Mediating Effect of Learning Style in the Relationship Between Coursework Assessment and Students' Quality Sustainability: A Conceptual Development

Nazeila Zahidin

Faculty of Education, Languages & Psychology,

SEGi University, 40160, Selangor, Malaysia.

Email: nazeilazahidin@segi.edu.my

Abstract

In higher education, global partnerships among universities are instrumental in driving innovation, fostering cultural exchange, and nurturing globally conscious graduates. These collaborations support curriculum development and research initiatives that address critical global challenges such as climate change, inequality, and environmental sustainability. However, the increasing reliance on coursework-based assessments within these partnerships presents challenges, particularly in maintaining academic integrity and accommodating diverse learning styles. This conceptual paper explores the interplay between coursework assessments, academic integrity, learning styles, and their combined influence on fostering students' quality sustainability—their capacity to internalize, apply, and commit to sustainable practices beyond the classroom. Drawing on the VARK model, the paper examines how cultural and individual learning preferences shape the effectiveness of coursework assessments in advancing sustainability principles. It stipulates the importance of authentic and varied assessment strategies to enhance knowledge retention, critical thinking, and ethical behaviour. This research contributes to the discourse on integrating learning styles and assessment practices in global academic partnerships aligned with sustainability goals. It provides actionable insights for educators, administrators, and policymakers to design equitable, impactful, and sustainability-focused curricula that respond to the demands of a rapidly evolving world.

Keywords: Students' quality sustainability, Academic integrity, Learning style

1.0 INTRODUCTION

In today's educational landscape, cross-border partnerships between universities are important in driving growth and achieving global recognition. To attract a diverse student body and penetrate new markets, universities must design specialized programs and manage these partnerships effectively to remain competitive. A key aspect of this is aligning course assignments with the requirements of partner institutions. However, this shift toward coursework-based assessments, with less reliance on high-stakes exams, raises increasing concerns about academic integrity (Eaton & Christensen Hughes, 2022). These challenges are further worsen by the rapid advancements in AI technology, which continues to reshape the educational landscape.

Furthermore, cross-border partnerships encourage joint research initiatives focused on sustainability solutions, leveraging diverse expertise and cultural insights to address complex global issues. They also create opportunities for student and faculty mobility, exposing individuals to innovative practices in different contexts and instilling a sense of global responsibility.

Amid the dual urgency of fostering sustainability practices and upholding academic excellence, coursework assessment serves as a crucial determinant in shaping students' ability to embrace and apply sustainability principles. This research identifies learning styles as the mediating variable that significantly influences the relationship between coursework assessment methods and students' outcomes.

1.1 What is the relationship between coursework assessment and learning style?

This aims to explore how different learning preferences impact students' engagement with coursework assessments and, ultimately, their ability to internalize sustainability principles. Learning styles play a pivotal role in determining how effectively students engage with assessments and apply sustainability practices, thereby impacting their academic success and long-term commitment to sustainability. By examining this mediating relationship, the study seeks to provide

deeper insights into how tailored assessment strategies can better support diverse learners in achieving quality sustainability outcomes.

In this research, the VARK (Visual, Auditory, Reading/Writing, Kinesthetic) learning style inventory will be utilized to assess students' preferred learning styles. VARK is a validated tool designed to identify how individuals best receive and process information. By using this inventory, students will complete a questionnaire that categorizes them into one or more learning styles based on their responses to various learning scenarios. It will also be used to evaluate the perception measuring students' perceptions of evaluation methods, including fairness, feedback, and overall satisfaction and a quality sustainability scale which measures students' quality sustainability, focusing on aspects such as academic performance, persistence, engagement, and long-term success.

1.2 Does the learning style mediate the relationship between evaluation and students' quality sustainability?

This research will explore the complex landscape of education by examining the mediating effect of learning styles on the relationship between coursework assessments and students' quality sustainability.

Understanding how learning styles mediate this relationship is essential for designing assessments that support a broad range of learners and promote sustainability effectively. Different learning preferences—whether visual, auditory, kinaesthetic, or a combination of these which affect how students absorb information, solve problems, and apply sustainability concepts in real-world contexts. By tailoring assessments to accommodate diverse learning styles, educators can ensure that all students have the opportunity to fully engage with sustainability practices and develop a long-term commitment to them.

