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RESEARCH ARTICLES

A PUBLICATION OF THE UNIVERSITY OF TECHNOLOGY, JAMAICA

COMMENTARIES

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SPECIAL ISSUE

Proceedings of the 5th International Conference on Education, Humanities and the Social Sciences hosted by the Faculty of Education and Liberal Studies

'The New Frontier: Trends, Possibilities and Challenges in Education, the Humanities and the Social Sciences'
June 4–6, 2024

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Preface

The Journal of Arts Science and Technology (JAST) is the flagship journal of the University of Technology, Jamaica and its publication is in keeping with one of the 'Objects' of the University of Technology Act, to "preserve, advance, and disseminate knowledge through teaching, scholarship and research . . . and to make available the results . . . to promote wisdom and understanding". This Special Issue of JAST comprises a sample of papers presented at the 5th International Conference on Education, Humanities and the Social Sciences hosted by the university's Faculty of Education and Liberal Studies on June 4–6, 2024, under the theme, *The New Frontier: Trends, Possibilities and Challenges in Education, the Humanities and the Social Sciences.* The Editorial Board and Management Committee of JAST are pleased to partner with the Faculty in publishing this Special Issue to disseminate the scholarship from the conference to a wider audience.

Dr Paul W. Ivey, PhD
Editor-in-Chief

Editorial

The 5th International Conference on Education, Humanities and the Social Sciences hosted by the Faculty of Education and Liberal Studies on June 4–6, 2024, was held under the theme, *The New Frontier: Trends, Possibilities and Challenges in Education, the Humanities and the Social Sciences*. It facilitated the timely gathering of scholars to explore the changing landscape of education, the humanities and the social sciences. This Special Issue of JAST is a sample of the papers presented at that conference and explores key trends, future directions and the challenges which today's educators and students alike grapple with as they navigate educational pathways.

The papers in this issue progress through assessments of current practices such as quality assurance, teaching practice, academic advisement and STEM pedagogy. The papers that examine the impact of the COVID-19 pandemic on the teaching and learning experience follow. The final paper in this issue shines a light on future directions in education as it reports on the intersection of artificial intelligence and pedagogy. This Special Issue concludes with three commentaries which explore future directions for our country and region as we continue to discuss emerging technology, decolonisation and address the challenges we face. The articles interrogate and directly confront these issues and provide some suggestions for a way forward.

In the first paper, entitled, **Building a Culture of Quality in Teacher-Training Institutions: The Experience of Six Quality Assurance Officers in Jamaica** the author explores the experiences of the qualitative assurance officers in the Teachers' Colleges of Jamaica, specifically how they perceive and carry out their roles.

The second paper, **School Observation: A Conduit for Re-imagining Teacher Development,** reports the preliminary results of a correlational longitudinal study examining the experiences of Technical and Vocational Education and Training (TVET) student-teachers, on school observation and documents their varied views on the practice.

Exploring Advisors' and Advisees' Views of Academic Advisement at a Tertiary Institution in Jamaica, the third paper, takes a critical look at the well-established practice of academic advisement in higher education to determine advisors and advisors' perceptions of the academic advisement process, challenges with the process and recommendations for improvement.

A reflection on the lessons learned from a collaborative international partnership which sought to promote changes to STEM/TVET lecturers' teaching practices through professional development and reflection on practice constitutes the fourth paper, **A Collaborative International Partnership Supporting STEM/TVET Professional Development: A Cross Case Analysis of Lecturer's Practice.**

Paper five, **The Response to Emergency Remote Teaching in Response to the COVID-19 Pandemic at a University in Jamaica,** assesses students' experience during the pandemic with online teaching as the world grappled with the sudden change from face-to-face teaching and learning and comes next in this issue.

In the sixth paper, **Academic Stress, Mental Health and Coping among University Students during the COVID-19 Pandemic,** the authors investigated the impact of the pandemic on the mental health of undergraduate students at the University of Technology, Jamaica, focusing on the prevalence of stress, anxiety, depression, and the coping strategies students employed during this period.

