A Chilean pilot program for whole-school competencies for school violence prevention: Qualitative evaluation of ACSA implementation. *Frontiers in Education*, 10, Article 1471235. <https://doi.org/10.3389/educ.2025.1471235>
- Zhou, Z., Wu, Y., Li, X., & Zhang, Y. (2023). The relationship between emotional regulation strategies and aggression in adolescents: The mediating role of negative affect. *Heliyon*, 9(3), Article e12550. <https://doi.org/10.1016/j.heliyon.2023.e12550>
- Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2024). The impact of schoolwide positive behavioural interventions and supports (PBIS) on student behaviour. *Journal of Positive Behaviour Interventions*, 26(2), 90-105. <https://doi.org/10.1177/1098300723116678>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

- Brown, J. L., Jones, S. M., LaRusso, M. D., & Aber, J. L. (2023). Mindfulness and SEL in schools: A longitudinal study of effects on aggression and prosocial behaviour. *Child Development*, *94*(1), 45-61. <https://doi.org/10.1111/cdev.13856>
- Coker, A. L., Fisher, B. S., Bush, H. M., Swan, S. C., Williams, C. M., Clear, E. R., Davis, S., & Lindquist, J. (2017). Evaluation of the Green Dot bystander intervention to reduce interpersonal violence among college students across three campuses. *Violence Against Women*, *23*(4), 496-506. <https://doi.org/10.1177/1077801216647814>
- Cook, D. A., & Murphy, J. (2023). Peer mediation as a violence prevention tool in high schools: A meta-synthesis. *School Psychology International*, *44*(1), 35-51. <https://doi.org/10.1177/0143034322111256>
- Devries, K. M., Knight, L., Naker, D., Kyegombe, N., & Namy, S. (2023). Reducing violence by teachers in primary schools: A cluster randomised controlled trial of the ICC-T intervention in Tanzania. *Prevention Science*, *24*(1), 34-49. <https://doi.org/10.1007/s11121-023-01550-0>
- Dlamini, S. (2024). Preventative strategies to curb school violence: A case study of selected schools in Eswatini. *Journal of Education and Social Policy*, *11*(2), 45-56.
- Espelage, D. L., Low, S., Polanin, J. R., & Brown, E. C. (2025). Meta-analysis of whole-school interventions for preventing adolescent aggression: Impacts on cyber and in-person violence. *Journal of Youth and Adolescence*, *54*(2), 310-327. <https://doi.org/10.1007/s10964-025-02135-6>
- Gerrard, B. (2023). The potential of school-based family counselling in reducing student aggression. *International Journal for the Advancement of Counselling*, *45*(1), 22-39. <https://doi.org/10.1007/s10447-023-09488-0>
- Goldberg, J. M., & Wilson, H. W. (2024). School-based interventions for aggression: An umbrella review of meta-analyses. *Trauma, Violence, & Abuse*, *25*(1), 82-101. <https://doi.org/10.1177/15248380231195880>
- GuPTA, M., & Shukla, A. (2024). The role of emotional intelligence in adolescent adjustment: A systematic review. *Discover Psychology*, *4*(1), Article 15. <https://doi.org/10.1007/s40894-024-00245-z>

- Hawkins, J. D., & Catalano, R. F. (2020). *Communities that care: Building community engagement and capacity to prevent youth problem behaviours*. Oxford University Press.
- Laird, K. A., & Donnelly, C. A. (2024). Promoting safe classrooms: The effectiveness of SEL and PBIS interventions. *Social Sciences*, 13(4), Article 222. <https://doi.org/10.3390/socsci13040222>
- Moreno-Morilla, C., Jiménez-Pérez, J., & Díaz-Aguado, M. J. (2023). Teacher training with social impact to overcome school violence: A systematic review. *Teaching, Research, and Innovation in Education*, 2(3), Article 11. <https://doi.org/10.3390/trieducation2030011>
- Muñoz-Guzmán, C., Sandoval-Obando, E., Castro-Castillo, C., & Bravo-Toro, L. (2025). A Chilean pilot program for whole-school competencies for school violence prevention: Qualitative evaluation of ACSA implementation. *Frontiers in Education*, 10, Article 1471235. <https://doi.org/10.3389/educ.2025.1471235>
- Zhou, Z., Wu, Y., Li, X., & Zhang, Y. (2023). The relationship between emotional regulation strategies and aggression in adolescents: The mediating role of negative affect. *Heliyon*, 9(3), Article e12550. <https://doi.org/10.1016/j.heliyon.2023.e12550>

ENHANCING A/L BIOLOGY PRACTICAL WORK:
STUDENT PERSPECTIVES ON INFRASTRUCTURE,
PEDAGOGY, AND SAFETY
(A STUDY BASED IN KULIYAPITIYA ZONE IN
KURUNEGALA DISTRICT)

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Abstract: This study aimed to adapt and validate Laboratory practical sessions are a vital component of Biology teaching at Advance Level as they promote hands-on learning and the development of scientific skills. Understanding students' perception of these sessions is essential to identify strengths and challenges in the laboratory learning environment.

This study examined students' perceptions of the physical and psychosocial aspects of Biology laboratory practical sessions in Advanced Level classes in Kuliyaipitiya Zone, Kurunegala District. The sample included 155 Grade 13 Biology students from six schools, as well as six teachers and six laboratory assistants (or persons in charge of laboratories). Data were gathered using a student questionnaire, structured observation, and unstructured discussions with teachers and lab assistants/persons in charge of laboratories. A pilot test with 34 students was conducted to refine the questionnaire ensuring clarity and reliability.

The findings revealed that students perceived practical sessions as contributing positively to their achievement and motivation in Biology. However, significant limitations were identified. Not all schools had separate Biology laboratories, and many faced shortages of equipment, materials, space and furniture. The absence of qualified laboratory assistants and limited integration of technology were also noted. Moreover opportunities for open-ended learning and systemic assessment of practical assessment were inadequate, restricting students creativity and skill development.

The study recommends providing separate and well-equipped Biology laboratories, strengthening assessment procedures, and integrating technology to enhance the quality of laboratory learning. Regular in-service training for teachers and laboratory assistants, together with increased time allocation for practical sessions, is also essential. Additionally, fostering open-ended approaches to practical work could promote creativity, innovation and deeper engagement among students.

Key words: *Laboratory practical sessions, Open-endedness, Students' perception, Material environment*

Introduction

Practical work which includes hands-on laboratory experimentation is a distinct feature in science education. In G.C.E. A/L, practical activities are an integral part of Biology syllabus and the role of laboratory practical sessions can be considered central for effective teaching – learning process of Biology. The knowledge of the way students think and perceive practical work can aid to identify physical and psychosocial problems they encounter in attending laboratory practical sessions and the level of congruence between the actual laboratory classroom environment and that preferred by students.

With the intention of realizing the National Educational objectives recommended by the National Education Commission and also with the primary intention of developing common competencies, a competency-based curriculum of an eight-year cycle was introduced by the National Institute of Education to the primary and secondary education system of Sri Lanka in 2007. Based on the facts revealed through research findings and suggestions from various sectors on education, thereafter, a curriculum rationalization process was commenced from 2015 and it was implemented for Advanced Level classes (Grade 12 and 13) since 2017 (National Institute of Education, 2017, p.iii).

The primary objective of this rationalized new curriculum is to introduce a pattern of education which is more student centred and activity based with the intention of transforming the student population into a human resource replete with the skills and competencies required for the world of work (National Institute of Education, 2017, iii). Practical work which is a distinct feature in science education contributes to a greater extent to achieve the above mentioned objectives as practical work encourage students to use modes of reasoning, problem solving and higher order thinking skills which are raw materials for innovation (Strengthening Science education in Sri Lanka, 2011). In the junior secondary (Grade 6 to 9) and GCE O/L (Grade 10 to 11) cycle of education Science is offered as a standalone subject in an integrated curriculum while Physics, Chemistry and Biology are taught as separate units within the integrated curriculum and students attend practical work in a common laboratory designed to conduct experiments and activities related to all three aspects in science. Students who continue their senior secondary education in Grade 12 and 13 in science stream have a separate laboratory for Chemistry, Biology and Physics to attend the practical work.

Therefore, students who continue their senior secondary education in biological science stream usually attend Biology practical sessions in Biology laboratory.

The laboratory practical activities aim at improving students' psychomotor skills and abilities and therefore it is essential to create a safe and conducive learning environment within laboratory that motivate students to make more use of science process skills. Various dimensions of science laboratory environment which are perceived by students include student cohesiveness, open-endedness, integration, rule clarity and material environment (Fraser, Giddings & McRobbie, 1993, as cited in Olufunminiyi, 2015). Students' perception regarding the above aspects in laboratory classroom environment influence their interest in learning as well as achievement in science subjects (Fraser, Giddings & McRobbie, 1993, as cited in Olufunminiyi, 2015).

Meanwhile Fraser and Fisher, 1983 as cited in Jaufar (2011) mention that students achieve better when there is a greater congruence between actual and preferred environment. Therefore, it is appropriate to find out how students perceive their Biology laboratory classroom environment they experience (actual laboratory classroom environment) and the congruence between the actual laboratory classroom environment and that is preferred by students.

The General Certificate of Education (Advanced Level) Examination is the final certification examination of the senior secondary education in Sri Lanka. It expect to test competencies and learning outcomes described in the syllabus as well as knowledge, attitudes and skills developed by students by attending recommended practical experiments in science subjects (G.C.E. (A/L) examination, Evaluation report: Biology, 2016). Table 1 provide details about the grades obtained for Biology subject by school candidates who sat the G.C.E. (A/L) examination for the first time from 2014 to 2023.

Table 1:

Grades obtained for Biology by school candidates who sat for G.C.E. (A/L) examination for the first time from 2014 to 20223

Year	No. of Students Sat	A		B		C		S		A+B+C+S		F	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2014	20560	619	3.01	1848	8.99	5017	24.4	6935	33.74	14421	70.14	6139	29.86

2015	21209	473	2.23	1735	8.18	5235	24.68	7212	34	14655	69.1	6554	30.9
2016	20205	644	3.19	1864	9.23	4686	23.19	6737	33.35	13931	68.96	6272	31.09
2017	45167	2076	4.60	5962	13.20	12055	26.69	14003	31.00	34096	75.49	11071	24.51
2018	20718	758	3.66	1896	9.15	5069	24.47	6587	31.79	14310	69.07	6408	30.93
2019	20379	865	4.24	1665	8.17	5313	26.07	6294	30.88	14137	69.37	6242	30.63
2020	39563	1775	4.49	3401	8.60	10111	25.56	12546	31.71	27833	70.35	11730	29.65
2021	42621	2160	5.07	3451	8.10	10301	24.17	13694	32.13	29606	69.46	13015	30.54
2022	32573	1802	5.53	2536	7.79	7788	23.91	10522	32.30	22648	69.53	9925	30.47
2023	37215	2078	5.58	3376	9.07	8830	23.73	11707	31.46	25991	69.84	11224	30.16

Source: Research and Development Branch, Department of Examination, 2014-2023

The examination Department data indicates that approximately 30% of students failed in Biology, more than 30% were able to obtain only a simple pass, and less than 5.6% of students received an A pass for Biology in A/L in those years. This indicates that a notable number of students could not develop the expected learning outcomes to a satisfactory level during the two-year course of Biology in Advanced Level.

This study investigated the perception of students regarding the physical and psychosocial aspects of practical sessions conducted in Biology laboratory in Advanced Level classes in order to identify the issues relating to those aspects. The main areas under investigation were the students' perception of physical condition and the material environment in the laboratory, the teacher's and lab assistant's contribution in conducting practical sessions, the evaluation procedure, open-endedness, rule clarity, safety and the problems faced by students while attending practical sessions.

Background to the study

Key reforms in the science curriculum and teaching learning methodology have been introduced with the intention of improving learning outcomes of students and also to transform the student population into human resource equipped with the skills and competencies for the world of work. However, there are certain drawbacks which have been identified in the system according to the report on Strengthening Science education in Sri Lanka by South Asia Human Development Sector (Aturupane, Dissanayake, Jayewardene, Shoji & Sonnadara, 2011) as follows.

In the syllabus, outcomes for learning content are described but not for skills and attitudes, and also in Teachers' Instructional Manuals, teachers are not provided with guidance on how to merge the three components (knowledge, skills and attitudes) necessary to acquire a specific competency. Therefore, the student directed inquiry is not encouraged and still the bias is towards teaching content. The report further mentions that practical work which has a central and distinctive role in science education receives little attention in science curriculum for several reasons including content overload, lack of emphasis on student directed inquiry, teacher shortages and variable quality of teachers, lack of focus on practical work. It was further mentioned that laboratory work was not given sufficient importance (Grade 6-13) by teachers due to lack of time and certain schools hold practical classes after school as class time is taken up for teaching theory. Teachers have stated that part of the reason for neglect of practical work is the absence of a public examination to test the practical skills of students (Aturupane et al., 2011).

Another problem highlighted in the report is the shortage of good quality Science teachers. The teachers were not appropriately trained and lacked practical skills and were therefore reluctant to teach laboratory work. According to teachers, in-service training was not adequate. Awareness seminars about new reforms were insufficient and unclear and lack of clear direction given for teachers have left them confused and less confident. Another issue which is being stated is that students in many schools miss second and third term classes in Grade 13 as they attend private revision classes. These classes focus exclusively on preparing students for the exam where students get least or no opportunity for developing their competencies related to skills and attitudes (Aturupane et al., 2011).

One of the other reasons for paying little attention for practical work in science education is absence of an examination system to test practical skills (Athurupane et al., 2011). G.C.E. A/L examination also focus on subject matter knowledge with little or no emphasis on skills and attitudes (Perera & Hettiarachchi ,2016). However practical work is necessary for a real understanding of how science works and also for developing students' aptitude particularly if they take up advanced science causes. Hence mode of evaluation at national level examinations has to be changed to reflect skills and attitudes in addition to the knowledge component to promote practical work as a compulsory part of science education (Athurupane et al., 2011). Aturupane et. al. (2011) further suggests that school-based testing of

practical work could be introduced and included as a part-requirement for the G.C.E. A/L.

Meanwhile Ranasinghe, Arunathilake & Gunusinghe (2016) states that education sector is highly under-invested, financial allocations per student, physical resource availability per student are not at a satisfactory level and student centred education, outcome based education require more resources in the classroom. Therefore, increase of funding is one of the main requirements of the education sector. Emphasizing the negative impact of lack of financial allocations on science education, Aturupane et. al. (2011) further mentions that lack of laboratory facilities is one of the obstacles in providing competency - based, student – centred and activity-oriented education in G.C.E A/L science subjects. In addition, Jaufar (2011) states that A/L students do not like to have crowded environments when they do the laboratory experiments in the laboratory and also, they prefer a good material environment within the laboratory set up, too.

At the same time the study of Jaufar (2011) reveals that open-endedness is very rare in school laboratories and students show their willingness to depend on teachers for their laboratory work as teachers give least preference for open-endedness.