Furthermore, the findings of this research will provide valuable insights into how HEIs can enhance their teaching strategies and assessment designs to promote quality sustainability outcomes. It will help create a more inclusive learning environment that empowers students to not only perform well

in their courses but also to develop the skills and knowledge needed to address global sustainability challenges

2. LITERATURE REVIEW

The 1960s and 1970s were a period of significant theoretical development in education. Cognitive theories, which prioritize mental processes, began to supplant behaviourist approaches, such as B.F. Skinner's operant conditioning.

In 1965, Robert Gagné's Conditions of Learning theory gained prominence, emphasizing the connection between specific learning objectives and appropriate instructional strategies. Other influential cognitive theorists, including Albert Bandura, Jerome Bruner, Jean Piaget, and Lev Vygotsky, offered diverse perspectives on how learning occurs, shaping the educational landscape and informing instructional practices.

The 1990s marked a significant era of technological advancement, particularly with the advent of the World Wide Web in 1991. This revolutionary development has transformed the way information is accessed and shared, providing learners with unprecedented access to knowledge. While initially met with skepticism, the internet has become an indispensable tool for academic research and information retrieval.

The integration of digital technologies, such as the internet and hypermedia, has opened up new possibilities for educators to design innovative and engaging learning experiences. Information can be readily accessed and disseminated to learners, fostering a more dynamic and interactive learning environment.

As we navigate the 21st century, the needs and expectations of learners have evolved considerably. The globalized world demands learners who are not only knowledgeable but also adaptable, critical thinkers, and effective communicators. To address these evolving needs, educational institutions must adapt their curricula, instructional strategies, and assessment practices.

Policy plays a crucial role in shaping the direction of education. Societal changes often necessitate policy reforms to ensure that educational systems are equipped to meet the needs of the future workforce. A deep understanding of the interplay between societal trends and policy decisions is essential to drive meaningful educational innovation.

A multitude of factors, including cognitive, emotional, and environmental influences, significantly shape how students learn and retain information. Understanding these factors is crucial for educators to create diverse and inclusive learning environments that cater to the unique needs of each student.

2.1 The Learning Styles

This section describes the learning styles in terms of dominant learning, personality type, specific environment demands of educational field, career preference, task skills, teaching styles preference and adaptive skills (Kolb and Kolb 2005:6).

Learning styles are able to mediate the relationship between coursework assessment and sustainability outcomes if they are able to influence how students engage with and process the content presented through assessments. Different students have distinct ways of learning, whether through visual, auditory, kinaesthetic, or other preferences and these styles affect how effectively they interpret the material, apply their knowledge, and integrate sustainability principles into their learning.

When coursework assessments are designed to align with diverse learning styles, students are more likely to engage deeply with the material. For example, visual learners may benefit from diagrams, charts, or visual case studies related to sustainability, while kinaesthetic learners might excel with hands-on projects that involve real-world sustainability challenges. Auditory learners could thrive in discussions or podcasts about sustainability issues.

This mediation process occurs because learning styles shape the way students approach tasks, solve problems, and connect theoretical knowledge to practical outcomes. When assessments are aligned with these styles, students are more likely to feel motivated, confident, and competent in their ability to contribute to sustainability efforts. As a result, learning styles not only affect academic success but also

determine how well students are prepared to implement sustainability principles in the workplace and beyond.

2.2 Student Quality Sustainability

In contemporary society, the concept of quality holds significant importance, as it allows us to maximize resource utilization through effective quality assessment. Education plays a vital role in society, and attaining a high-quality education serves as the cornerstone for sustainable development. This is made crucial due the fact that the goal of society's individuals is heavily influenced by the quality of education they receive. Therefore, enhancing, refining, and instituting mechanisms that ensure educational quality, particularly in higher education, will benefit future citizens as they transition into the workforce. Such efforts are also crucial for societal advancement.

The educational mandate of universities highlights their crucial role in fostering sustainability, (Zamzuri et al., 2023). This entails a dual focus on internal practices, such as sustainability policies, campus initiatives, and research, as well as external engagement within their respective regions, (Roos et al., 2020). Universities are expected to integrate sustainability principles both within their organizational framework and as agents influencing societal norms.