The seventh and final paper, **Threshold Concepts on the Move: A Report from a Cross-Disciplinary Working Group** looks to the future of education and reports on the findings of a 'threshold-concept' workshop in which university educators were engaged in a critical discussion on changing landscape of education, and how integrating AI tools will develop higher education pedagogies.

This compilation of articles and commentaries inspires optimism and hope for the continued development of these disciplines within the current context. We applaud the unwavering determination of educators, administrators and scholars as they continue to push the boundaries of higher education. All your engagement and support continue to be crucial as we do our best to advance the cause of education and scholarship.

We extend our deepest gratitude to all our contributors, reviewers and readers who have made this issue possible. We are also immensely grateful to the planning committee of the 5th International Conference on Education, the Humanities and the Social Sciences, who worked assiduously to ensure that the conference was a resounding success.

We are also immensely grateful to the Editorial Board and Management Committee of JAST for agreeing to publish this Special Issue, and we look forward to future collaboration.

We are certain that you will find this Special Issue informative, and we hope our discussions will continue. We look forward to your support in 2026 when the 6th staging of the FELS Conference will again draw on all our efforts to develop scholarship and practice in education, the humanities and the social sciences.

Nicole Cameron, PhD
Hope Mayne, PhD
Tresecka Campbell-Dawes, MA
Guest Editors

Building a Culture of Quality in Teacher-Training Institutions:

The Experience of Six Quality Assurance Officers in Jamaica

NICOLE WILLIAMS
St. Joseph's Teachers' College
Email address: nicole.williams@sjtc.edu.jm

Abstract

Quality assurance (QA) in higher education entails adherence to internal and external standards for continuous organisational improvement. In 2014, teacher-training institutions in the Teachers' Colleges of Jamaica (TCJ) were tasked with implementing this concept, leading to the appointment of the first set of quality assurance officers (QAOs). Since then, several lecturers and external candidates have taken on the role with little or no formal training and no meaningful orientation to ease them into the position. The aim of this research was to explore the experiences of the QAOs in the TCJ, specifically how they perceive and carry out their roles. This qualitative research used a phenomenological design. Semi-structured interviews were conducted with the QAOs of six member institutions of the TCJ to answer two research questions: (1) What are QAOs' perspectives of their role? and (2) How have QAOs been executing their roles in their teacher-training institution? The behavioural theory of leadership was also used to gain a better understanding of how QAOs perceive and execute their roles. The findings revealed that while the QAOs had mixed perspectives about their roles, they were more task-oriented than people-oriented leaders. Regarding how QAOs executed their role, it was found that some faced challenges such as lack of leadership support, stakeholder resistance, and personal incompetencies. Quality assurance officers should, therefore, engage in formal

training in QA, receive greater support from leadership, and embrace more corporate leadership behaviours to achieve greater success in their quest to create a quality culture in their institutions.

Keywords: Behavioural theory of leadership, quality assurance; quality assurance officers, total quality management, quality culture

Introduction

The term "quality assurance" (QA) emerged in the business industry and referred to the methodological procedures an organisation uses to ensure that it meets or exceeds the expectations of its customers (Nyamwesa, et al., 2020). The concept, which was applied to higher education centuries ago, denotes the adherence to internal and external standards, managing curricula, interrogating staff qualifications, assessing the teaching and learning processes, and examining students' learning outcomes, but also ensuring that there is a "fit for purpose" between students and their educational contexts (Hsu, 2023; Komorowska, 2017, p. 25). The main purpose of QA is to sustain and improve educational standards by focusing on the quality, equity, and efficiency of educational programmes and processes (Kayyali, 2023; Lucander & Christersson, 2020; Nguyen et al., 2021).