Significance of the study

Method of generating knowledge in Biology subject is the scientific method. Accordingly, experiments should be carried out to test hypothesis developed in order to solve the problems identified, data collected through regular observations should be analyzed to come to conclusions. Hence in order to maintain productivity of subject proficiency at a higher level, the subject has to be taught more practically to give the training on scientific method (G.C.E. (A/L.) Evaluation report: Biology, 2016).

Good quality practical work can engage students, help them to develop important skills and also help them to investigate and develop their understanding of concepts (National Institute of Education, 2017, p.iii). There is a Practical Handbook for G.C.E. (A/L) Biology subject published by the National Institute of Education which include 38 practical activities based on the 10 units in Biology syllabus. Biology students in Grade 12 and 13 have to attend them within the two years of Biology course in Advanced Level. The Practical Handbook is an integral part of Biology syllabus and it provide the teachers with necessary guidance for planning practical activities, engaging students

effectively in the teaching learning process in laboratory sessions and promoting students' practical skills in the discipline of Biology.

According to National Institute of Education (2017) there are three interconnected and separate reasons for doing practical work in Biology in Advanced Level classes under the revised Biology syllabus in 2017. They are

- To support and consolidate scientific concepts (knowledge and understanding) which provide insight into the development of scientific thinking.
- To develop investigative skills which include devising and investigating testable questions, identifying and controlling variables and analyzing, interpreting and evaluating data.
- To build and master practical skills which include skills in using specialist equipment to take measurements, handling and manipulating equipment with confidence and fluency, recognizing hazards and planning how to minimize risk.

(National Institute of Education, 2017, p. iv)

Laboratory learning environment has an important role in science education as it offers students an environment different from the conventional classroom (Ahmad, Osman & Halim, 2010). Laboratory work include multitude of activities including group experiments and teacher demonstrations where learners involve in handling and observing real objects and materials, observing events, taking measurements, handling observation results to draw conclusions and recording the practical work (Nghipandulwa, 2012). In other words, students make use of science process skills during practical sessions (Olufunminiyi, 2015). According to Akinbobola and Afolabi (2010) as cited in Olufunminiyi (2015), a productive laboratory environment is a student-centered classroom, which is interactive, comfortable and a place where collaborative learning is encouraged in secondary schools. Therefore, science laboratories have to be designed with the following goals in mind to create a conducive environment for students to attend practical sessions.

- Motivating students to make more use of science process skills.
- Promoting mastery of subject discipline.
- Allowing more student involvement through inductive approaches.
- Appearing to be preferred by students.
- Enhancing science process skills.
- Cultivating interest in science and interest in learning science.

- Enhancing teamwork abilities.

(Olufunminiyi, 2015,p.15)

Shortage of laboratories, lab assistants, laboratory equipment and infrastructure facilities may demotivate students in attending practical work (Nghipandulwa, 2012). On the other hand integration of practical activities with theory is also an important criteria to measure the effectiveness in laboratory work because integration enable students to develop the habit of critical thinking, innovation and creativity. Level of understanding of students regarding the rules and regulations guiding laboratory activities is a key factor which ensure students' safety and proper handling and care of equipment. If the materials are in short supply the actual material environment available may significantly different from that the students preferred which could make the practical activities crowded depriving them from getting first-hand experiences (Olufunminiyi, 2015). According to Akinbobola (2007) as cited in Olufunminiyi (2015) one of the major problem facing laboratory is improper maintenance of materials and equipment. Meanwhile Willington (1998) as cited in Ahmad, Osman and Halim (2010) state several weaknesses of practical work in laboratory. Noise which influences students to be confused, wrong practical results leaving mixed messages to students, dislike of some students to attend practical work, less effective group work and time consumption are those weaknesses of practical work in laboratory (p.87).

Willington (1998) as cited in Ahmad, Osman and Halim (2010) further states that creating a positive learning environment in the laboratory which helps teacher and students to achieve the best performances in learning process is one way to avoid the above mentioned weaknesses.

According to Ngozi and Halima (2015), laboratory activities encourage students to construct knowledge by interaction with laboratory materials and develop their manipulatory skills and also scientific attitudes such as honesty, open-mindedness and cooperation which contributes in widening their scientific literacy and ability to apply scientific knowledge in everyday situations and at work place leading to the development of the society. The study further states that inadequacy and poor utilization of laboratory facilities in science education may hinder students from achieving these expected outcomes of learning.

Secondary school is the base in preparing students for science education and where they are exposed to laboratory equipment, activities and safety rules (Daba & Anbesaw, 2016). Hence there is a significance in comparing students' perception on laboratory practical sessions in Biology in order to find out the physical and psychosocial aspects which may hinders students as well as teachers from achieving best performances in leaning process.

Limitations of the study

The study primarily focused on students' perceptions of laboratory practical sessions in Advanced Level Biology classes. To examine this aspect, the scope of the research was restricted to government schools offering the Advanced Level science stream (1AB schools) within Kuliyaipitiya Zone. Although pilot test was carried out prior to the main study, it was conducted with a relatively small group of students (34 students), which may not adequately capture the full range of challenges that could arise in different contexts.

Objectives

As the educational environment strongly affects students' achievements, satisfaction and success, it is important to gather feedback from students regarding their experience in the learning environment (Ahmed, Taha, Neel & Gaffar, 2018). Laboratory practical sessions are an integral part of Biology teaching –learning process because it is a subject in which one should master theoretical as well as practical skills relevant to the subject (G.C.E. (A/L.) Evaluation report: Biology, 2016). Hence it is important to explore and evaluate students' perception regarding the laboratory practical sessions. Followings are the specific objectives which guide this study on students' perception about laboratory practical sessions of Biology in Advanced Level classes.

- To find out whether students have a conducive environment in Biology laboratory to conduct practical work.
- To find out students' perception about the contribution of teachers of Biology for conducting practical sessions in the laboratory.
- To find out students' perception about the contribution of lab assistant when conducting practical sessions in the laboratory.
- To assess the impact of attending laboratory practical sessions on studying Biology.
- To identify practical issues faced by students in attending Biology practical sessions.

Research design

A survey research design was employed with an explanatory mixed method approach as a wide range of research questions can be studied regarding the students' perception about laboratory practical sessions of Biology in A/L classes.

This study was limited to the students of Biology in Grade 13 in Kuliyaipitiya zone of Kurunegala district. Grade 13 students were especially selected because the student questionnaire included an item that required respondents to indicate the total number of prescribed practicals they had completed so far. As Grade 12 students have completed only one academic year in Advanced Level Biology stream they were not included in the sample.

The population of the study comprised Grade 13 Biology students of 2028/2019 Academic year in Advanced Level classes in schools in Kuliyaipitiya zone of Kurunegala district in North Western Province. This zone was selected as the research site because the researcher was serving in a school within Kuliyaipitiya zone at the time of the study, which made it logically convenient and feasible to access the target population. Although there were 11 AB schools in Kuliyaipitiya zone, Grade 13 Biology classes were conducted only in six of these schools.

Purposive sampling was used to select the sample, which consisted of 155 Biology students in Advanced Level classes. This represented 67.68% of the total population of Grade 13 Biology students in Advanced Level classes. The sample size was determined by the number of students who were present on the days the questionnaires were administered, as only those who attended school at that time of data collection could be included. This proportion was considered sufficiently large to ensure the stability of the results.

Three instruments were used to collect data for the study:

- Questionnaire for Grade 13 Biology students to find out their perception about Biology laboratory practical sessions in A/L classes.
- Structured observation using an observation schedule used by researcher to collect data on Biology laboratory environment.
- Unstructured discussions with teachers of Biology and lab assistants of Biology laboratories using a discussion schedule.

The central concept of this study was students' perception of Biology laboratory practical sessions. For the purpose of measurement, this concept was operationalized into the following dimensions.

Table 2:

Main themes and sub themes

Main Theme	Sub Theme
Students' perception on laboratory environment	<ul style="list-style-type: none"> • Availability of Biology laboratory (Daba, Anbassa, Oda & Degefa, 2016) • Laboratory environment (Karpudewan & Keat, 2017) • Material environment (Daba, Anbassa, Oda & Degefa, 2016) • Safety precautions (Support Material: Laboratory Handbook for Teachers, 2023)
Students' perceptions on practical sessions	<ul style="list-style-type: none"> • Students' interest on practical work (Martins, Dias & Silva, 2018) • The manner in which students attend practical work. (Martins, Dias & Silva, 2018) • Students' performances in attending practical work (Martins, Dias & Silva, 2018) • Students' experience with practical work (Martins, Dias & Silva, 2018) • Challenges encountered by students in attending practical work (Jaufar, 2011) • Students' perception of the impacts of attending practical sessions on their examination performance. • Opportunity for open-endedness (Udeni, Atagana & Esiobu, 2016) • Number of experiments/activities attended by students (Udeni, Atagana & Esiobu, 2016)
Students' perception on teacher's contribution	<ul style="list-style-type: none"> • Teacher's level of interest in conducting practical sessions (Kirma & Kinyua, 2016) • Instructional approaches used by teachers (Udeni, Atagana & Esiobu, 2016)

	<ul style="list-style-type: none"> • Explicitness of instructions provided by teachers (Ahmad, Osman & Halim,2010) • Instructional aids employed by teachers during practical sessions (Ahmad, Osman & Halim,2010) • The teacher’s role in guiding, assessing and providing feedback (Udeni, Atagana & Esiobu, 2016) • Notable qualities perceived by students in their Biology teacher (Scott, Veitch, Gadegaard, Mughal, Norman & Welsh, 2018)
Students’ perception on lab assistant’s contribution	<ul style="list-style-type: none"> • Availability and responsiveness of laboratory assistant • (Daba, Anbassa, Oda & Degefa, 2016)

The dependent variable in this study was students’ overall perception of laboratory practical sessions, measured through their responses on the student questionnaire. The independent variables were laboratory environment, teachers’ contribution, lab assistants’ contribution, and conditions under which practical sessions were conducted.

Pilot testing of Instruments:

A pilot test was conducted for 34 students of Biology in Grade 13 Advanced Level classes from the school where the researcher was employed at the time of the study. The purpose of the pilot test was to identify ambiguities, check the clarity of wording and assess the time required to complete the questionnaire. Based on the feedback obtained, certain items were rephrased for clarity, some were removed to avoid redundancy, and new items were added to capture aspects that were initially overlooked. The revised questionnaire was then finalized and administered to the selected sample. This process helped ensure face validity, improve content reliability, and increase the overall suitability of the instrument for the target population. The reliability of the student questionnaire was assessed using Cronbach’s alpha which yielded a value of 0.70, indicating acceptable level of internal consistency for the instrument.

Analysis & Interpretation of Data

Thematic analysis was employed to analyze collected data using the questionnaire, observation schedule and unstructured discussions, focusing on Advanced Level students' perception of Biology practical sessions in selected schools. The findings are organized into four major themes with reference to students' perceptions: laboratory environment, practical sessions, teacher contribution, and laboratory assistants' contribution.

Students' perception on laboratory environment:

According to the findings of the researcher, only three schools out of six schools in Kuliapitiya zone which conducted Advanced Level Biology classes for Grade 13 had a separate Biology laboratory, instead the rest of the schools shared the same laboratory for more than one subject.

More than 90% of the participants agreed that there was a black board in the laboratory and the desks were arranged in such a way to encourage group work as well as individual work during practical sessions. All the participants agreed that there were various displays related to Biology hung on the walls but among them student-made displays were available only in two laboratories out of six. A multimedia projector was also available only in one Biology laboratory.

Simultaneously there were certain problems faced by students while they were attending practical sessions in Biology laboratory including lack of stools/ seats (38.06%), shortage of laboratory equipment and materials (45.15%), lack of proper ventilation (25.16%), lack of adequate space for attending practical activities (56.77%), inadequate time allocated for practical sessions (50.97%) and lack of maintenance (41.94%).

More than 30% of students mentioned that they didn't have a first aid box in the laboratory. At the same time more than 88% of them stated that safety precautions were not clearly displayed in Biology laboratory. These findings indicate that providing guidelines for students to follow safety measures to avoid accidents and contaminations in the laboratory was not satisfactory. Further the necessity of a first aid box with items to treat minor injuries was also neglected to a certain extent.

In contrast to these deficiencies, qualitative comments from participants highlighted specific aspects of the laboratory environment

they found valuable. One student emphasized the role of displays in sparking interest, stating, “The preserved specimens in jars and posters hung on walls arouse my curiosity” (Student 44). Another expressed appreciation for the opportunity to engage with authentic materials: “We got opportunity to examine the preserved organs of humans” (Student 71). Furthermore students demonstrated a strong willingness to incorporate technology, as evidenced by the comment: “We can observe the videos and diagrams on multimedia projector which are very attractive” (Student 96). These positive elements, however were isolated instances rather than standard features across the zone.

Students’ perception on practical sessions:

According to the findings 94.84% of students liked to attend laboratory practical sessions. 58.71% of students mentioned that when they attend the practical sessions, the number of individuals in a group depends on the availability of the laboratory instruments. However, 44.52% of the sample liked to attend practical activities in groups with five or lesser number of members while 25.81% of them liked to work in pairs and 22.58% liked to attend practical work individually.

Meanwhile students perceived the laboratory practical work as an important integral part of Biology curriculum. According to their perception, attending practical sessions contributed to improve their performance at term end evaluations and at G.C.E. (A/L) examination. More than 92% of students perceived that laboratory work motivated them to learn Biology, made the learning process more meaningful, helped to understand the concepts they learnt and provided opportunity for them to apply the knowledge they gained in the classroom. Meanwhile more than 84.5% of students mentioned that attending practical activities provided opportunity for them to test hypothesis.

Students positive perception of practical sessions is powerfully echoed in student comments which highlighted the value of experiential learning. One student noted, “We get opportunity to get first hand experiences of what we learnt in the classroom” (Student 75) while another appreciated the shift of pedagogy, stating, “It is a good opportunity learn by doing and to get away from the monotonous classroom environment” (Student 90). The social aspect of learning was also valued, as one participant described it as “a joyful experience to attend practicals as a group” (Student 96). This aligns with the quantitative data, which showed that 44.52% of students preferred working in small groups of five or fewer.

However, opportunity for open-endedness was not at a satisfactory level in Biology practical sessions. As 60% of students mentioned that they lacked opportunity to conduct experiments that they like other than practical work prescribed in the Practical Handbook. But 89.03% of students were interested in conducting experiments that they like. According to their perception open-endedness develop the interest in learning Biology, broaden knowledge, make memorizing subject content easier, and provide opportunity to gather new experience and pave way for innovation.

Even though students of the sample were expected to complete 25 practical activities in Grade 12, 52.4% of them who were in Grade 13 by the time they participated in the study had completed less than 16 practical activities out of 25.