Considering these challenges, (Olmos-Gomez et al., 2020) incorporates four key dimensions to evaluate the quality of sustainability variables, stakeholder involvement, and satisfaction levels within the educational environment. The initial dimension, termed the management of higher education and teaching resources, examines the diversity and appropriateness of instructional methodologies, as well as the developmental aspects of curriculum utilized in academic programs.

2.3 Conceptualization of Students' Quality Sustainability

Quality sustainability refers to practices and systems that ensure long-term viability and well-being for future generations while maintaining the balance of environmental, social, and economic needs. It emphasizes responsible use of resources in a way that allows current generations to meet their needs without compromising the ability of future generations to meet theirs.

In essence, quality sustainability advocates for lifestyles and development strategies that preserve opportunities for future generations to thrive. This includes aspects such as environmental integrity, which ensures the protection and conservation of natural ecosystems; social justice and peace, ensuring equitable access to resources and opportunities for all; access to essential resources like food, water, and shelter; and fostering economic opportunities such as meaningful employment. By integrating these elements, quality sustainability ensures that progress today does not hinder the potential for progress tomorrow, creating a resilient and equitable world for future generations (Hariram et al., 2023).

The emphasis on sustainability has led to the integration of related concepts and practices into numerous post-secondary and graduate education programs. However, the term "sustainability" encompasses a diverse array of disciplines, methodologies, contexts, and themes, presenting a complex landscape. Hence, the term students' quality sustainability refers to the ability of students to maintain and enhance the quality of their education, skills, and knowledge over time, ensuring their continued relevance and effectiveness in various contexts.

Achieving a comprehensive grasp of sustainability necessitates active engagement in learning processes that prioritize context and perspective (Potter et al., 2023) . High standards of students' quality within tertiary institutions can enhance their appeal and competitiveness among prospective undergraduate and post-graduate students, both domestically and internationally. It is equally as important as the enhancements in service quality within higher education establishments which can directly impact students' performance and consequently, contribute to the overall quality of qualifications they attain.

As our society grapples with the imperative of shaping sustainable development, equipping the students to attain the quality sustainability becomes paramount in preparing the future generations with the requisite skills to navigate present challenges and transition towards a sustainable society. In consideration of intergenerational justice, substantial efforts must be directed towards fostering sustainability competencies through a comprehensive educational approach, (Sinakou et al., 2019). emphasized the importance of viewing educational for sustainable development as a learning process rather than simply imposing predetermined behaviours. They proposed two complementary approaches: the first focusing on promoting informed, skilled behaviours and ways of thinking to address immediate needs, while the second emphasizes on the cultivation of critical thinking skills to evaluate expert opinions and ways to deal with the complexities which are important in achieving sustainable living.

To date, there is a lack of empirical research examining the impact of implementing sustainability-focused coursework on students' competency in sustainable development and the role of educators in this process. This study investigates whether factors such as coursework assessment methods, institutional evaluations, academic integrity policies, and learning styles influence students' sustainability competencies, attitudes, and behaviours beyond their personal predispositions. The objective of this study is to enhance our understanding of the factors associated with positive developments in students' sustainability skills, identify key drivers for promoting their growth in this area, and propose potential recommendations based on the findings.

2.4 Benefits of Students' Quality Sustainability

Quality education encompasses various elements including learning resources, technological integration, enrolled programs, completed modules, teaching methodologies, practical attachments, instructor qualifications, co-curricular activities, academic achievements, and the perspectives of both students and lecturers on institutional management and educational practices (Golding et al., 2020).

The fundamental purpose of education remains consistent in order to empower individuals by imparting skills and knowledge. Thus, the quality of education received is paramount, as it profoundly influences an individual's mindset and daily decision-making. Psychologically, learning is deemed successful when there is observable behavioural change, indicating the usage and the assimilation of taught concepts. Hence, this becomes the focal point of this research.

The instructional approach adopted by an institution significantly impacts its educational quality. A system that promotes research, citation, and implements robust plagiarism policies is inherently more beneficial for delivering quality education. Additionally, the relevance of the programs or courses offered by the institution, as highlighted by (Fleisch et al., 2019), is crucial. They should align with contemporary trends in the business world to prevent graduates from facing unemployment upon completion of their studies. Moreover, the learning environment's suitability is essential. It must adhere to established standards to be deemed conducive for effective learning. This emphasis on instructional methods, program relevance, and learning environments directly correlates with students' quality

sustainability by ensuring they receive an education that prepares them for real-world challenges and fosters lifelong learning skills.