In Jamaica, the concept of QA in higher education was launched in 1994 by a mandate from the University of the West Indies (UWI) through the Chancellor's Commission on Governance (Miller, 2002). Since then, the UWI, the University of Technology, Jamaica, and the College of Agriculture, Science and Education (CASE), have adopted QA mechanisms in their operations. The concept was not introduced in teacher-training institutions, specifically those in the Teachers' Colleges of Jamaica (TCJ), however, until 2014.

Upon receiving the mandate to implement QA mechanisms in their institutions, several principals and presidents in the TCJ opted to internally promote lectures to the position of quality assurance officers (QAOs). Few recruited external candidates who had a background in the business industry. However, by 2020, when the government officially recognised the post of QAOs in the TCJ, many of these initially employed QAOs had either retired or resigned without crafting, let alone implementing, a succession plan. Hence the present cadre of QAOs in the TCJ are mostly former lecturers who possess limited to no background or formal

training in QA. In the absence of a succession plan, they have no foundation on which to build QA in their institutions.

Regardless of the obvious deficits, the present group of QAOs are expected to utilise a total quality management system to orchestrate the cyclical operations of their institutions and comply with the internal QA mechanisms used by UWI. A total quality management system is an organised process that fosters the holistic management of material and human resources to ensure continuous improvement of the organisation and its outcomes (Al-Zoubi et al., Kulenović et al., 2021; Coelho et al., 2023). Quality Assurance Offices are expected to use the same approach in meeting the needs of external regulatory bodies such as the University Council of Jamaica and the Jamaica Tertiary Education Commission (J-TEC) (TCJ, 2018), as well as all the laws of Jamaica that govern education facilitation.

Given the newness of QA in the TCJ and the context in which these new QAOs are expected to operate, the purpose of this study was to explore the lived experiences of QAOs. Specifically, this study sought to explore how QAOs perceive and execute their roles as leaders in their teacher-training institutions. Additionally, as a sub-purpose, this study aimed at giving voice to the lived experiences of QAOs in the TCJ to enhance comprehension of the unique way in which they execute their present role, and to recognise their contribution to elevating the standards of teacher-education in their institutions and Jamaica. Two research questions were used to achieve the aims of the study, namely:

1. What are QAOs' perspectives of their role?
2. How have QAOs been executing their roles in their teacher-training institution?

Literature Review

Theoretical Foundation

Behavioural Leadership Theory

Several influential theorists, such as John Fryer and Karl Lewin have been credited with developing behavioural leadership theory (Perera et al., 2021). The fundamental tenet of the theory is that leadership can be developed over time and that it can be identified by the decisions and actions made in particular circumstances, rather than by personal characteristics (Benmira & Agboola, 2021; Perera et al., 2021; Salihu, 2019). Actions such as collaboration, teamwork, people-support, and unifying efforts to achieve a common goal, Perera (2021)

highlights "crucial factors" in maximising the benefits of behaviour leadership.

Two significant studies which arose out of the theory are the Ohio State University Studies and the University of Michigan Studies (Alsarrani et al., 2021). Researchers in earlier studies concluded that effective leaders might persuade subordinates to complete tasks by following predetermined organisational procedures and patterns. These leaders prioritise efficiency and output over interpersonal connections. As a result, according to Muthimi and Kilika (2018), they were regarded as "task-oriented leaders."

Alternately, the studies carried out by researchers at the University of Michigan, on the contrary, concluded that effective leaders are those who can integrate primary and secondary relationships in the organisation to enhance and meet organisational goals. Therefore, by building primary relationships (building a friendship with the subordinate including outside of the workplace) and secondary relationships (trust and camaraderie in the workplace) leaders can heighten productivity as subordinates feel a sense of love, care and belongingness. Such leaders are referred to as "people-oriented leaders" (Tran, 2021).