Students' perception on teacher's contribution:

The contribution of teacher during practical sessions was at a satisfactory level. More than 90% of students stated that teacher explained the proper methods of handling laboratory equipment, chemicals and other materials and supported students when they were attending practical activities. Furthermore, students got opportunity to discuss the problems they came across while attending practical activities with teacher to overcome them. Interestingly, 94.83% of them indicated that they had collaborative learning opportunities. However only 73.55% of students stated that they could see teacher demonstrations properly.

Students also appreciated when teachers connected theoretical knowledge with practical and everyday experiences. For instance, one student noted, "Teacher relates the subject content we learn into real life experiences during her teaching" (Student 115). This reflects the importance of contextualizing Biology learning, making it more meaningful and applicable to students' lives.

Moreover, level of teacher interest in conducting practical sessions was also at a satisfactory level (87.1%) and most of the teachers used more than one method to provide the procedure to be followed in conducting laboratory experiments; among them the most popular methods were describing the procedure verbally prior to conduct the activity (70.97%) and demonstrating the activity while describing the procedure (78%). Most of the students perceived that instructions provided by teacher during practical sessions were clear (92.23%). Most popular teaching aids used by teachers during practical sessions were black board/ white board, models and posters with diagrams.

According to findings 72.26% of them used videos and 57.42% used power point presentations as teaching aids.

However, findings indicated that assessment and evaluation procedure to measure the practical skills of students were not at a satisfactory level. 52.9% of students mentioned that teachers did not conduct any assessments or evaluations to measure their performance during practical sessions and 68.68% of them stated that teachers did not maintain any progress reports about students' performance during practical sessions.

Even though teachers' contribution was at satisfactory level in giving instructions, in recording practical work (87.73%), discussing assumptions made (78.06%), and possible errors in conducting practical work (84.52%), only 52.9% of teachers went through the practical records written by students and only 49.03% of them provided feedback after going through the practical records. However, teachers' contribution regarding teaching laboratory ethics was 93.55%.

Meanwhile students' responses indicated that teacher's role has a greater impact to make the learning and teaching process during practical sessions more effective. According to their views, proficient receptive and expressive competencies, establishing good rapport with students, patience, caring, dedication and kind personality are essential for a teacher to make the learning and teaching process more effective.

Students' perception on lab assistant's contribution:

According to the findings, out of six schools which conduct Advanced Level Biology classes for Grade 13 in Kuliyaipitiya zone only one had a qualified lab assistant. 82.83% of students perceived that the contribution of the lab assistant or the person who was in charge of the laboratory was satisfactory during practical sessions.

Students also acknowledged the vital role of laboratory assistants in supporting practical work. One student observed, "Our lab assistant keep the laboratory neat and tidy. She gives her fullest support to our Biology teacher during practical sessions. She has a good knowledge about the practicals conducted during practical sessions of Biology" (Student 90). This illustrates how students valued the lab assistant's organizational skills, supportive role, and subject-related knowledge in facilitating effective laboratory learning.

Meanwhile unstructured discussion with teachers of Biology and lab assistant and those who were in charge of the biology laboratory

revealed that none of them attended any in-service training on laboratory work for last three years.

Conclusions

This study highlights that Biology practical sessions are highly valued by students, as they motivate learning, enhance understanding of scientific concepts, and contribute positively to academic performance. However, the effectiveness of these sessions is constrained by inadequate laboratory facilities, limited equipment and materials, insufficient space, and a lack of qualified laboratory assistants. Moreover, assessment procedures and opportunities for open-ended learning remain unsatisfactory, limiting the development of creativity and higher-order thinking skills.

Teachers were perceived as supportive in guiding and demonstrating practical activities, yet shortcomings were evident in systemic evaluation, provision of feedback, and completion of prescribed practical activities. Similarly, the role of laboratory assistants was appreciated, though training opportunities and professional qualifications were often lacking.

Overall, the findings emphasize the need for improved laboratory infrastructure, systemic assessment practices, and greater integration of technology to strengthen practical work in biology. Encouraging open-ended approaches and providing professional development for both teachers and laboratory assistants could further enhance the quality of laboratory learning. Addressing these challenges is vital to ensure that practical sessions fulfill their potential in fostering scientific inquiry, creativity, and meaningful learning among Advanced Level Biology students.

Recommendations

Based on the findings, the following recommendations are made to improve the quality and effectiveness of Biology practical sessions in Advanced Level classes.

- **Separate laboratories** - Schools with science stream in Advanced Level should be provided with a separate laboratory for all three science subjects (Chemistry, Biology and Physics) to ensure adequate time and resources for practical sessions.
- **Adequate resources** – Relevant authorities should allocate sufficient funds to supply and maintain laboratory equipment,

materials and furniture, thereby creating a conducive learning environment.

- **Systemic monitoring** – A regular assessment procedure should be established to evaluate the condition of science laboratories and use the findings to guide improvements.
- **Safety measures** - Laboratories have to display clear safety rules and maintain a fully equipped first-aid box to ensure student safety during practical work.
- **Assessment of practical skills** – A structured system of evaluating students’ practical skills should be introduced, possibly including school-based testing as a partial requirement for G.C.E A/L.
- **Encouraging open-ended learning** - Practical sessions should move beyond routine activities by allowing students to design and carry out their own experiments under teacher guidance, promoting creativity and innovation.
- **Technology integration** – ICT tools and internet facilities should be introduced into Biology laboratories to make practical sessions more dynamic, interactive and relevant.
- **Professional development** – Teachers and laboratory assistants should receive regular pre-service and in-service training on effective laboratory management, use of equipment, and integration of new technologies.
- **Qualified lab assistants** – Every Advance Level science laboratory should be supported by a trained and qualified laboratory assistant.

List of References

- Ahmad, C.N.C., Osman, K. & Halim, L. (2010). Physical and Psychosocial aspects of science laboratory learning environment. *Procedia Social and Behavioural Sciences*, 9, 87-91. Retrieved from <https://core.ac.uk/download/pdf/82387856.pdf>
- Ahmed, Y., Taha, M. H., Neel, S. A. & Gaffar, A. M. (2018). Students’ perception of the learning environment and its relation to their study year and performance in Sudan. *International journal of medical education*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6129164/>
- Athurupane, H., Dissanayake, V., Jayawardene, R., Shojo, M. & Sonnadara, U. (2011). Strengthening science education in Sri Lanka . *South Asia*

human development sector. Retrieved from https://www.researchgate.net/publication/234052607_Strengthening_Science_Education_in_Sri_Lanka

- Daba, T.M. & Anbesaw, M.S. (2016). Factors affecting implementation of practical activities in science education in some selected secondary and preparatory schools of Afar Region, North East Ethiopia. *International Journal of Environmental & Science Education*, 11(12), 5438-5452. Retrieved from <http://www.ijese.net/makale/717>
- Daba, T.M., Anbassa, B., Oda, B.K. & Degefa, I. (2016). Status of biology laboratory and practical activities in some selected secondary and preparatory schools of Borena zone, South Ethiopia. *Educational Research and Reviews*, 11(17), 1709-1718. doi: 10.5897/ERR2016.2946
- Dikmenli, M. (2009). Biology student teachers' ideas about purpose of laboratory work. *Asia-Pacific Forum on Science Learning and Teaching*, 10(2), Retrieved from https://www.eduhk.hk/apfslt/v10_issue2/dikmenli/dikmenli2.htm
- Scott, P. H., Veitch, N. J., Gadegaard, H., Mughal, M., Norman, G. and Welsh, M. (2018). Enhancing theoretical understanding of a practical Biology course using active and self-directed learning strategies. *Journal of biological education*, 5(2), 184-195. Retrieved from <http://eprints.gla.ac.uk/138072/>
- G.C.E. A/L Evaluation report: Biology.* (2016). Research and Development branch, Department of Examinations. Retrieved from <https://doenets.lk/>
- National Institute of Education (2017). *Practical Handbook: G.C.E. (A/L) Biology.* Department of Science, Faculty of Science and Technology, National Institute of Education. Retrieved from www.nie.lk
- Jaufar, P.C.P. (2011). Science laboratory classroom environment (SLCE) of Tamil medium in Colombo education zone. *Paper presented at 8th Anniversary and 6th Annual Academic Sessions.* The Open University of Sri Lanka, Faculty of Education.
- Karpudewan, M. & Chong Keat, M. (2017). The effects of classroom learning environment and laboratory learning environment on

- the attitude towards learning Science in the 21st century Science lessons. *Malaysian Journal of Learning and Instruction (MJLI), Special Issue on Graduate Students Research on Education*, 25-45. Retrieved from <http://mjli.uum.edu.my/images/specialissue/2017/A2.pdf>
- Kirima, T.M. & Kinyua, S.M. (2016). Teacher related factors influencing students' enrollment in Biology subject in public secondary schools in Meru Central Sub Country in Kenya. *Journal of Education and Practice*, 7(2) 130-136. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1089775.pdf>
- Martins, I.P., Dias, C.C. & Silva, I.P. (2018). *Biology in the secondary school: from the students' views to the school curriculum*. Retrieved from https://www.researchgate.net/publication/228535492_Biology_in_the_secondary_school_from_the_students'_views_to_the_school_curriculum
- Nghipandulwa , L. L. T. (2012). *Secondary school teachers' perceptions of practical work in biology in the Oshana education region*, Faculty of science, University of Namibia. Retrieved from <https://pdfs.semanticscholar.org/6ed5/26c5ddf3f7027494c54a9704b47bd7838e2d.pdf>
- Ngozi, D.I. & Halima, S. (2015). Inadequate laboratory facilities and utilization : pedagogical hindrance to students' academic performance in biology in senior secondary certificate examination in Zaria Metropolis, Kaduna State, Nigeria. *International Business Research*, 8(9)124- 134. Retrieved from <http://dx.doi.org/10.5539/ibr.v8n9p124>
- Olufunminiy, A. A. (2015). Evaluating Science laboratory classroom environment in Osun State of Nigeria for national development. *Journal of resource development management*, 9, 14-19. Retrieved from <https://www.iiste.org/Journals/index.php/JRDM/article/view/23385>
- Perera, K. & Hettiarachchi, S. (2016). *Study on quality assurance and accreditation in general education in Sri Lanka*. National Education Commission: Research series (2014) – No.04 Retrieved from <http://nec.gov.lk/wp-content/uploads/2016/04/4-Final-.pdf>
- Ranasinghe, A., Arunathilake, N. & Gunusinghe, D. D. P. M. (2016). *Study on investment in general education in Sri Lanka*. National

- Education Commission: Research series (2014) – No.07. Retrieved from <http://nec.gov.lk/wp-content/uploads/2016/04/7-Final-.pdf>
- Strengthening Science education in Sri Lanka. (2011). South Asia: Human development sector, World bank. Retrieved from https://www.researchgate.net/publication/234052607_Strengthening_Science_Education_in_Sri_Lanka
- Support materials: Laboratory Handbook for Teachers.* (2003). Retrieved from https://www.education.ie/en/Schools-Colleges/Information/Curriculum-and-Syllabus/Senior-Cycle-/Syllabuses-and-Guidelines/lc_biology_support.pdf
- Udeni, U.N., Atagana, H.I. & Esiobu, G.O. (2016). The implementation of action research for the improvement of biology teaching and learning in senior secondary schools in Nigeria. *Journal of Education and Practice*, 7(7),57-69 . Retrieved from <https://files.eric.ed.gov/fulltext/EJ1095247.pdf>
- Wisdom, J. & Creswell, J. W. (2013). *Mixed methods: Integrating quantitative and qualitative data collection and analysis while studying patient-centred medical home models.* Retrieved from <https://pcmh.ahrq.gov/page/mixed-methods-integrating-quantitative-and-qualitative-data-collection-and-analysis-while>

ASSESSMENT LITERACY AMONG PROSPECTIVE TEACHERS: EVIDENCE FROM SRI LANKA'S NATIONAL COLLEGE OF EDUCATION

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Abstract: Assessment literacy is a critical competence for teachers, enabling them to accurately evaluate student learning and inform instructional decisions. In Sri Lanka, concerns persist regarding the effectiveness of teacher preparation programs in developing this competence, particularly within the Measurement and Evaluation subject offered at National Colleges of Education (NCOEs). This study investigates the current performance patterns of prospective teachers in this subject and explores stakeholders' perceptions regarding its content, teaching-learning processes, and assessment practices. Adopting a quantitatively dominant explanatory mixed-method design, the study analyzed examination results from five NCOEs and collected data through surveys and semi-structured interviews with 215 prospective teachers, eight educationalists, and two curriculum developers. Quantitative analysis revealed significant disparities in performance across NCOEs and subject streams, with Sripada and Vavuniya performing notably better than other institutions. Qualitative findings identified three main challenges: content overload, stream-specific difficulties linked to prior Advanced Level subjects, and insufficient time allocation for teaching and learning. Stakeholders emphasized the need for interactive teaching methods, practical examples, and curriculum revision. Assessment practices were found to be misaligned with intended objectives, as prospective teachers perceived evaluations as predominantly knowledge-focused, whereas educationalists intended to assess knowledge, skills, and attitudes. The study concludes that, despite the subject's importance, current teaching, assessment, and curriculum design practices inadequately support the development of assessment literacy. Recommendations include regular curriculum updates, professional development for lecturers, mentorship programs for students, and implementation of a criterion-based assessment framework encompassing knowledge, skills, and attitudes. By adopting these measures, NCOEs can enhance prospective teachers' competencies and contribute to improved educational outcomes in Sri Lanka.

Keywords: *Assessment literacy, prospective teachers, measurement and evaluation, teacher education, National Colleges of Education*

Introduction

In today's rapidly advancing world, education plays a vital role in imparting fundamental knowledge, skills, and values across all levels, from primary

school to university. School education forms the foundation for human capital development, while teacher education largely determines the quality of the education system (Darling-Hammond, 2017). Teachers hold a central responsibility in implementing classroom instruction and assessing student performance, making their professional competence essential to effective learning outcomes.

Globally, teacher education programs have increasingly prioritized the enhancement of teaching practices. However, in Sri Lanka, persistent criticism has emerged regarding classroom assessment, with studies indicating that many teachers continue to adopt traditional assessment practices and fail to identify students' diverse learning needs through proper assessment methods (Dundar et al., 2016). This raises significant concerns about the quality and effectiveness of teacher preparation.

The concept of assessment literacy defined as the skills and knowledge required to measure and support student learning through assessment (Brookhart, 2011, as cited in DeLuca et al., 2016) has gained scholarly attention as a core competence for teachers. Researchers emphasize that teachers, as the primary agents responsible for evaluating both teaching and learning, must possess strong assessment literacy to ensure valid and reliable judgments of student achievement (Zhang & Burry-Stock, 2003). Assessment literacy not only contributes to accurate student evaluation but also informs teaching decisions and supports student development.

The importance of educational measurement and evaluation has been consistently underscored in the literature. Haladyna et al. (2002), Rodriguez (2004), Bachor and Baer (2001), and Hoover and Abrams (2013) highlight that formative assessment, in particular, plays a pivotal role in shaping students' progress, while also guiding the planning, practice, and development of effective teaching processes. Similarly, Cutsforth (2013) and McMillan (2013) stress that classroom assessment strategies should encompass both formative and summative purposes, aligning with broader instructional goals. As Brookhart (2011) argue, educational measurement should be integrated with teaching and classroom management principles, requiring teachers to acquire knowledge in test construction, administration, scoring, interpretation, and the use of results for improving student performance.