2.5 Independent Variable

2.5.1 Coursework

The assessment of the mentioned components of the quality of training of higher education graduates can be useful for employers (who form the demand for labour force) when hiring young specialists, as it allows for a comprehensive analysis of their level of professional suitability and readiness for work.

A comprehensive approach to assessing the quality of education is particularly relevant for young people seeking their first job in their chosen specialty. By analyzing various components of their education, employers can objectively evaluate the professional suitability of graduates and make informed hiring decisions. This process not only helps employers select the most qualified candidates but also enhances the competitiveness of graduates in the labour market. To ensure that students are equipped with the necessary skills and knowledge, it is crucial to use the correct type of assessments. The right assessments, whether formative, summative, or coursework-based may help measure not just academic achievement but also the practical application of knowledge.

In higher learning institutions, formative and summative assessments play a crucial role in preparing students for these employment opportunities. Formative assessments, which are conducted throughout the learning process, provide ongoing feedback to students, enabling them to develop and refine the skills required for their future careers. These assessments ensure that students are meeting learning objectives and can address areas of weakness before completing their studies. On the other hand, summative assessments offer a final evaluation of students' knowledge and skills, providing a comprehensive overview of their academic performance. These assessments help employers gauge the level of expertise students have acquired by the end of their program, further aiding in their hiring decisions. Together, formative and summative assessments not only ensure that students are well-prepared for the workforce but also support the continuous improvement of education and training programs, making graduates more competitive in the labour market.

However, to truly maximize the benefits of both formative and summative assessments, it is crucial that these assessments align with students' individual learning styles. Different students process information

in unique ways—whether through visual, auditory, reading/writing, or kinesthetic preferences. By tailoring assessments to match these learning styles, institutions can ensure that students not only perform to their fullest potential but also engage with the content in a way that resonates with their strengths.

Quality management in education is an important task that requires a comprehensive approach and involvement of all participants in the educational process. Traditional assessment methods in higher education (five-point and twelve-point scales) have a number of drawbacks that reduce the objectivity of the assessment. A comprehensive approach to assessing the quality of training of higher education graduates has been proposed, which takes into account 5 key components: humanitarian, professional, scientific, sports, art, and practical training. Various effective methods of control and assessment of student knowledge have been proposed, and the advantages of different scales for assessing academic performance in higher education institutions have been analyzed. The advantages of the comprehensive approach to assessing the quality of education of graduates are characterized which allows employers to objectively assess the professional suitability of graduates. Graduates could then demonstrate effective communication skills, an active life position, and the ability to work in a team; indicates the readiness of graduates to apply knowledge to solve real practical tasks (Galitsan., et al 2021).

2.5.2 Evaluation

Higher education institutions have a distinct responsibility to cultivate future leaders and decision-makers who possess the capacity to comprehend and address complex global challenges. Educational programs must emphasize multidisciplinary thinking to equip future leaders with the ability to tackle issues that may not yet be recognized as problems. To achieve this, higher education relies on both coursework assessment and evaluation, each playing a distinct role in shaping students' learning experiences and outcomes.

Coursework assessment typically refers to the ongoing evaluation of a student's understanding and skills through assignments, projects, presentations, and other tasks. This form of assessment provides continuous feedback, allowing students to refine their knowledge and address gaps in understanding throughout the course. On the other hand, evaluation is more comprehensive and often summative in nature, assessing a student's overall performance, typically through exams or final assessments.

Evaluation aims to measure the cumulative understanding and competencies gained by the student at the end of the course or programme.

Both coursework assessment and evaluation are essential for preparing students to become competent leaders. Coursework assessment allows for ongoing development and refinement of skills, while evaluation provides a final measure of the student's readiness to address global challenges effectively.

Addressing complex, politicized, and global challenges such as climate change necessitates ongoing evaluation and revision of both program and course curricula, avoiding adherence to business-as-usual approaches, Fahey (2019).