Quality Assurance in Higher Education

Research on QA in higher education has increased in relevance over the years (Aburizaizah, 2022; Garcia & Jamias, 2023; Williams & Harvey, 2015). Unlike the international arena, however, the Caribbean has produced little-known work on QA over the last four decades. This limited pool includes studies that examined the need for and development of QA in the Caribbean (Harvey &Williams, 2015; Gift et al., 2006; Roberts, 2001), and the trends and challenges in implementing QA in the Caribbean (Blanco et al., 2020; Luzzi et al., 2022). Other studies set in the Caribbean were done in the field of medicine (Alemnji et al., 2012; Alemnji et al., 2017; Ayenga Sammy et al., 2013; van Zanten et al. 2013), environmental science (Grillio, 2022) and Mitchell (2022) and technical-vocational education

Comparably to the limited studies conducted in the Caribbean, there is a smaller amount of research that captures stakeholder perspectives on the role of QAOs in higher education institutions. Some scholars have explored the subject by acquiring students' perspectives (Arja et al., 2024; Caesar, 2013; Isaeva et al., 2020; Martinez et al., 2015; Reddy et al., 2020). Others have done so through the lens of the academic staff (Hutchinson, 2007; Newton, 2000; Pham & Nguyen, 2020; Saeed, 2018; Saleh, 2016).

Overall, understanding how QAOs perceive their role has been largely ignored

in scholarly literature (Seyfried and Pohlenz, 2020). In the few studies, the opinions of QAO's perspectives are often collected and analysed along with those of other stakeholders, as in the case of Garcia & Jamias (2023) and Nguyen et al. (2021). Other found works explored QAO's understanding of quality (Anderson, 2006), their role in the accreditation process (Ruiz-Barbadillo & Martinez-Ferrero, 2022; Schrager Goldenberg, 2018), and their experiences in the implementation of QA mechanisms in higher education institutions (Jarrell & Kirby, 2024; Newton, 2002; Nguyen, 2021; Seyfried and Pohlenz, 2020; Tetteh et al., 2021). Most of these studies were carried out in Asia and Europe.

QAOs' Perspective on Their Role

Quality Assurance Officers' perception of their role is essential to how it is implemented and developed in their institution, and how it is understood by other stakeholders (Anderson, 2006; Garcia & Jamias, 2023; Newton, 2002). According to the literature reviewed, QAOs have several perceptions of their role, ranging from quality control to consultant and even decision-maker (Seyfried and Pohlenz, 2020). As quality controllers, QAOs were of the view that their role is to execute mandatory QA procedures, such as the duties associated with the quality cycle (Garcia & Jamias, 2023; Scharager, 2018; Seyfried & Pohlenz, 2020), bring continuous improvement to the institution by integrating programmes (Garcia & Jamias, 2023; Scharager Goldenberg, 2018), and strengthening and building a quality culture in their institution in which all departments meet the required quality benchmarks and standards (Garcia & Jamias, 2023, Jarrell & Kirby, 2024). As decision-makers, however, they should hold stakeholders accountable in the execution of their assigned tasks and advise leaders on the matter regarding the operationalisation of strategic goals (Garcia & Jamias, 2023; Jarrell & Kirby, 2024; Seyfried & Pohlenz, 2020).

How QAOs Execute Their Roles and Responsibilities

Challenges in Executing their Role

Crucial to the framing of institutional response and the successful implementation of quality management practices is the support given by the management of their institutions (Garcia & Jamias, 2023; Nguyen et al., 2021; Seyfried & Pohlenz, 2020; Tetteh et al., 2021). Without the endorsement and reinforcement of higher

education institutional leaders, QA procedures and policies, especially in teaching and learning, are a 'toothless tiger' (Seyfried & Pohlenz, 2020). Validating the work of QAOs and promoting them as a significant and indispensable part of the institution's management structure will engender greater stakeholder commitment (Seyfried & Pohlenz, 2020; Tetteh et al., 2021). Additionally, to optimise their role in the overarching quality-building process, leaders must develop an understanding of QA, according to Tetteh et al. (2021).