In Sri Lanka, National Colleges of Education (NCOEs) serve as the primary institutions responsible for training prospective teachers. These colleges have incorporated a compulsory subject, Measurement and Evaluation, into their curriculum to strengthen assessment literacy among prospective teachers. However, questions remain about how effectively prospective teachers engage with and apply this knowledge in practice.

The present study therefore aims to investigate and analyze the patterns of prospective teachers' understanding and performance in the subject of

Measurement and Evaluation at Sri Lanka's National Colleges of Education. By examining this issue, the research contributes to ongoing discussions on improving teacher preparation and enhancing assessment literacy, which are crucial for the advancement of the country's education system.

Literature Review

The study aims to explore the achievement patterns of prospective teachers in the 'Measurement and Evaluation' paper of the course-end examination at the National Colleges of Education. The literature review is thematically organized around several key subjects.

The Nature of Functional Teacher Education in Sri Lanka

Teacher education encompasses the entire process of transferring the knowledge, attitudes, and behaviors required to effectively guide the learning-teaching process to individuals chosen for teaching, serving as a method for teachers to acquire professional skills (National Education Commission, 2009). It is also a program aimed at empowering teachers to meet the demands of the profession and address its challenges. Hightower (2011) stated that teacher education programs enhance a teacher's academic knowledge as well as practical abilities, highlighting the need for further research into how these courses impact student achievement.

Pre-Service Teacher Education

In Sri Lanka, functional teacher education is an ongoing process. There are two types of teacher education based on their operation: pre-service teacher education and continuing service teacher education. Pre-service teacher education refers to the education and training provided to individuals before they become teachers (National Education Commission, 2009). In contrast, in-service teacher education offers opportunities for practicing teachers to further their learning. The National Colleges of Education represent one of Sri Lanka's premier pre-service teacher training institutions, with twenty colleges established thus far.

The nature of the National Colleges of Education's subject measurement and evaluation

In NCOEs, the subject of Measurement and Evaluation is crucial, yet challenging. Students aiming for high grades often struggle due to the complexity of the subject, leading to a need for revision of the final examination. Despite a generally low failure rate, Measurement and Evaluation consistently records the highest failure rates, notably peaking during the 2008/2010 academic year (Gamage, 2016). He also, indicates that while most students achieve average grades across all courses, those in Sinhala medium tend to have the highest number of passes. Interestingly, English medium students achieve the highest degree of success.

The curriculum for Measurement and Evaluation was last updated in 2010, and the National Institute of Education (NIE) subsequently published teaching materials necessary for implementing the "Education Practice" syllabus in 2011. These updates aim to address the challenges students face and enhance the effectiveness of teacher education at NCOEs.

Assessment and Evaluation method of the educational measurement and evaluation subject:

Gamage (2016) highlighted that the subject of 'Educational Measurement and Evaluation' had the highest failure rate of 3.7 percent among trainees from National Colleges of Education between 2006/2008 and 2010/2012. Most students achieved C or D passes in this subject over five years of study.

Experts have suggested that examination materials should focus less on cognitive aspects and more on developing higher-order thinking abilities such as analysis, evaluation, and creativity. Factors affecting learner performance include socio-economic background, leadership, student and teacher factors, and private tuition. Both formative and summative assessments play a role in evaluating student achievement. It's noted that both physical and metaphysical resources, along with the teaching-learning environment, are crucial for achieving educational goals. Strategies should be implemented to develop various skills and abilities in learners beyond rote memorization.

The quality of teachers is integral to the teaching-learning process, with well-prepared teachers having a significant impact on student performance. Pre-service training programs for teacher education, facilitated by bodies like the National Council for Teacher Education, contribute to the development of classroom teaching knowledge and skills, ultimately enhancing student outcomes.

Methodology

Aim

To provide ways and means for improving prospective teachers' accomplishment levels in the Educational Measurement and Evaluation subject, which is a core professional vocational subject at Sri Lankan National Colleges of Education.

Research Objectives and Sub Questions

- 1) Current status of the performance of the Educational Measurement and Evaluation subject in National Colleges of Education in Sri Lanka
 - a) What is the current performance of students in the Educational Measurement and Evaluation subject?
 - b) Are there significant differences in student performance between the different NCOEs?

- c) Are there significant differences in student performance across different subject streams?
- 2) Stakeholders' perceptions on the Educational Measurement and Evaluation subject
 - a) What are stakeholders' perceptions regarding the subject content of Educational Measurement and Evaluation?
 - b) What are stakeholders' perceptions regarding the teaching–learning process of the subject?
 - c) What are stakeholders' perceptions regarding the assessment and evaluation process of the subject?

Research Paradigm

The present study was grounded in a pragmatic philosophical orientation, which emphasizes the use of multiple approaches to best address the research problem. Adopting a deductive reasoning approach, the study primarily employed a quantitatively dominant explanatory mixed-method design.

A survey research strategy was used as the primary method for data collection, and to further validate the survey findings, semi-structured interviews were conducted. Data were gathered through a questionnaire developed by the researchers, complemented by an interview schedule designed for qualitative insights. To ensure the robustness of findings, data triangulation was achieved by collecting information from multiple stakeholders, including prospective teachers, educationalists, and subject specialists.

The research design was cross-sectional in nature, enabling the collection of data at a single point in time. The quantitative data were analyzed using descriptive statistical techniques, while the qualitative data were analyzed deductively, guided by pre-identified themes derived from the literature and used in the development of research instruments.

Population

The population under study includes all prospective teachers, educationalists, and subject specialists actively involved in teaching the Measurement and Evaluation subject.

Sample and the sampling method

Out of the 19 National Colleges of Education (NCOEs), five were purposefully selected based on their relatively lower performance in the Measurement and Evaluation subject. From these NCOEs, a total of 215 prospective teachers were randomly chosen to participate in the study. Additionally, educationalists from each course, as well as two curriculum developers who also serve as examiners, were purposefully selected to provide expert insights. Detailed information regarding the population and sampling procedure is presented in the table below.

Table 1*Sample of prospective teachers, educationalists and subject specialists*

National Colleges of Education	Prospective Teachers			Educationalists	Curriculum Developers
	Male	Female	Total		
A	6	42	48	2	2
B	5	35	40	2	
C	9	41	50	1	
D	33	-	33	2	
E	9	35	44	1	
Total	62	153	215	8	2

Instrument preparation

A questionnaire was employed to collect data from prospective teachers. The instrument, developed by the authors, comprised five sections: background details, content of the Educational Measurement and Evaluation subject, teaching and learning processes, assessment procedures of the subject, and developmental suggestions. An online version of the questionnaire was administered to gather responses from the participants. The instrument underwent expert validation and a pilot test with 30 prospective teachers. Items that did not meet the Cronbach's alpha threshold of 0.7 or were deemed unsuitable based on expert feedback were removed. Additionally, open-ended questionnaires were used to gather insights from teacher educators, while an interview schedule was employed to collect data from curriculum developers.

Method of Data Collection**Table 2***Method of Data Collection*

Research objectives	Data source	Method of data collection	Number of participants
1. Current status of the performance of the Educational Measurement and Evaluation subject in National Colleges of Education in Sri Lanka	Result sheets	Documentary analysis	-

2. Stakeholders' perceptions on the Educational Measurement and Evaluation subject	Prospective teachers Educationalists Curriculum developers	Questionnaire Questionnaire Interview schedule	Prospective teachers-215 Educationalists-08 Curriculum developers-2
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Data Analysis

Based on the objectives of the study, the data analysis is organized around the following themes.

- Current status of the performance of the Educational Measurement and Evaluation subject results in National Colleges of Education in Sri Lanka
- Stakeholders' perceptions on educational measurement and evaluation subject

Results and Discussion

Current status of the performance of the Educational Measurement and Evaluation subject results in National Colleges of Education in Sri Lanka

Table 3

Performance of Candidate National College of Education wise

Institute	% A	% B	% C	% F
Hapatigama	14.4%	21.9%	62.2%	1.5%
Sripada	25.1%	28.4%	42.1%	4.4%
Vavuniya	21.5%	31.0%	45.5%	2.0%
Sariputta Dambadeniya	12.0%	18.9%	62.4%	6.7%
Sariputta Nittambuwa	12.8%	15.8%	61.6%	9.8%

An analysis of grade distributions across the five National Colleges of Education (NCOEs) Hapatigama, Sripada, Vavuniya, Sariputta Dambadeniya, and Sariputta Nittambuwa reveals notable disparities in performance outcomes. At Sripada (25.1% A, 28.4% B) and Vavuniya (21.5% A, 31.0% B), the proportion of students achieving top grades (A and B) is considerably higher compared to the other institutes. In contrast, Hapatigama (62.2%), Sariputta Dambadeniya (62.4%), and Sariputta

Nittambuwa (61.6%) exhibit an overreliance on the C grade, with more than 60% of students falling into this category. Furthermore, the two Sariputta branches report disproportionately high failure rates (6.7% and 9.8%, respectively), which are three to five times greater than those observed at Sripada (4.4%) and Vavuniya (2.0%).

A chi-square test of independence confirmed that these differences in grade distribution are statistically significant ($p < .001$), well below the conventional threshold of $\alpha = 0.05$. Post-hoc analysis further indicates that Sripada and Vavuniya constitute the top-performing institutes, producing a significantly higher proportion of students with A and B grades and comparatively fewer failures. Conversely, Hapatigama and the Sariputta institutes form a distinct group of lower-performing institutions, characterized by a heavy concentration of students in the C category and substantially higher failure rates.

These findings demonstrate that the disparities in grade outcomes across the NCOEs are not random variations but instead reflect systemic issues within the teacher education system. Such evidence substantiates the broader concern regarding inequities in teacher education quality across Sri Lanka. Moving forward, it is essential to explore the underlying causes of these disparities, which may include the quality of teaching and resources at each NCOE, variations in student entry qualifications, socio-economic characteristics of the student intake, the availability of qualified teacher educators in subject areas, and region-specific challenges and support systems.

Table 5

Subject stream wise comparison

<i>Subject</i>	<i>% A</i>	<i>% B</i>	<i>% C</i>	<i>% F</i>
Mathematics (S)	43.2%	47.7%	9.1%	0.0%
Science (S)	23.2%	42.9%	33.9%	0.0%
ICT (E)	44.4%	22.2%	33.3%	0.0%
Mathematics (T)	39.3%	32.1%	28.6%	0.0%
Science (T)	25.7%	32.4%	41.9%	0.0%
Social Science (T)	32.8%	23.4%	42.2%	1.6%

<i>Subject</i>	<i>% A</i>	<i>% B</i>	<i>% C</i>	<i>% F</i>
First Language	21.9%	28.6%	46.9%	2.6%
Carnatic Music (T)	20.4%	29.1%	44.7%	5.8%
Bharatha Dancing (T)	18.0%	32.0%	42.0%	8.0%
Art (T)	9.8%	34.1%	48.8%	7.3%
Primary Education (T)	26.9%	25.4%	41.1%	6.6%
Primary Education (S)	16.3%	21.6%	51.6%	10.5%

The analysis of subject performance reveals several notable trends. Five subjects recorded a 0% failure rate: Mathematics (Sinhala medium), Science (Sinhala medium), ICT (English medium), Mathematics (Tamil medium), and Science (Tamil medium). Every student enrolled in these subjects passed, with Mathematics (Sinhala medium) standing out as the most successful subject overall. An impressive 90.9% of its students attained either a Distinction (A) or First Class (B), a figure substantially higher than that of any other subject.

In contrast, Primary Education (Sinhala medium) emerged as the most underperforming subject, recording the highest failure rate (10.5%). Additionally, more than half of its students (51.6%) obtained a Second Class (C), suggesting a clustering of results at the lower end of the passing spectrum. The large-cohort subjects First Language, Primary Education (Tamil medium), Primary Education (Sinhala medium), and Social Science (Tamil medium) show a consistent pattern of challenges. Each recorded failure rates above 1.5% and relatively low high-achievement rates, all below 57%. This pattern suggests possible systemic issues in maintaining quality education and assessment across larger student groups.

The performance of Arts- and Music-related subjects (Carnatic Music, Bharatha Dancing, and Art) presents a different trend. These subjects demonstrated stable outcomes with pass rates ranging from 92–94% and relatively balanced high-achievement levels of 45–50%, indicating consistent though not exceptional performance.

A Chi-Square test confirmed that the observed differences in grade distributions across subjects were statistically significant, with the p-value far below the standard significance level of 0.05. Post hoc pairwise comparisons

further refined these findings. Mathematics (Sinhala medium) emerged as a clear outlier, performing significantly differently from nearly all other subjects due to its exceptionally high proportion of A and B grades. While Mathematics (Tamil medium) was its closest comparator, even this pair likely differed significantly given the extremely elevated proportion of A grades in the Sinhala-medium cohort.

The group of zero-failure subjects (Math-S, Science-S, ICT-E, Math-T, and Science-T) displayed internal similarity regarding failure rates but remained significantly different from subjects with any recorded failures. The contrasts within this group lay primarily in the proportions of A, B, and C grades rather than overall pass rates. Primary Education (Sinhala medium), on the other hand, was consistently and significantly different from most other subjects, with its Tamil-medium counterpart being the only potential exception. The difference in failure rates between Primary Education (Sinhala medium) and Primary Education (Tamil medium) appears to be of particular importance, with evidence suggesting a statistically significant disadvantage for the Sinhala-medium students.

Finally, a middle cluster of subjects including Social Science, First Language, Carnatic Music, Bharatha Dancing, and Art showed broadly comparable performance patterns. Within this cluster, minor differences such as Social Science's relatively higher proportion of A grades compared with Art may not be strong enough to reach statistical significance. Primary Education (Tamil medium) occupies a marginal position, showing significant differences from the zero-failure group but likely aligning closely with the middle cluster, particularly with First Language, which shares similar failure and achievement rates.

Stakeholders' perceptions on the educational measurement and evaluation subject

Subject Content

The survey indicated that 77% of prospective teachers liked the subject. Among the dislike cohort, the majority of prospective teachers who disliked the subject studied in the Art subject stream for their A/L and were from NCOEs with an Art background.

The analysis of interviews and responses highlighted several interrelated themes regarding prospective teachers' perceptions of the subject Educational Measurement and Evaluation.

Content Overload and Difficulty of Understanding

A dominant theme across participants was the perception that the subject is both overloaded and difficult to understand. Many prospective teachers reported disliking the subject because of its dense content, with one noting, "There is too much to study, and it is very hard to understand the concepts clearly." Educationalists reinforced this view, attributing students' negative

attitudes to the heavy workload and their prior G.C.E. A/L subject background. As one educationalist explained, “Most students come with very little preparation for this subject; they find it too abstract and become discouraged.” curriculum developers also confirmed these challenges, acknowledging that the complexity and breadth of content significantly contributed to prospective teachers’ disengagement.