Higher education institutions (HEIs) have the potential to serve as significant catalysts for sustainable development (SD). However, HEIs face increasingly intricate demands, including massification, globalization, marketization, and digitalization. Drawing upon Graves' model of systemic development, this paper explores two primary strategies for managing heightened complexity to effectively address the SD challenge. The first strategy involves advancing the overall systemic development of HEIs by progressively opening institutions to diverse stakeholders, fostering co-creative collaboration, and adapting to dynamic contexts through multidimensional approaches. Giesenbauer and Müller-Christ (2020), provides us with the significance of adopting sustainability principles through a multi-dimensional organizational framework.

2.5.3 Academic Integrity

The expansion of higher education on a mass scale which represents a transformative shift that matches with the establishment of the modern research university by Wilhelm von Humboldt in the early nineteenth century (Tight, 2020) . While the massification of higher education is integral to the global knowledge economy, it also exerts a considerable influence on its quality. In certain contexts, there has been a sharp decline in the quality of faculty and student performance.

The vast expansion of higher education has introduced complex challenges, particularly concerning academic integrity in formative coursework assessments. As institutions expand, ensuring that assessments accurately reflect individual student learning becomes increasingly critical. Academic integrity in assessments is not merely about avoiding dishonesty; it is also imperative to maintain the

credibility and value of higher education itself. Formative coursework assessments play a pivotal role in shaping students' academic journeys by offering opportunities for meaningful feedback and skill development. However, without a strong focus on academic integrity, these assessments risk losing their efficacy and undermining the quality of education.

Integrity in assessments ensures that students' work genuinely represents their understanding, enabling educators to identify areas where support is needed and to provide timely, appropriate interventions. Authentic assessment practices help sustain the credibility of higher education qualifications, which are vital for the global knowledge economy. Maintaining the quality of certification is another significant reason to emphasize academic honesty. By ensuring that assessments reflect genuine learning outcomes, institutions can uphold the value of degrees, assuring employers and society at large that graduates possess the skills and knowledge their qualifications signify.

Moreover, promoting academic integrity fosters ethical behaviour in students, preparing them to act responsibly in their professional lives. This emphasis on ethics contributes to a broader culture of accountability and resistance to corruption, both in academia and beyond. Addressing integrity is also a matter of equity and fairness. Ensuring that all students adhere to the same academic standards creates a level playing field, where achievements are based on merit rather than dishonest practices. Such measures are essential in maintaining trust in the education system, especially as it adapts to increasing global pressures and technological advances.

The conceptual framework provided in this study is designed to explore the intricate relationships between learning style **,c**oursework assessment and students' quality sustainability. The conceptual model for this research integrates the relationships between coursework assessment, evaluation, academic integrity, learning style, and students' quality sustainability. It positions coursework assessment, evaluation, and academic integrity serve as independent variables directly influencing students' quality sustainability. Additionally, learning style acts as a mediating variable, shaping how these independent variables impact the dependent variable.

The model outlines several direct relationships: coursework assessment, evaluation, and academic integrity each directly affect both learning style and students' quality sustainability. Furthermore, learning style is proposed to directly influence students' quality sustainability. Mediated pathways are also central to the model, wherein learning style mediates the relationships between coursework

assessment and students' quality sustainability, evaluation and students' quality sustainability, and academic integrity and students' quality sustainability.

By illustrating these relationships, the framework seeks to provide a comprehensive understanding of how these variables interact, highlighting the role of learning styles in linking assessment, evaluation and integrity in leading to sustainable academic outcomes:

Direct Relationships

H1: There is a significant relationship between coursework assessment and students' quality sustainability.

H2: There is a significant relationship between academic integrity and students' quality sustainability.

H3: There is a significant relationship between coursework assessment and learning style.

H4: There is a significant relationship between evaluation and learning style.

H5: There is a significant relationship between academic integrity and learning style.

H6: There is a significant relationship between learning style and students' quality sustainability.

The Mediated Relationships are as follows:

H7: Learning style mediates the relationship between coursework assessment and students' quality sustainability.

H8: Learning style mediates the relationship between evaluation and students' quality sustainability.

H9: Learning style mediates the relationship between academic integrity and students' quality sustainability.

3. CONCLUSION

This research lays down the importance of recognizing diverse learning styles in higher education. By understanding how learning styles mediate the relationship between coursework assessment and sustainability outcomes, educators can adopt more personalized and inclusive teaching strategies.