The continuous disregard for internal and external QA processes is also a challenge to QAOs (Parvin, 2019), as they must contend with resistance from academic staff and middle and upper managers (Anderson, 2006; Newton, 2002; Nguyen et al., 2021). The rationale for this resistance has been attributed to the notion that some managers have become accustomed to unethical and non-procedural practices and, therefore, see QA as a bureaucratic burden and an illegitimate interference; and also, that the QA office holds too much managerial power to oversee academic outcomes and daily operations of the institution (Seyfried and Pohlenz, 2020, citing Lucas, 2014). Other justifications include the rapidity and impact of the change processes that come with the implementation of QA in institutions (Seyfried and Pohlenz, 2020, citing Anderson, 2008); ignorance of the benefits to be derived from honouring the structural frames that are embedded in governance and management protocols that exist in an established quality culture (Nyamwesa et al., 2020, citing Cardoso et al., 2016), and the fact that they do not perceive that external QA is the solution to improving educational outcomes and quality (Nyamwesa et al., 2020, citing Tezcan-Unal et al., 2018; Mgaiwa 2021).

Ignorance of their expected role and function is also another challenge faced by QAOs (Nguyen, 2021; Nguyen et al., 2021; Tetteh et al., 2021). To achieve success in executing their responsibilities, especially those related to internal QA practices, QAOs must be knowledgeable about the necessary policies and procedures and QA mechanisms related to higher education governance, possess the requisite traits and competencies needed in the area such as communication, digital, interpersonal, and personal skills, and they must be trained (Nguyen, 2021; Nguyen et al., 2021; Tetteh et al., 2021).

Methodology

Design

The study used qualitative design, specifically the Interpretative Phenomenology Analysis approach. The design was selected as it allowed the researcher to explore the participants lived experiences and provide insights into the phenomena, which could lead to a better understanding of and addressing their needs (Cuthbertson et al., 2020; Love et al.; Nizza et al., 2021).

The Participants and Setting

Seven QAOs in the Teachers' Colleges of Jamaica were purposely selected and invited to participate in the study. Six invitees accepted to participate in the study: four males and two females. Their ages ranged from 38-63 years. To protect their identity, they were allowed to create a pseudonym that followed a similar pattern. Throughout this study, they will be identified as 1P50, 5Z21, 0P15 & 8N26, 7B56 and 2R13. Additionally, they have been working in the tertiary system, particularly the TCJ, for two to 20 years. The ladies have had the longest tenure at their current institution.

Four of the participants held previous positions on the academic staff in their institutions; one participant has served as a senior lecturer. Regarding how these people were selected for the position of QAO in their institution, three participants were hand-selected by their leaders, while one participant went through standard HR processes from a list of internal applicants. The other two participants were employed in the position as external applicants; therefore, they are new to their institution.

Before assuming their current positions, one participant served in the same capacity for another higher education organisation. That participant has served the longest time (6 years) in handling QA matters; four of these years were at the previous institution, and two years in the present post at a teacher-training institution. This participant has also received some formal training in QA. Another participant has also received training in the area. Both are male participants and are awaiting certification. These two of the six QAOs served in shaping QA when it was initially introduced in the TCJ. The other participants have not received any formal training in QA.

As it relates to tenure in their current position, at the time of this research,

two participants served for four years, one for two years, one for one year, and another for six months. Three participants served as QAOs while working in another major operational position in their current institution. One officer is still working in these two demanding positions.

All six QAOs work in institutions that are predominantly multidisciplinary colleges, located in different parts of Jamaica. It is important to note the leadership in these institutions. These institutions are government funded, and therefore legally overseen by a board of governors. All the institutions have a leader, who is considered the president, or principal. One institution has both a president and a principal, however, the president is the chief accountable officer. Over the last seven years, all except one institution has had at least one change in leadership. One institution, however, has had five leaders over that time.