Stream-Specific Difficulties

The analysis further revealed that the nature of difficulties varied according to academic stream. For those from the Arts stream, the statistical component posed the greatest challenge, as one student expressed, “The mathematics part is the most difficult for us in Arts; we cannot follow the statistical formulas easily.” In contrast, prospective teachers from Mathematics, Bio Science, Commerce, and Technology streams identified the theoretical aspects as more problematic. A participant from the Bio Science stream explained, “The theory is too abstract, even though we are used to scientific subjects.” These variations underscore the importance of considering prior academic preparation when designing and delivering the subject.

Time Constraints

Another recurring theme was the issue of insufficient time allocation. Although the majority of respondents felt that the allotted time was adequate, a considerable proportion disagreed. As one prospective teacher stated, “We do not have enough time to cover the syllabus properly; it is always rushed.” Similarly, an educationalist observed, “In some NCOEs, teachers cannot finish the content within the given time, which frustrates students.”

Taken together, these findings demonstrate that prospective teachers’ negative perceptions of Educational Measurement and Evaluation stem primarily from three interrelated issues: the subject’s heavy and complex content, the ways in which prior academic streams influence students’ experiences, and concerns over insufficient time for effective teaching and learning. These themes not only explain students’ disliking of the subject but also highlight structural and pedagogical challenges that need to be addressed in order to make the subject more accessible and engaging.

Teaching Learning Process

Quantitative findings indicated that prospective teachers generally held positive views of their lecturers. Across the sample, 61% of respondents reported that the lecturer “explains the lesson very well,” while 33% stated that the lecturer “is well prepared.” This pattern was consistent across all five National Colleges of Education (NCOEs) and across different A/L subject streams, suggesting a broad consensus that lecturers demonstrated clarity in explanation and thorough preparation.

In terms of satisfaction with teaching methods, 83% of prospective teachers reported being satisfied with the methods employed, while 17% expressed

dissatisfaction. Satisfaction was consistently high across all NCOEs and subject streams, although some students in each stream indicated concerns.

Qualitative responses elaborated on these findings, revealing that while most students appreciated the clarity of explanations, a subset desired improvement. As one prospective teacher observed, “The lecturer explains well, but sometimes the teaching style is too theoretical and difficult to follow.” Another emphasized the need for greater variety in pedagogy: “More interactive methods would help us understand better.” Suggestions for improvement clustered around three areas: enhancing teaching pedagogy, strengthening lecturers’ subject knowledge, and ensuring ongoing training. Participants proposed local and international training opportunities, systematic work programs to ensure preparation, and prioritizing lecturers with specialized study in Educational Measurement and Evaluation when making teaching appointments.

From the perspective of educationalists, several challenges emerged in relation to prospective teachers’ learning processes. A major theme was the difficulty students faced with fundamental mathematical concepts, particularly for those from the Arts stream. As one educationalist explained, “Most Arts students have not mastered basic mathematical concepts, which makes the statistical part of this subject very hard for them.”

Student engagement in classroom learning activities was described as “moderately warm,” with participation often motivated by obligation rather than intrinsic interest. An educationalist noted, “Students do participate, but mostly because they have to. There is little genuine willingness.” They emphasized the importance of making lessons more engaging through practical and interactive methods to foster authentic participation.

At the same time, prospective teachers were generally consistent in completing prior activities and submitting assignments on time. However, educationalists expressed concern about the quality of assignments, suggesting that while tasks were completed, deeper understanding and critical engagement were often lacking.

Resource management within NCOEs was another issue raised. Educationalists highlighted that although they made efforts to use available resources effectively, limitations often constrained their ability to deliver high-quality teaching experiences.

Curriculum developers reinforced these observations, pointing out that the difficulties prospective teachers experienced were closely linked to their A/L subject streams. They noted that Arts stream students tended to struggle more with logical and statistical aspects, whereas those from Science and Mathematics backgrounds displayed stronger analytical skills. Specialists emphasized that attitudes played a crucial role: “Many Arts students are afraid of this subject even before they start. Their negative attitude itself makes the subject feel harder.”

To address these challenges, subject specialists recommended modernizing the teaching learning process by incorporating hands-on activities, practical examples, and real-life applications. They also stressed the need for curriculum reform, suggesting that the syllabus should be updated at least once every five years, reduced in content load, and adapted to align with broader reforms in school education. Furthermore, they advocated simplifying theoretical components for accessibility while ensuring that statistical components are taught authentically and with adequate practical reinforcement.

These findings underscore the need for pedagogical innovation, curriculum reform, and enhanced lecturer preparation to make Educational Measurement and Evaluation more accessible and engaging for prospective teachers.

Assessment and Evaluation Process

The analysis of the assessment and evaluation procedures in the subject of Educational Measurement and Evaluation was examined through two main approaches: continuous assessment and external evaluation. The data revealed clear differences between the perceptions of prospective teachers and educationalists, highlighting mismatches in expectations and practices.

From the perspective of prospective teachers, continuous assessment was seen as narrowly focused. The majority (34%) indicated that assessment was designed only to measure knowledge, while 25% felt it targeted skills alone, and very few mentioned attitudes. As one prospective teacher expressed, “We are mostly judged on how well we can recall theories rather than on how we apply them.”

In contrast, educationalists offered a broader view. Half of them stated that continuous assessment was designed to measure all three domains knowledge, skills, and attitudes while 25% pointed to a focus on skills alone. This indicates a disparity between students’ lived experiences of assessment and educationalists’ intended practices.

When analyzed across NCOEs, most prospective teachers in institutions such as NCOE-A and D reiterated that the criteria measured “only knowledge.” In contrast, educationalists in NCOE-B, C, D, and E consistently emphasized that assessment covered all three dimensions. Similarly, subject-stream variations also emerged, with Arts and Biology students most strongly perceiving a knowledge-only focus, while Commerce students identified more emphasis on skills.

Taken together, these findings suggest a gap between intended and experienced assessment practices. While educationalists report aiming to measure multiple dimensions, prospective teachers perceive assessments as disproportionately knowledge-based.

Regarding the methods employed in continuous assessment, both groups identified a mix of strategies but emphasized different priorities. Prospective

teachers most frequently reported group activities (23%) as the primary method, followed by projects (17%), presentations (15%), discussions (14%), and assignments. One prospective teacher noted, “We often work in groups, but sometimes it feels like teamwork is valued over individual effort.”

Educationalists, however, highlighted projects (19%) as their most used strategy, followed by group activities (17%), assignments (14%), and presentations (12%). The consistency across NCOEs showed that common tools included discussions, questioning, assignments, projects, and group activities. Still, while prospective teachers valued group work and practical projects, educationalists leaned more toward structured projects and portfolio-based assessment.

Stream-wise, most students across subject backgrounds identified projects and group activities as the most common tools of assessment, confirming their central role. Educationalists similarly reinforced that projects and group work were their preferred approaches, though they also stressed the importance of presentations as a reflective tool.

Both prospective teachers and educationalists overwhelmingly agreed that external evaluation focused solely on knowledge. Among prospective teachers, 91% identified knowledge as the central criterion, while 87% of educationalists echoed this view. Only a small minority of educationalists mentioned that external evaluation considered both knowledge and skills. As one student remarked, “The exam tests memory, not whether we can apply measurement and evaluation in practice.”

Across NCOEs, the same pattern persisted, with knowledge dominating as the main dimension. This was consistent across A/L subject streams as well, particularly in Arts and Biology, where students strongly perceived the assessment as knowledge-driven. Educationalists too, regardless of subject area, reinforced that external evaluations were designed almost exclusively to test theoretical knowledge.

This alignment between both groups confirms that while continuous assessment was at least intended to encompass multiple domains, external evaluation remained rigidly knowledge-based, limiting opportunities to measure higher-order skills and attitudes.

When asked about their satisfaction with the format of the Educational Measurement and Evaluation exam paper, the vast majority of prospective teachers (95%) expressed satisfaction, praising its clarity and structure. In contrast, educationalists were more divided: 62% reported satisfaction, while a significant 38% were dissatisfied, citing concerns that the paper did not adequately reflect the subject’s breadth or provide opportunities to assess skills and attitudes. One educationalist explained, “The paper looks neat, but it does not capture the practical essence of the subject.”

This tension also appeared at the institutional level. Most prospective teachers across NCOEs expressed satisfaction with the exam format, but many educationalists in the same institutions voiced dissatisfaction. This divergence highlights how perceptions of exam fairness and adequacy differ between those who sit for the assessment and those who evaluate its pedagogical alignment.

Curriculum developers echoed the concerns raised by educationalists, stressing that assessments should encompass all three learning domains knowledge, skills, and attitudes. They noted that, in practice, current evaluations disproportionately measure knowledge, particularly through external examinations, which rely heavily on multiple-choice, short-answer, and essay-based formats. While they acknowledged the soundness of the exam paper's design, they emphasized that the absence of clear criteria for assessing skills and attitudes was a critical shortcoming.

To address this, Curriculum developers recommended the introduction of a formal, criterion-based system that explicitly measures knowledge, skills, and attitudes. They also suggested that prospective teachers be given opportunities to self-assess against these criteria. Furthermore, they highlighted the need to strengthen the role of action research in the curriculum, arguing that this could foster the development of positive attitudes and reflective practice among prospective teachers.

The triangulation of findings reveals a consistent misalignment between prospective teachers' and educationalists' perceptions of the assessment process. While prospective teachers perceive both continuous and external assessments as largely knowledge-focused, educationalists claim that continuous assessment does attempt to capture skills and attitudes, though this is not always recognized by students. Both groups, however, agreed that external evaluation overwhelmingly privileges knowledge. Subject specialists confirmed these shortcomings and called for a comprehensive, criterion-based framework to ensure that assessments truly measure the three domains of learning knowledge, skills, and attitudes.

Suggestions and Recommendations

Based on the findings, the following recommendations are proposed to enhance the achievement patterns of prospective teachers in the 'Educational Measurement and Evaluation' subject:

- The curriculum of a college should be updated at least once every five years.
- The college curriculum should be reformed or revised in conjunction with any reform/revision in school education.
- Local and international training opportunities should be created for lecturers.

- Teachers who have further studied the subject of educational measurement and evaluation should be recommended for positions when choosing educators to teach it.
- A systematic work program should be created to ensure teachers approach the teaching task with prior preparation.
- Prospective teachers can receive direction and support through mentorship programs with experienced educators and measurement experts.
- Collaborative learning environments should be encouraged to promote knowledge sharing and critical thinking.
- Regular professional development programs focused on "Educational Measurement and Evaluation" should be organized by national colleges of education to improve the expertise of prospective teachers.

Conclusion

This research delves into the nuanced landscape surrounding the Educational Measurement and Evaluation subject in National Colleges of Education (NCOEs) in Sri Lanka. By meticulously examining the current status, stakeholders' perceptions, challenges, and recommendations, this study offers profound insights into the intricacies of teacher education and the evaluation process.

Foremost, the study reveals a multifaceted view of the subject, wherein while a majority of stakeholders express affinity towards it, a notable portion, comprising both prospective teachers and educationalists, voices concerns regarding its complexity and overloaded content. This dichotomy underscores the necessity for a comprehensive overhaul of curriculum design and teaching methodologies to ensure accessibility and efficacy for all learners.

Furthermore, the examination of the teaching and learning process surrounding the subject illuminates areas ripe for improvement. From enhancing lecturer engagement to fostering active student participation and ensuring adequate time allocation, there exists a spectrum of opportunities to cultivate a conducive learning environment conducive to optimal learning outcomes.

Lastly, the recommendations put forth in this research offer actionable pathways towards enhancing the achievement patterns of prospective teachers in the Educational Measurement and Evaluation subject. These recommendations underscore the imperative of curriculum revitalization, provision of robust teacher training initiatives, establishment of mentorship programs, and cultivation of collaborative learning environments.

In essence, this research underscores the profound significance of ongoing research and development in Measurement and Evaluation practices to inform policy-making processes and elevate the quality of education. By

heeding the insights gleaned from this study and implementing the proposed recommendations, NCOEs in Sri Lanka can chart a course towards fostering an educational landscape characterized by excellence, equity, and empowerment for generations to come.

References

- Bachor, D. G., & Baer, M. R. (2001). An examination of preservice teachers' simulated classroom assessment practices. *Alberta Journal of Educational Research*, 47(3).
- Brookhart, S. M. (2011). Educational assessment knowledge and skills for teachers. *Educational Measurement: Issues and Practice*, 30(1), 3–12.
- Brookhart, S. M. (2011) cited in DeLuca, C., LaPointe-McEwan, D., & Luhanga, U. (2016). Approaches to classroom assessment inventory: A new instrument to support teacher assessment literacy. *Educational Assessment*, 21(4), 248–266. <https://doi.org/10.1080/10627197.2016.1236677>
- Cutsforth, J. (2013). Examining pre-service teachers' understandings about classroom assessment.
- Darling-Hammond, L. (2017). Teacher education around the world: What can we learn from international practice? *European Journal of Teacher Education*, 40(3), 291–309.
- Dundar, H., Millot, B., Riboud, M., Shojo, M., Aturupane, H., Goyal, S., & Raju, D. (2017). *Sri Lanka education sector assessment: Achievements, challenges, and policy options*. World Bank. <https://doi.org/10.1596/978-1-4648-1052-7>
- Foshay, A. W. (1991). The curriculum matrix: Transcendence and mathematics. *Journal of Curriculum and Supervision*, 6(4), 277–293. http://www.ascd.org/ASCD/pdf/journals/jcs/jcs_1991summer_foshay.pdf
- Ganyaupfu, E. M. (2013). Factors influencing academic achievement in quantitative courses among business students of private higher education institutions. *Journal of Education and Practice*, 4(15), 57–65.
- Haladyna, T. M., Downing, S. M., & Rodriguez, M. C. (2002). A review of multiple-choice item-writing guidelines for classroom assessment. *Applied Measurement in Education*, 15(3), 309–333.
- Hightower, M. A., Delgado, C. R., Liyad, C. S., Wittenstein, R., Seller, C., & Swanson, B. C. (2011). Improving students' learning by supporting quality teaching: Key issues, effective strategies by

editorial projects in education.
<http://www.edweek.org/media/eperc-qualityteaching-12.11.pdf>

Hoover, N. R., & Abrams, L. M. (2013). Teachers' instructional use of summative student assessment data. *Applied Measurement in Education*, 26(3), 219–231.

McMillan, J. H. (2013). *Research on classroom assessment*.