Educators could implement differentiated instructional methods that align with students' learning preferences, improving engagement, retention, and sustainability awareness. Institutions could develop

more flexible and varied assessment formats (e.g., project-based, collaborative, digital assessments) that cater to different learning styles. This would help ensure a fairer evaluation of student competencies and foster better outcomes for students, particularly in the domain of sustainability.

Educators often face the challenge of addressing the diverse needs of students with different learning styles. This research can provide them with valuable insights into how learning styles influence the effectiveness of assessments and sustainability outcomes by adopting a more holistic approach to teaching by incorporating strategies that recognize and support various learning styles, making sustainability education more accessible and meaningful to all students.

The research highlights the need for educational policymakers to consider learning styles when developing curricula and assessment frameworks, especially in the context of sustainability education by advocating for curriculum reforms that incorporate flexible, multimodal assessment strategies, ensuring that sustainability is integrated in ways that cater to a variety of learning styles. This approach would better prepare students for real-world challenges and align education systems with sustainable development goals.

This research lays the foundation for future studies on the intersection of learning styles, assessment methods, and sustainability. It opens the door for further exploration into how different academic disciplines and courses can integrate sustainability concepts through various learning modes.

References:

Aleixo, A. M., Leal, S., & Azeiteiro, U. M. (2018). Conceptualization of sustainable higher education institutions, roles, barriers, and challenges for sustainability: An exploratory study in Portugal. *Journal of cleaner production*, *172*, 1664-1673.

Altbach, P. G. (2016). *Global perspectives on higher education* (p. 303). Baltimore: Johns Hopkins University Press.

Alqarni, T. M. (2022). Applying Universal Design for Learning to Address the Challenges of Postsecondary Students with Learning Disabilities: A Review Study. *Journal of Positive School Psychology*, 1004-1010.

Annan-Diab, F., & Molinari, C. (2017). Interdisciplinarity: Practical approach to advancing education for sustainability and for the Sustainable Development Goals. *The International Journal of Management Education*, *15*(2), 73-83.

Anđić, D., & Ćurić, A. (2020). What are the attitudes of future teachers about sustainable development in 179alaysi? Validation and adaptation of the attitudes toward sustainable development scale. In ICERI2020 Proceedings (pp. 1448-1457). IATED.

Arumugam, N., & Supramaniam, K. (2016). "STUDENT TRAINING IN ATTITUDE AND RESPONSIBILITY" INTERVENTION PROGRAMME IN HELPING ACADEMICALLY AT-RISK STUDENTS IN A HIGH STAKE EXAMINATION CONTEXT. *Nirwan Idrus*, *14*(2), 37.

Badri, M. A., Mohaidat, J., Ferrandino, V., & El Mourad, T. (2013). The social cognitive model of job satisfaction among teachers: Testing and validation. *International Journal of Educational Research*, *57*, 12-24.

Becker, K., Kehoe, J., & Tennent, B. (2007). Impact of personalised learning styles on online delivery and assessment. *Campus-Wide Information Systems*, *24*(2), 105-119.

Bollag, B. (2004). *Improving tertiary education in Sub-Saharan Africa: Things that work*. World Bank.

Campos, D. G., Silva, J. L. G., Jarvill, M., Rodrigues, R. C. M., & Kumakura, A. R. D. S. O. (2021). Instruments to evaluate undergraduate healthcare student learning styles globally: a scoping review. Nurse Education Today, 107, 105141.

Cassidy*, S. (2004). Learning styles: An overview of theories, models, and measures. *Educational psychology*, *24*(4), 419-444.

Ceulemans, K., Molderez, I., & Van Liedekerke, L. (2015). Sustainability reporting in higher education: a comprehensive review of the recent literature and paths for further research. *Journal of Cleaner Production*, *106*, 127-143.

Chiya, S. (2003). The importance of learning styles and learning strategies in EFL teaching in Japan. *Retrieved June*, *29*(2014), 1-30.

Claxton, C. S., & Murrell, P. H. (1987). *Learning Styles: Implications for Improving Educational Practices. ASHE-ERIC Higher Education Report No. 4, 1987*. Association for the Study of Higher Education, 1 Dupont Circle, Suite 630, Washington, DC 20036.