NCATE. (n.d.). Lint makes in teacher effective: A summary of key research findings on teacher preparation. National Council for Accreditation of Teacher Education.
<http://www.ncate.org/linkclick.aspx>

National Education Commission. (2009). *National policy framework on higher education and technical & vocational education*.
<https://nec.gov.lk/wp-content/uploads/2014/04/national-policy-on-higher-education-2009.pdf>

Sedere, U. M. (2016). *Educational reforms beyond Kannangara for the 21st century: Dr. C. W. W. Kannangara Memorial Lecture*. National Institute of Education.
<https://files.eric.ed.gov/fulltext/ED569342.pdf>

Sethunga, P., Wijesundera, S., Kalamany, T., & Karunanayake, S. (2014). *Study on the professional development of teachers and teacher educators in Sri Lanka: Research Series (2014) – No. 02*. National Education Commission. <http://www.nec.gov.lk>

Zhang, Z., & Burry-Stock, J. A. (2003). Classroom assessment practices and teachers' self-perceived assessment skills. *Applied Measurement in Education*, 16(4), 323–342.

ගමගේ, යූ. ජී. ඩබ්ලිව්. ඩබ්ලිව්. (2013). ජාතික ශික්ෂණ විද්‍යා පිපීලෝමා බැනර් (අවසාන) විභාග ලකුණුවලින් අනාවරණය වන සාධන රටා පිළිබඳ විශ්ලේෂණයක් පර්යේෂණ ක්‍රමවිද්‍යාව පිළිබඳ සහ මාසික පාඨමාලාව, මහරගම, ශ්‍රී ලංකාව: පර්යේෂණ සහ සංවර්ධන දෙපාර්තමේන්තුව, ජාතික අධ්‍යාපන ආයතනය.

INTENTIONAL MISREPRESENTATION, INTENTIONAL MISCONDUCT, INTENTIONAL MISINFORMATION AND AGENCY PROBLEM

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Abstract: The purpose of this paper is to present a critical review of the contributions of “theoretical triangulation” which is also referred to as “theoretical pluralism” to higher education (HE) research in interpreting the agency problem (AP) in the context of international student recruitment (ISR). In this study, open ended interviews, semi-structured in multiple intervals were carried out with 120 agents and five multiple case studies were used based on three selection criteria, intend to thematically analyze based on theoretically derived codes, constructed on theoretical framework. Although AP can be interpreted in different perspectives across many disciplines, the existing interpretation of AP domain in the HE industry is not adequate based on the present context of ISR in private HEIs (PHEIs), where sub agents have deployed with different intentions by the local agents. This theoretical triangulation enables exploring different perspectives of AP and this paper interprets AP as an act of intentional misrepresentation, intentional misconduct, intentional misinformation beyond the interests of the principal foreign university (PFU). Hence, this study contributes to the thinking about the interaction between theory synthesis and interpretation of a phenomena in question, providing deeper understanding.

Key words: *Theoretical Triangulation, Intentional misrepresentation, Intentional misinformation, Intentional misconduct, Agency problem*

Introduction

The Agency theory (AT) traditionally explains the contractual relationships (Ross, 1973, Jensen & Meckling, 1976; Eisenhardt, 1989a) and is applied in the international student recruitment (ISR) engaged in the private Higher Education (PHE) (Huang et al., 2014; Nikula & Kivistö, 2020). The traditional principal agency contracts involves two individuals with actions affecting both parties (Berle & Means, 1932). Later, Multiple agency theory (MAT) added complexity to these relationships (Holmström, 1979) These private HE Institutes (PHEIs) establish branch campuses locally or operate as designated centers of foreign universities (British Council, 2024a). Higher education (HE) has a cross-border element that can be traced back to medieval times (Kim, 2024). According to UNESCO (2022), there were more

than six million international students in 2019, up from approximately two million in 2000 (Inouye et al., 2022). About 1/3 of enrolment to HE worldwide is estimated to be in PHEIs (UNESCO, 2022).

The central issue addressed here is the lack of broader interpretation and attention on agency problem (AP) between local agents and the principal foreign universities (PFU). According to extant literature, as mentioned in the AT the AP arises due to conflicting interests, information asymmetry, moral hazards, adverse selection, and goal conflicts (Jensen & Meckling, 1976; Eisenhardt, 1989a; Kivisto, 2005; Kivisto, 2008). It is estimated that there are about 10,000-20000 education agents operating worldwide (BEG, 2016). However, absence of regulations is visible in the PHE with no clarity in objectives and no best practices in governance, which naturally raise concerns about the standards of programs offered with much ambiguity, inconsistency and poor quality (IPS, 2023; UNESCO, 2022).

This paper is focused on pivotal actors in the ISR as education agents, who serve as intermediaries between overseas students and education institutions. As there are different facets of the AP in the ISR (Figure 1), this paper addresses the perspective of local agents, behaviour of sub agents and their unethical intentions in ISR. Agents and subagents in this paper refers to intermediaries between local students and PFU. Majority of prior research has addressed AP in governance issues in the perspective of PFU and agents to mitigate AP in Western countries (Huang et al., 2014; Nikula & Kivisto, 2020) though South Asia is the region with the strongest presence of non-state actors in education (ADB, 2011; UNESCO,2022),

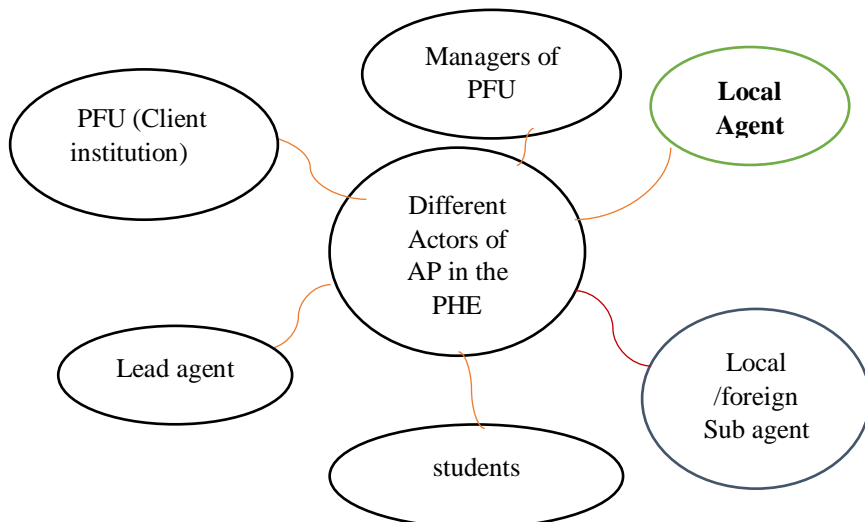


Figure 1: Different actors’ perspective of the AP

In this paper, an attempt is made to interpret AP broadly via theoretical triangulation. It was aimed at expanding current understanding of theoretical perspectives on AP, analyzing the strengths of AT with respect to principal-agent relationships, and recognizing its limitations in capturing the complexities of “intention” of human behaviour.

Considering AT in addressing AP in ISR, Agency refers to range of key words (Inouye et al. 2022). However, this paper focus on the contractual relations (Jensen Meckling,1976; Eisenhardt,1989a) and AT is primarily rooted in economics and organizational theory, which focuses on the relationship between principals (such as shareholders or employers) and agents (such as managers and employees) and the challenges that arise when these two parties have divergent interests. The traditional principal agency contracts evolved, involving two individuals with actions affecting both parties (Berle & Means, 1932).

Later this contractual relationship was identified by Jensen & Meckling (1976) and Eisenhardt (1989a) and further, MAT added complexity to these relationships (Holmström, 1979). AT assumes that agents may not always act in the best interests of the principals, and as a result, monitoring and incentivizing mechanisms are often needed to align their interests (Jensen & Meckling,1976, Eisenhardt,1989b). These issues in the AP often led to contractual cheating, especially in the recruitment of international students by PFU through various agents (Nikula & Kivisto, 2020). The AT serves as the primary theoretical lens through which the research findings were theorized. Further, an agency relationship occurs when a principal hires an agent to provide a service on their behalf, giving the agent some decision-making authority (Jensen & Meckling, 1976; Eisenhardt, 1989a). Despite AT's promise, it remains underutilized in analyzing HE institution-agent dynamics, particularly in ISR (Kivisto, 2008; Nikula & Kivisto, 2020). There is limited research on governance and control of recruitment agents (Huang et al., 2014). Recent studies apply AT to leadership, strategic planning, and cross-border HE regulation, yet a holistic view of AP is lacking based on the present context of ISR in the HE (Lane, 2007; Auld, 2010; Enders et al., 2013; Nikula & Kivisto, 2018).

One of the factors influencing diversity in HE is the diversity of agents (individuals, groups, networks, and states) and the many ways they conceptualize and use space. According to Massey (2005), space is not an empty stadium that is just waiting to be filled. Humans create space for social purposes, branch campuses abroad are collaborative spaces that bring together two national agents with the institution as an actor in its own right, and possibly a local partner are a few examples (Marginson, 2024). By definition, the agency relationship is problematic if the PFU and the local agent's personal interests are varied (Jensen & Meckling, 1976; Eisenhardt, 1989a). The assumptions of AT are based on the premise of a principal-agent relationship characterized by self-interest, information asymmetry, potential

conflicts of interest, risk aversion, and the need for monitoring and incentive systems to ensure agents act in the best interests of principals (Jensen & Meckling, 1976; Eisenhardt, 1989a).

There is very limited scholarly research on unethical practices of sub agents and lead agents in HE (Huang et al., 2014; Nikula & Kivisto, 2020). There is huge influx of global brands into the emerging HE market (Jayawardena, 2017) and the establishment of market-driven PHEIs has been identified as the panacea for the issues faced by the country's HE sector (Abeyratne & Lekamge, 2012; Pitigala-Arachchi, 2012). There has been no substantial scholarly attempt to understand the effects of marketization on local HE except a limited number of scholarly revisits (Gamage, 1996; Abeyratne & Lekamge, 2012; Little & Hettige, 2016; Jayawardena, 2017). Further, data on the overall number of universities engaged in transnational education (TNE) activities where agents are involved are also unavailable obscuring a comprehensive picture for Sri Lanka (British Council, 2024a; 2024b). According to the extant literature there are many issues between local agents and the PFU in the unregulated ISR such as producing fake credentials and fabrication of documents, accidental incomplete information, intentional misleading, stealing money, not disclosing the terms of representation, unfriendliness, pushiness, delays, negative information about the client institution, fraud unauthorized sub-contracting, leaking sensitive information, financial fraud, limited transparency, misconduct, and disinformation (Nikula & Kivisto, 2020). However, lapse of a holistic approach to AP is identified as a shortcoming in the existing literature. Little amount of empirical research has been done on how the relationships between higher education institutes (HEIs) and agents arise, function and managed (Nikula & Kivisto, 2018). Although agency factors provide a significant contribution to organizational research, they have received less empirical attention (Eisenhardt, 1989a).

Theoretical triangulation

“Theoretical triangulation” and “theoretical pluralism” interchangeably refer to the deployment of a variety of theoretical perspectives within the same study (Hoque et al., 2013). Theoretical triangulation involves using various factors from a variety of theoretical perspectives simultaneously to examine the same dimension of a research problem. According to are three types of triangulations, namely data triangulation, theory triangulation, and method triangulation. Triangulation has no widely accepted definition and single proper technique, but, generally, it is conducted to validate, challenge, extend, and enhance confidence (Rugg & Hales, 2005) , as presented in Figure 3 (Ediyanto et al., 2025).

Rationale for Theoretical triangulation

According to the review ethical issues often lead to contractual cheating in HE through various agents (Nikula & Kivisto, 2020). However, types of agents such as lead agents subagent engagement is under researched in the application of AT in most HE researches (Nikula & Kivisto, 2020), Therefore, in order to address this lacuna in extant literature , theoretical triangulation was adopted in line with the assumptions of the AT with Theory of Planned Behaviour (TPB) and Social Cognitive Theory (SCT) integrated to redefine the AP in the context of behavioural “intentions (Ajzen,1991; Bandura, 2001; 2006) of the agents in the ISR .

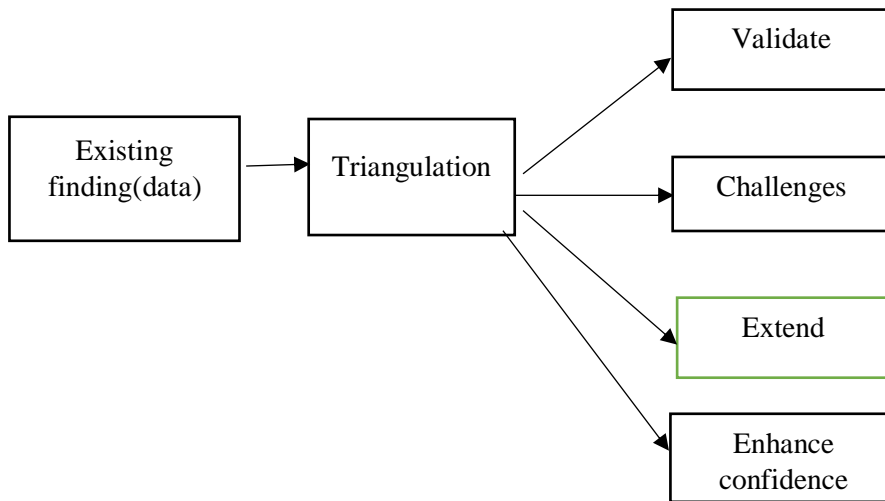


Figure 2: Researchers’ purposes of conducting triangulation

Source: (Ediyanto et al., 2025)

Theoretical background

This shows the psychological factors within contractual relations influencing the behaviour of agents (Bandura, 2001, 2006) and behavioural intentions were considered as paramount of importance in committing an unethical practice (Ajzen, 1991) as stemmed from research problem to explore “why and how” they commit unethical practices when sub agents are employed. Broader theoretical interpretation for AP was under researched in a sub agent deployment (Nikula & Kivisto, 2020). According to extant Literature there are other theories directly align with the assumptions of AT such as. Stewardship Theory, Transaction Cost Economics, Resource Dependency Theory, Behavioural Economics, Corporate Governance Theory, Social Exchange Theory, Stakeholders theory which can be used for theoretical triangulation. However, these theories do not serve the purpose of this paper. These theories often emphasize similar themes, such as information

asymmetry, self-interest, and the need for governance structures. In summary, the theories that align with the assumptions of AT generally share concerns about how to manage relationships where parties have conflicting interests or asymmetries of information. Prior research (O'Connell, 2012; Coffey & Perry, 2013; Coco, 2015; Huang et al., 2014; Nikula & Kivisto, 2018; Nikula, 2020) has massively addressed such concerns. The TPB and SCT are both psychological and behavioural theories that focus on understanding individual decision-making and behaviour (Ajzen, 1991, 2006; Bandura, 2001, 2006). While they share some similarities with AT, particularly in terms of motivation and behaviour, they also have important differences.

TPB in addressing AP in ISR

The TPB, developed by Ajzen (1991), focuses on understanding individual behaviour by examining attitudes, subjective norms, and perceived behavioural control. He often used to predict actions based on these factors, particularly in social and organizational contexts. The literature implies that an individual agent's behavioural intentions along with perceived behavioural control, attitudes, and subjective norms are factors that determines his/her amoral behaviour when there is an opportunity (Ajzen, 1991; 2006).

TPB indicates that agents have deliberate control over their behaviour (Ajzen, 1991). Agents of local higher educational institutes are more likely to perform a behaviour if agents have a favourable attitude, subjective norms about the behaviour and have a degree of perceived control (Ajzen, 1991).

TPB shares some alignment with AT in terms of the self-interest assumption (agents are motivated by their own attitudes and goals and TPB focuses more on psychological factors influencing behaviour rather than on the principal-agent dynamics of organizational settings (Ajzen, 1991).

Social Cognitive Theory (SCT)

SCT, developed by Bandura (1986), as depicted in figure 4 emphasizes the role of observational learning, self-efficacy, and social influence in shaping behaviour. It suggests that people's behaviour is influenced not just by their own thoughts and actions but also by their observations of others, their interactions with the environment, and their personal perceptions of their ability to perform actions (self-efficacy). This theory tries to understand how the acquisition of knowledge, beliefs, attitudes, and ways of thinking of the person with respect to the social environment occurs. According to SCT, by observing other agents in the competitive HE environment and guided by their behaviour, local agents reach their outcome expectations, experiencing positive, negative, or neutral consequences (Bandura, 1986, 2001). Reciprocal Determinism in SCT: The dynamic interaction between personal factors, behaviour, and the environment (Bandura, 1986, 2001, 2006) could be seen as in figure 3 :

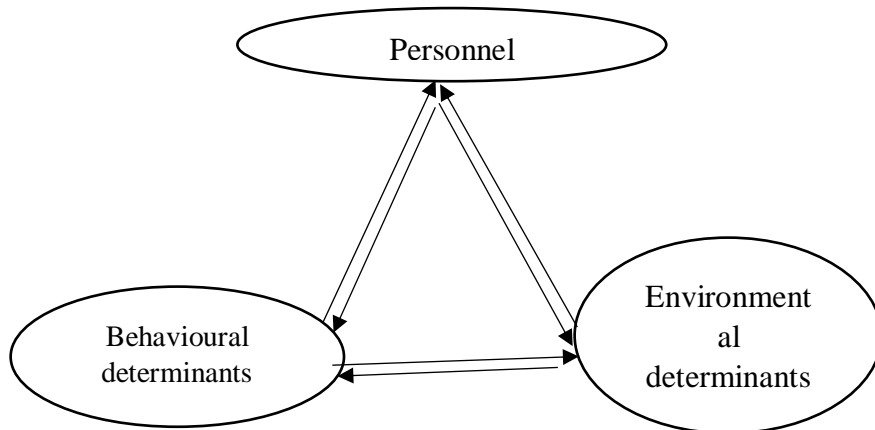


Figure 3: SCT The triangular relationship between the three main actors of human behaviour.

Source: (Bandura, 1986, 2001, 2006).

According to SCT, agency refers to actions committed intentionally (Bandura, 1986, 2001, 2006). It also explores how individuals learn behaviours through personal experiences and social modeling, with reinforcement affecting the likelihood of observational learning imitation (Bandura, 2008). If the behaviour is rewarded by maximizing their utility (positive or negative reinforcement), they are likely to imitate it (Bandura, 2008). However, if the behaviour of agents is punished imitation is less likely. SCT emphasizes three types of agencies: direct, personal, proxy, and collective, all influenced by environmental forces and individual characteristics (Bandura, 2001). The study underscores how human functioning is shaped by the interplay of cognitive, emotional, and environmental factors (Bandura, 2008). Further, SCT elaborates on why unethical practices emanated through behavioural intentions, perceived behavioural control, attitudes, subjective norms (Ajzen, 1991; Bandura, 2001), environmental forces, dispositions driven by internal drives (Bandura, 1986, 2001). These internal drives of agents vary and they have different motives. According to Bandura (2001), dispositions of agents are driven by internal drives and are influenced by competitors in the HE environment.

Considering alignment with AT assumptions: Self-interest: both TPB and SCT recognize that individuals are motivated by their own goals, desires, and perceived benefits, which is in line with AT's assumption that agents act in their self-interest. However, TPB focuses more on individual attitudes and perceptions, while SCT adds the role of social influences in the HE environment and self-efficacy.

Researchers could mention that TPB and SCT share some broad similarities with AT (such as the role of self-interest and motivation in behaviour), they focus more on individual psychological processes and social influences to

AT (Jensen & Meckling, 1976; Eisenhardt, 1989a; Kivisto, 2005; Bandura, 2006; Kivisto, 2008). However, this alignment provides strong justification for the “intentionality” (Bandura, 2001, 2006) as the prime reason for committing an act and serve the purpose of this paper.

Further, this theoretical framework provides an understanding on how “intention drives behaviour” (Ajzen, 1991). By incorporating two theories the study aims to shed light on the AP more broadly. This approach redefines AP from the extant situation rather than forcing the data to a particular theory (Hoque et al., 2013). Each construct used in the theoretical framework of this research is supported by a distinct theory as aforementioned. Understanding AP requires examining the cognitive, social and behavioural factors influencing agent decision making and actions.

Theoretical framework

Antecedents of agent

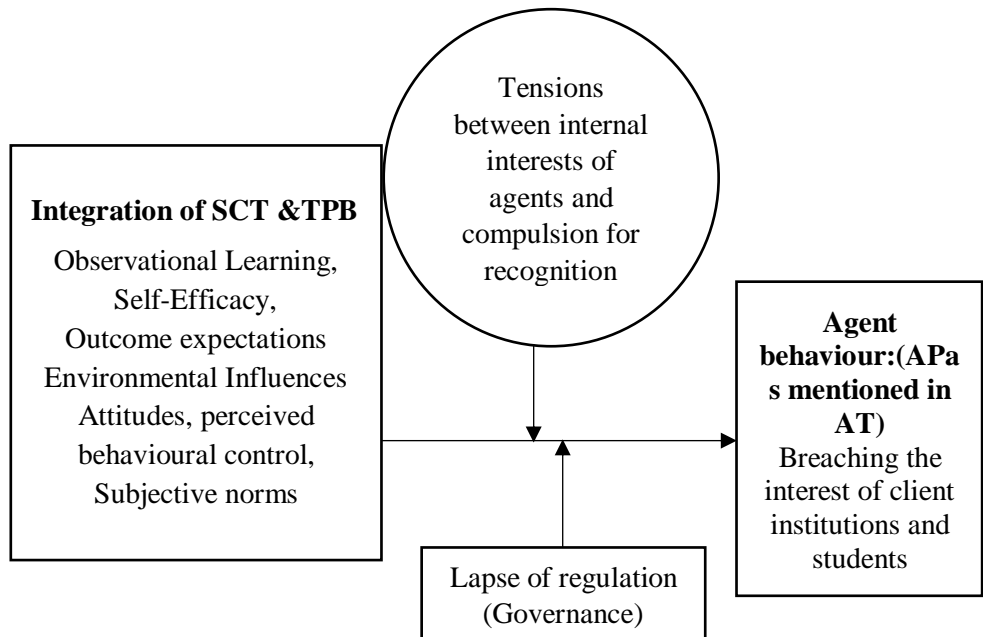


Figure 4: Theoretical framework, Source: (Ajzen,1991; Bandura, 1986; 2001; 2006)

Constructs of theoretical Framework: Antecedents of agent behaviour

Antecedents to agents’ unethical behaviour are factors that lead to commit unethical practices emanated through, attitudes, subjective norms, environmental forces, dispositions driven by internal drives. Triangulation of SCT, TPB provides a holistic reasoning for committing unethical behaviour

in a competitive HE environment than an individual theory. Examination of the literature reveals that categories of antecedents to commit unethical behaviour labelled as individual, organizational, environmental factors:

Agency defines acts done intentionally (Bandura, 1986, 2001, 2006). It may be individual or organization wide intentionality, represented by the agents of the senior management. It is evident that individual agent's or organizations' unethical behavioural intentions are motivated by their attitude and subjective norms (Ajzen, 1991), particularly attitude towards financial gains through unethical practices they engaged, in order to attract a large cohort of students. Organizations consists of different management levels however; actual behaviour of managers does not conform to their verbal espousals as revealed in multiple cases. The TPB integrates the idea of perceived behavioural control or self-efficacy belief into a broader framework of the relationships between beliefs, attitudes, intentions, and behaviour.

According to SCT, behaviour is influenced by triadic reciprocal determination, encompassing environmental, dispositional deterministic and behavioural factors (Bandura, 1986, 2001, 2006). In the competitive HE environment, organizations must adapt to changing client needs to maintain competitiveness as their marketing strategy. Competition in the private HE sectors drives agents to unethical behaviour in pursuit of recognition, leading to adverse outcomes. Intense competition of HEIs for recognition highlights the impact of environmental forces on behaviour. This highlights the interplay between environmental conditions and individual and organizational behaviour in fostering or discouraging unethical practices, leading to adverse consequences (Illegal/Fake/Universities & Campuses. 2025): Antecedents of Agent Behaviour comprised of integrated constructs of TPB and SCT being independent variables such as attitudes (TPB) which explains how agents perceive ethical or opportunistic behaviour and influence of personal values and risk tolerance (SCT) (Bandura, 1986). Subjective Norms (TPB) explains how influence of organizational culture towards unethical practices, peer behaviour, and stakeholder expectations such as students. Observational learning from competitors in the leadership positions such as managers in the PHEIs and HE environment. Environmental Influences (SCT) consisting of governance mechanisms such as lapse of regulation, incentives, and sanctions, market conditions and external pressures that shape the agent behaviour. These attitudes of agents towards utility maximization through imperfect contracts followed via observational learning amidst lapse of regulation leads to AP.

Finally, they opt for opportunistic behaviour theoretically and will reveal once data collected via multiple case studies such as profiteering which will lead to breaching the interests of students and client institutions according to the literature (Nikula & Kivisto, 2020). This relationship is influenced by the external stakeholders such as students, public by pressurizing agents to obtain

recognition (Maslow, 1943). According to hierarchy of needs recognition is a psychological need that describes five levels of human needs such as physiological, safety, love/belonging, esteem, and self-actualization (Maslow, 1943) and due recognition is a basic human need, not just a favor we offer others or we owe people (Honneth, 1996), suggests that people are motivated to fulfill these needs in order to achieve well-being. Therefore, there is a compulsion for recognition and that pressurize agents and sub agents at any cost to obtain recognition from relevant authorities locally even though they do not have mandatory documents to prove proper liaison with PFU to obtain such recognition.

This theoretical framework is influenced by the tensions aroused due to internal drives, dispositions of agents and pressure of external stakeholders amidst lapses in governance such as lack of regulations. Tension arises as a result of a collision between two extremes leads to irrational/amoral decisions (Zhang et al., 2018). Presence of a competition in the non-state higher education environment as mentioned in SCT results in unethical APs.

This influences the relation between antecedents (attitudes, subjective norms, and environmental influences) outcomes such as “breaching the interests of client institutions and interests of students” (Nikula & Kivisto, 2020). Amidst toxic or competitive HE environment could amplify opportunistic behaviours of agents as in case of competitive PHEIs to attract students at any cost. In the absence of governance mechanisms agents might prioritize their personal goals such as profiteering as in the case of competitive PHEIs. This Competition among non-state HE providers for recognition leads to irrational decisions and unethical behaviour (Bandura, 1999). In such instances “Tension between internal interests and compulsion for local recognition” arise to attract students locally (Zhang et al., 2018).

Competition among private HE providers, searching for recognition leads to irrational decisions and unethical behaviour. In the global competition, the networked open information environment has facilitated the emergence of a worldwide positional market of elite universities; and the rapid development of a commercial mass market led by such universities. This situation, termed as "the tension between internal interests and compulsion for recognition," highlights the struggle for legitimacy and the resultant ethical dilemmas in the private HE sector.

Further, mechanisms like lapse of monitoring, lack of incentives (Nikula & Kivisto,2020), and penalties can influence the effect of attitudes and subjective norms on intentions by reinforcing desired behaviours or deterring opportunism. For instance, stricter monitoring might weaken the link between self-serving attitudes. However, weak or lapse of regulations might allow opportunistic unethical behaviour making strong link between self-serving attitudes and opportunistic behavior (Ajzen,1991). Therefore, laws and regulations need to be written so that they can be enforced and that there must be institutions to implement them (Berglöf & Claessens, 2006). At least

in emerging nations and transition economies, enforcement is more important than formal laws, voluntary standards, or regulations for fostering an atmosphere that is conducive to business and good corporate governance (Berglöf & Claessens, 2006). In an organization with a strong ethical culture, subjective norms emphasizing accountability might strongly influence intentions to align with principal goals. However, in an organization with a weak ethical culture, these norms might have little to no effect. If a company implements a robust performance-based incentive system, agents with high self-efficacy may be more motivated to act in alignment with principals' objectives. Without such mechanisms, the same agents might prioritize their personal goals as in the case of competitive PHEIs. In such instances Tension between internal interests and compulsion for local recognition arise to attract students locally.

Overall regulations governing the operations of foreign universities where agents are engaged in Sri Lanka as a country aim to reach SDG 4 was deemed as transparent and not fully understood by stakeholders, there are no local mechanisms to affirm and benchmark the quality of Transnational Education (TNE) programs also, to that of the local HE standards except few programs offered by recognized HE providers with proper governance and training (British Council,2024a). There is a sense of flexibility in forging TNE partnerships though the absence of regulations, which may over time negatively impact public perceptions of TNE's quality. There is a lapse of knowledge about the governance and management architecture for HE institutions (Nabaho et al., 2020;British Council, 2024b). At least in emerging nations and transition economies, enforcement is more important than formal laws, voluntary standards, or regulations for fostering an atmosphere that is conducive to business and good corporate governance in order to realize SDG 4. When there is an opportunity lapse of regulations in the private, HE sector stimulates the AP and ownership and control patterns and the efficiency of various corporate governance processes are impacted by lack of enforcement. The literature implies that an individual agent's behavioural intentions along with perceived behavioural control, attitudes, and subjective norms are factors determining his/her amoral behaviour when there is an opportunity (Ajzen,1991).

Theoretical Outcomes: Agents' Behaviour (TPB and SCT)

As outcomes of AP, opportunistic behaviour take place such as “breaching the interests of client institution and students” (Nikula & Kivisto, 2020) by committing unethical practices by the agent. These unethical practices lead to AP such as misinformation, financial fraud, disinformation, fabricating of false documents etc. (Nikula & Kivisto, 2020).

In order to operate with the affiliated foreign university, PHEIs in Sri Lanka need to verify the listing of foreign university in the Association of Commonweal Universities (ACU) or in the World Higher Education (WHED) Data base. These applicants are not necessarily be registered with

the Registrar of Companies or the Board of Investment (BOI) in Sri Lanka. They obtain the business contact of another foreign university through sub agents or country representative of a foreign university as the setting in the local context is not regulated.

The names of PHEIs or Agents will not be divulged throughout this study in order to ensure confidentiality as per ethical guidelines of the Ethics Review Committee on Humanities and Social Sciences, University of Sri Jayewardenepura, Sri Lanka, as approval granted for this study.