Coffield, F., Ecclestone, K., Hall, E., & Moseley, D. (2004). Learning styles and pedagogy in post-16 learning: A systematic and critical review.

Cortese, A. D. (2003). The critical role of higher education in creating a sustainable future. *Planning for higher education*, *31*(3), 15-22.

Curry, L. (1990). A critique of the research on learning styles. *Educational leadership*, *48*(2), 50-56.

Claxton, C. S., & Ralston, Y. (1978). Learning Styles: Their Impact on Teaching and Administration. AAHE-ERIC/Higher Education Research Report No. 10, 1978.

Dagiliūtė, R., & Liobikienė, G. (2015). University contributions to environmental sustainability: challenges and opportunities from the Lithuanian case. *Journal of Cleaner Production*, *108*, 891-899.

Dantas, L. A., & Cunha, A. (2020). An integrative debate on learning styles and the learning process. *Social Sciences & Humanities Open*, *2*(1), 100017.

Doherty, W. A., & Maddux, C. D. (2002). An investigation of methods of instruction and student learning styles in internet-based community college courses. *Computers in the Schools*, *19*(3-4), 23-32.

Duff, I. S. (2004). MA57---a code for the solution of sparse symmetric definite and indefinite systems. ACM Transactions on Mathematical Software (TOMS), 30(2), 118-144.

Eaton, S. E., & Christensen Hughes, J. (2022). *Academic integrity in Canada: An enduring and essential challenge* (p. 599). Springer Nature.

Fahey, S. J. (2019). Curriculum change and climate change: Inside outside pressures in higher education. In Curriculum and Environmental Education (pp. 315-334). Routledge.

Fleisch, B., Gultig, J., Allais, S., & Maringe, F. (2019). Background paper on secondary education in Africa: Curriculum reform, assessment and national qualifications frameworks. *Mastercard Foundation*.

Frazer, J., Notin, P., Dias, M., Gomez, A., Min, J. K., Brock, K., ... & Marks, D. S. (2021). Disease variant prediction with deep generative models of evolutionary data. *Nature*, *599*(7883), 91-95.

Giesenbauer, B., & Müller-Christ, G. (2020). University 4.0: Promoting the transformation of higher education institutions toward sustainable development. *Sustainability*, *12*(8), 3371.

Golding, L., Gillingham, R. G., & Perera, N. K. P. (2020). The prevalence of depressive symptoms in high-performance athletes: a systematic review. *The Physician and Sportsmedicine*, *48*(3), 247-258.

Graf, T. P. (2017). *The Sultan's renegades: Christian-European converts to Islam and the making of the Ottoman elite, 1575-1610*. Oxford University Press.

Gulwadi, G. B., & Scholl, K. G. (2017). Campus infrastructure and sustainable resource management practices: mapping campus DNA for human resiliency. *Handbook of Theory and Practice of Sustainable Development in Higher Education: Volume 1*, 103-118.

Hariram, N. P., Mekha, K. B., Suganthan, V., & Sudhakar, K. (2023). Sustainalism: An integrated socio-economic-environmental model to address sustainable development and sustainability. *Sustainability*, *15*(13), 10682.

Heyneman, S., & Stern, J. (2015). Development and education. In Handbook of international development and education (pp. 20-46). Edward Elgar Publishing.

Holman, D., Pavlica, K., & Thorpe, R. (1997). Rethinking Kolb's theory of experiential learning in management education: The contribution of social constructionism and activity theory. *Management learning*, *28*(2), 135-148.

Iurina, M., & Gorlova, E. (2018, May). Adopting 21st century competencies for a technical university curriculum. In *SOCIETY. INTEGRATION. EDUCATION. Proceedings of the International Scientific Conference* (Vol. 1, pp. 159-167).

Kirby, P., & Ashley, W. L. (1979). *Cognitive style, learning style, and transfer skill acquisition*. National Center for Research in Vocational Education, Ohio State University.

Kuh, G. D. (2009). What student affairs professionals need to know about student engagement. *Journal of college student development*, *50*(6), 683-706.

Leal Filho, W., Raath, S., Lazzarini, B., Vargas, V. R., de Souza, L., Anholon, R., ... & Orlovic, V. L. (2018). The role of transformation in learning and education for sustainability. *Journal of cleaner production*, *199*, 286-295.