7. Conclusion

In this conceptual paper based on theoretical framework derived from theoretical triangulation, findings of this theoretical exercise reveals AP as an act of intentional misrepresentation, intentional misinformation coupled with intentional misconduct beyond the intentions of PFU. Further, this interpretation is presented in the perspective of ISR in the private unregulated HEIs based on the sub agent engagement in the present private HE industry.

While HE is part of the broader agenda globally even in the sustainable development goals (SDG4) , there is lack of support for local systems and institutions in developing countries in mitigating such AP to harness potential in PHEIs. Majority of the extant literature used AT as a single traditional theory, rather than adopting an integrated multi-theoretical approach in addressing AP. Further, it was revealed that studies on the determinants or antecedents of unethical practices leading to AP are scarce and have not focused on “behavioural intentions” of agents. Further, sub agent engagement in the context of ISR is very scarce in emerging HE literature and even in Western HE literature. Therefore, AP needs to be addressed broadly based on the current status of the ISR engaged by PHEIs. Broader interpretation of AP reveals in this paper in terms of an individual or organization-wide intentionality, driven by environmental determinants, internal drives and dispositions of self or organizational actors to commit a conflicting act beyond the intentions of the principal and contributes to the current literature on AP. This paper concludes by mentioning the necessity of international partnerships in mitigating such unethical practices and support for local systems and institutions in countries such as Sri Lanka. The originality of this paper highlights on the approach taken by the researcher to derive at a broader interpretation of AP via theoretical triangulation and intended multiple case study to provide deeper understandings of AP in the context of ISR in HE. This also highlights the fact that AP could be viewed in a different perspective based on the context of the phenomenon addressed by the researchers in time to come in future. All these approaches encourage multiple thought trials from different perspectives and enhance creative theory building (Gioia & Pitre,1990).

References

- ADB (2011). *Higher education across Asia: An overview of issues and strategies*. Asian Development Bank, <https://www.adb.org/sites/default/files/publication/29407/higher-education-across-asia.pdf>
- Altbach, P. G. (1973). Comparative Higher Education. In American Association for Higher Education, National Inst. of Education (DHEW), & ERIC Clearinghouse on Higher Education, *ERIC Clearinghouse on Higher Education* (Report RR-5; p. 87) [MF-\$0.65 HC-\$3.29]. Publication Department, American Association for Higher Education, One Dupont Circle, Suite 780, Washington, D.C. 20036. <https://eric.ed.gov/?id=ED082623> (Original work published 1973)
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2006). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, 32(4), 665–683. <https://doi.org/10.1111/J.1559-1816.2002.TB00236.X>
- Auld, D. (2010). Strategic planning and the principal agent issue in higher education leadership. *Academic Leadership: The Online Journal*, 8(3). http://www.academicleadership.org/479/strategic_planning_and_the_principal-agent_issue_in_higher_education_leadership
- Abeyratne, S., & Lekamge, U. (2012). Policy reforms in higher education: transforming Sri Lanka into an education hub. In *University Grants Commission, Sri Lanka*. Ministry of Higher education and University Grants Commission. https://www.ugc.ac.lk/downloads/workshop/Workshop_Proceedings.pdf
- Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Prentice-Hall, Inc. <https://psycnet.apa.org/record/1985-98423-000>
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175–1184. <https://doi.org/10.1037/0003-066X.44.9.1175>
- Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, 3(3), 193–209. https://doi.org/10.1207/s15327957pspr0303_3

- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52, 1-26. <https://doi.org/10.1146/annurev.psych.52.1.1>
- Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science*, 1(2),164–180. <https://doi.org/10.1111/j.1745-6916.2006.00011.x>
- Bandura, A. (2008). An agentic perspective on positive psychology. *Positive Psychology: Exploring the Best in People*, 1, 167–196. <https://psycnet.apa.org/record/2008-13953-009>
- BEG (2016). *Pace of Adoption of International Student Recruitment Agencies by U.S. Institutions; Market Research Report*. Bridge Education Group, USA. <https://bridge.edu/assets/bridge-edu.pdf>
- Berglöf, E., & Claessens., S. (2006). Enforcement and Good Corporate Governance in Developing Countries and Transition Economies. *Oxford Journals*, 21(1), 123–150. <https://www.jstor.org/stable/40282345>
- Berle, A. A., & Means, G. C. (1932), *The Modern Corporation and Private Property*, Harcourt, Brace & World, New York. https://edisciplinas.usp.br/pluginfile.php/106085/mod_resource/content/1/DCO0318_Aula_0_-_Berle_Means.pdf
- British Council (2024a). Transnational Education (TNE) Sustainability Framework. <https://opportunities-insight.britishcouncil.org/features/examining-sustainability-of-transnational-education-egypt-qatar-and-united-arab-emirates>
- British Council. (2024b). *TNE in Sri Lanka: Operational and Quality Assurance Landscape*. British Council; Opportunities and Insight. https://opportunities-insight.britishcouncil.org/sites/siem/files/field/file/news/Sri%20Lanka%20TNE%20Report_August%202024.pdf
- British Council, (2024c). *British Council Agent and Counsellor Hub Annual Survey results 2024*. <https://opportunities-insight.britishcouncil.org/blog/british-council-agent-and-counsellor-hub-annual-survey-results-2024>
- Coco, L. B. (2015). Capturing a Global student market for colleges and universities: The use of private third-party agents in international student recruitment. In S. Slaughter, J. Hearn, E. Ness, & S. Barbour, The University of Georgia. https://airc.membershipsoftware.org/files/AIRC-Resource-documents/coco_lindsay_b_201508_phd.pdf

- Coffey, R., & Perry, L. M. (2013). The role of education agents in Canada's education systems. In Council of Ministers of Education, Canada, *Council of Ministers of Education, Canada*. <https://www.cmec.ca/Publications/Lists/Publications/Attachments/326/The-Role-of-Education-Agents-EN.pdf>
- Chang, C. (2013). *Recruitment Agents: A legal and Regulatory Overview*. Brunel University. <https://www.britishcouncil.org/sites/default/files/recruitment-agents-a-legal-and-regulatory-overview.pdf>
- Ediyanto, E., Zulkipli, Z., Sunandar, A., & Yunus, M. M. (2025). Triangulation in Educational Research: A Literature review. *Advances in Social Science, Education and Humanities Research/Advances in Social Science, Education and Humanities Research*, 163–171. https://doi.org/10.2991/978-2-38476-370-2_17
- Eisenhardt, K. (1989a). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57–74. <https://doi.org/10.5465/amr.1989.4279003>
- Eisenhardt, K. (1989b). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550. <https://doi.org/10.2307/258557>
- Enders, J., Boer, H. D., & Weyer, E. (2013). Regulatory autonomy and performance: The reform of higher education re-visited. *Higher Education*, 65(1), 5–23. <https://doi.org/10.1007/s10734-012-9578-4>
- Gamage, D. T. (1996). *Evolution of Universities and Changing Patterns of Governance and Administration*. Karunaratne and son's Ltd. Colombo. <https://opac.lib.sjp.ac.lk/cgi-bin/koha/opac-detail.pl?biblionumber=24651>
- Gioia, D. A., & Pitre, E. 1990. Multiparadigm perspectives on theory building. *Academy of Management Review*, 15: 584-602. <https://aom.org/uploadedFiles/Publications/AMR/GioiaPitreMultiparadisperspectives.pdf>
- IPS (2023). Non-state Actors in Education: A Case Study of Sri Lanka, Global Education Monitoring Report Team and Institute of Policy Studies, Sri Lanka. <https://unesdoc.unesco.org/ark:/48223/pf0000383524>
- Holmström. B. (1979). Moral hazard and observability. *The Bell Journal of Economics*, 10(1), 74–91. <https://doi.org/10.2307/3003320>
- Honneth, A. (1996). The Struggle for Recognition; The Moral Grammar of Social Conflicts [English]. In *The Struggle for Recognition; The Moral Grammar of Social Conflicts: Vol. first (01 ed.)*.

[https://www.google.lk/books/edition/The Struggle for Recognition/VgdFeCSIJcoC?hl=en&gbpv=1&dq=tensions+between+internal+interests+and+compulsion+for+recognition+of+qualifications&printsec=frontcover](https://www.google.lk/books/edition/The_Struggle_for_Recognition/VgdFeCSIJcoC?hl=en&gbpv=1&dq=tensions+between+internal+interests+and+compulsion+for+recognition+of+qualifications&printsec=frontcover)

- Hoque, Z., Covalleski, M., & Gooneratne, T. (2013). Methodological insights theoretical triangulation and pluralism in research methods in organizational and accounting research insights. *Accounting, Auditing & Accountability Journal*, 26(7), 1170–1198. <https://doi.org/10.1108/AAAJ-May-2012-01024>
- Huang, I. Y., Raimo, V., & Humfrey, C. (2014). Power and control: managing agents for international student recruitment in higher education. *Studies in Higher Education*, 41(8), 1–22. <https://doi.org/10.1080/03075079.2014.968543>
- Illegal/Fake/Universities & Campuses. (2025 April). Higher Education Commission Pakistan. <https://www.hec.gov.pk/english/universities/Pages/AJK/Illegal-DAIs.aspx>.
- Inouye, K., Lee, S., & Oldac, Y. I. (2022). A systematic review of student agency in international higher education. *Higher Education*, 86(4), 891–911. <https://doi.org/10.1007/s10734-022-00952-3>
- IPS. (2023). *Panel Discussion on ‘Non-State Actors in Sri Lanka’s Education Sector.’* Institute of Policy Studies, Sri Lanka. <https://www.ips.lk/panel-discussion-on-non-state-actors-in-sri-lankas-education-sector/>
- Jayawardena, D. (2017). The “MacBurger”, Non-state universities and the changing landscape of higher education in Sri Lanka. *Journal for Critical Education Policy Studies*, 15(3), 213–240. <https://www.jceps.com/wp-content/uploads/2017/12/15-3-7.pdf>
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Kim, H. (2024) Bridging principal-agent and mechanism design theories: an integrated conceptual framework for policy evaluation. *Asia Pacific Educ. Rev* 25, 329–342 <https://doi.org/10.1007/s12564-023-09844-2>
- Lane, J. (2007). The spider web of oversight: An analysis of external oversight of higher education. *The Journal of Higher Education*, 78(7), 615–644. <https://doi.org/10.1353/jhe.2007.0038>

- Little, A. W., & Hettige, S. (2013). *Globalization, Employment and Education in Sri Lanka: Opportunity and division* (1st edition). London: Routledge. https://www.routledge.com/Globalisation-Employment-and-Education-in-Sri-Lanka-Opportunity-and-Division/Little-Hettige/p/book/9781138646216?srsId=AfmBOorRgJsz8Rw1-KioDMBpp0mCkDH80sadlC8AuaBSym_chRT8Q0G7
- Marginson, S. (2024). *The Three Dilemmas of Higher Education: The 2024 Burton R. Clark Lecture*. Centre for Global Higher Education, University of Oxford. <https://ora.ox.ac.uk/objects/uuid:66439b12-bed6-4e28-bc3b-ecb110475d33>
- Maslow, A. H. (1943). *A Heory of Human Motivation*. <https://inclusievooriedereen.nl/wp-content/uploads/2022/04/Pub-Maslow-A-theory-of-human-motivation-1943.pdf>
- Massey, D. (2005, March). *For Space*. Sage. Retrieved January 5, 2023, from <https://us.sagepub.com/en-us/nam/for-space/book227109>
- Nabaho, L., Turyasingura, W., Kiiza, A., Andama, F. & Beinebyabo, A. (2020). Quality assurance of higher education governance and management: An exploration of the minimum imperative for the envisioned African common higher education space. *Higher Learning Research Communications*, 10(2), 38–52. <https://files.eric.ed.gov/fulltext/EJ1279859.pdf>
- Nikula, P., & Kivistö, J. (2018). Hiring education agents for international student recruitment: Perspectives from agency theory. *Higher Education Policy*, 31(4), 535–557. <https://doi.org/10.1057/s41307-017-0070-8>
- Nikula, P., & Kivistö, J. (2020). Monitoring of education agents engaged in international student recruitment: Perspectives from agency theory. *Journal of Studies in International Education*, 24(2), 212–231. <https://doi.org/10.1177/1028315318825338>
- Nikula, P. T. (2020). Education agent standards in Australia and New Zealand – government’s role in agent-based international student recruitment. *Studies in Higher Education*, 47(4), 831–846. <https://doi.org/10.1080/03075079.2020.1811219>
- O’Connell, N. (2012). *Exploring the role of relationship marketing between universities and education agents. A case study analysis*. [PhD Thesis, CO University, Australia]. https://acquire.cqu.edu.au/articles/thesis/Exploring_the_role_of_relationship_marketing_between_universities_and_education_agents_A_case_study_analysis/13457729?file=31960433

- Pitigala-Arachchi, A. (2012). The role of private higher education in reforming the higher education system in Sri Lanka. In Senaratne, R., and Sivasegaram, S. (Eds) *Re-creating and Re-positioning of Sri Lankan Universities to meet Emerging Opportunities and Challenges in a Globalized Environment*, University Grants Commission, Sri Lanka. https://www.ugc.ac.lk/downloads/workshop/Workshop_Proceedings.pdf
- Raimo, V., Humfrey, C., & Huang, I. Y.. (2014). Managing International student Recruitment Agents: Approaches, benefits and challenges. In *University of Reading, Whiteknights, Reading, Berkshire RG6 6AH, United Kingdom*.
- Ross, S. A. (1973). The economic theory of agency: The principal's problem. *The American Economic Review*, 63(2), 134–139. <https://www.jstor.org/stable/1817064>
- Rugg, D. & Hales, D. (2005). An Introduction to Triangulation: UNAIDS monitoring and Evaluation Fundamentals. In Greet Peersman, Deborah Rugg, Eva Kiwango, David Chitate, Boga Fidzani, Wayne Gill, Salil Panakadan, & Matthew Warner-Smith (Eds.), *UNAIDS*. https://www.unaids.org/sites/default/files/sub_landing/files/10_4-Intro-to-triangulation-MEF.pdf
- UNESCO (2022). *Global Education Monitoring Report 2022, South Asia*. UNESCO: Digital Library. <https://unesdoc.unesco.org/ark:/48223/pf0000383464>
- UGC Sri Lanka. (2024). *Sri Lanka University Statistics*. University Grants Commission, Sri Lanka. https://www.ugc.ac.lk/index.php?option=com_content&view=article&id=2490%3Asri-lanka-university-statistics-2022&catid=55%3Areports&Itemid=42&lang=en
- Zhang, L., Kong, M., Zhongquan, L., Zhao, X., & Liuping, G. (2018). Chronic Stress and Moral Decision-Making: An Exploration with the CNI Mode. *Frontiers in Psychology*, 9(1072), 1–6. <https://doi.org/10.3389/fpsyg.2018.01702>



Publication: Department of Research and Development
National Institute of Education
Sri Lanka