Lehman, M. E. (2019). Using VARK learning styles to predict instructional preferences. NACTA Journal, 63(2), 109-114.

Lozano, R., Lukman, R., Lozano, F. J., Huisingh, D., & Lambrechts, W. (2013). Declarations for sustainability in higher education: becoming better leaders, through addressing the university system. *Journal of cleaner production*, *48*, 10-19.

Lozano, R., & Young, W. (2013). Assessing sustainability in university curricula: exploring the influence of student numbers and course credits. Journal of cleaner production, 49, 134-141.

Mader, C. (2012). How to assess transformative performance towards sustainable development in higher education institutions. Journal of Education for Sustainable Development, 6(1), 79-89.

McKenna, L., Copnell, B., Butler, A. E., & Lau, R. (2018). Learning style preferences of Australian accelerated postgraduate pre-registration nursing students: A cross-sectional survey. Nurse education in practice, 28, 280-284.

Mekonen, Y. K., & Fitiavana, R. A. (2021). Assessment of learning outcomes in higher education: Review of literature. International Journal of Research Publications, 71(1), 69-76.

Morselli, D., & Kakouris, A. (2022). Teaching entrepreneurship to undergraduates: a Vygotskian perspective. In *Theorising undergraduate entrepreneurship education: Reflections on the development of the entrepreneurial mindset* (pp. 49-68). Cham: Springer International Publishing.

Moussa, N. (2014). The importance of learning styles in education. *Institute for Learning Styles Journal*, *1*(2), 19-27.

Potter, R., Hiser, K., Evans, T., & Feldman, I. (2023). Key Competencies: Practical Approaches to Teaching Sustainability. *Association for the Advancement of Sustainability in Higher Education*.

Reichman, R. (1978). Conversational coherency. *Cognitive science*, *2*(4), 283-327.

Saarinen, T. (2012). Internationalization of Finnish higher education—is language an issue?. *International Journal of the Sociology of Language*, *2012*(216), 157-173.

Sadler-Smith, E. (1996). Learning styles: a holistic approach. *Journal of European industrial training*, *20*(7), 29-36.

Sinakou, E., Boeve-de Pauw, J., & Van Petegem, P. (2019). Exploring the concept of sustainable development within education for sustainable development: implications for ESD research and practice. *Environment, development and sustainability*, *21*(1), 1-10.

Sjukriana, J., Hanafiah, M. H., Asyraff, M. A., & Kusumah, G. (2024). Unveiling the landscape of event technology adoption in hospitality and tourism industry: insights from a systematic literature review. *International Journal of Event and Festival Management*.

Shabani, J., & Damavandi, A. J. (2011). The importance of gender as a moderator for the relationship between emotional intelligence and mental health of adolescents. *Asian Social Science*, *7*(9), 142-148.

Shonibare, M. A., Adesanya, A. O., Raji, A., Nwankwo, T. C., & Daraojimba, C. REVIEW ON THE ROLE AND IMPACT OF ACCOUNTING PRACTICES IN ENHANCING SUSTAINABILITY IN HIGHER EDUCATION MANAGEMENT.

Sinakou, E., Boeve-de Pauw, J., Goossens, M., & Van Petegem, P. (2018). Academics in the field of Education for Sustainable Development: Their conceptions of sustainable development. *Journal of cleaner production*, *184*, 321-332.

Teoh, H. C., Abdullah, M. C., Roslan, S., & Daud, S. (2013). An investigation of student engagement in a Malaysian Public University. *Procedia-Social and Behavioral Sciences*, *90*, 142-151.

Tight, M. (2020). Research into quality assurance and quality management in higher education. In *Theory and Method in Higher Education Research* (Vol. 6, pp. 185-202). Emerald Publishing Limited.

Vaughn, L., & Baker, R. (2001). Teaching in the medical setting: balancing teaching styles, learning styles and teaching methods. *Medical teacher*, *23*(6), 610-612.

Visser, B. A., Ashton, M. C., & Vernon, P. A. (2006). g and the measurement of Multiple Intelligences: A response to Gardner. *Intelligence*, *34*(5), 507-510.

Wass, R. T. (2012). *Developing critical thinkers in higher education: A Vygotskian perspective* (Doctoral dissertation, University of Otago).