Role of the Researcher

Adhering to the methodology that governs hermeneutic interpretive phenomenological study, the researcher engaged in bracketing at the start of the research and then reflexivity towards the end (Johnson et al., 2020 citing Creswell & Miller, 2000). This means that the researcher had to purposefully undergo a process which included their acceptance of their position as a practitioner in tertiary education and setting aside preconceptions. The process also included suspending judgment which may have led to biases and misconceptions.

Therefore, while the researcher is also a QAO in the TCJ, it was important to approach the phenomenon with a fresh and open mind. This involved keeping a research diary to capture thoughts about the research and experiences gained while conducting it. The journal captured some of the values and interests that needed to be captured so they would not impede the research process. Thus, a non-intrusiveness method was used during the interviews, even when provoked by the participants to agree with or comment on statements made, or to allow personal perspectives to dictate the number of or kind of probing questions that were required to dig deep into the experience of the participants.

As the researcher engaged in reflexivity, positionalities including rank and years of service had to be set aside, as did the lived experience of inadequate training and preparation for the role. The researcher believes that QA can be a transformative tool for higher education and that it can help institutions sustain a culture of quality; furthermore, the response of the educational community to QA is contingent on leadership response.

Data Collection and Analysis

Colaizzi's (1978, as cited in Northall et al., 2020) seven-step data analysis method was applied to identify recurrent themes on how QAOs perceive and have been carrying out their role. Firstly, using an interview guide, semi-structured interviews were used to collect data from each participant. The interviews lasted approximately sixty minutes and were conducted via Microsoft Teams. Most of these were conducted while participants were in their natural environment. After several close readings of the transcripts, the researcher listened to the interviews repeatedly. Special attention was given to varied elements such as vocal intonation, pauses, and emotions. The interviews were transcribed using Turboscribe AI software, after which inductive coding was done manually. The codes were then clustered into emergent themes according to conceptual similarities. Over 200 codes were generated from which 24 subthemes and four themes emerged. The themes and subthemes were then identified by comparison with the transcriptions, while reconfirmation with participants was actualised through member checking. The researcher continued to make notes in her research diary and kept an audit trail.

Results

What are QAOs' Perspectives on Their Role?

Maintain Quality Standards

The findings reveal that two of the QAOs (0P15 and 7B56) perceived that their role was to maintain quality standards by executing the tasks outlined in their job description; that is, to perform the basic job expectations of a QAO. Hence, they routinely conduct quality audits, host meetings and workshops, develop policies, and lead their institution through the accreditation process. According to participants 0P15:

> My role is to adhere to the requirements and the standards of the Teachers' Colleges of Jamaica, and it would ensure that all aspects of the procedures and policies are maintained in a way that will give quality service and standards. (0P15, 10–11, 2024)

Participant 7B56 on the other hand, noted:

> My role as a QAO is first and foremost to help maintain standards within the

> institution . . . So I would have to liaise with all the respective departments…In addition to that, I have to ensure that their internal verifications are in place look at the different standards that govern teacher training institutions and ensure that those standards are upheld. (7B56, 19–20, 2024)

Developing a Culture of Quality

Three of the remaining four QAOs noted that their perception of their role is to ensure that their institution achieves holistic improvement and develops a culture of quality. In so doing, they attempt to instill the necessary mechanisms to garner stakeholder commitment and build a system of accountability, where everyone understands their role in ensuring quality. Participant R123 shared that:

> I'm a transformational leader, slash servant leader, slash what they have a new one they call now, buildership'. I seek to interface with all the different stakeholders to build, to transform the institution by being actively involved in everything. I put it that way, I see myself as a salt of the institution. So, I get involved in things even if it is not in my job description, as long as it is going to transform the organisation. Whether it is speaking with individuals or proposing new ideas, whatever it takes to make the institution that centre of excellence. (2R13, 10, 2024)

According to participant 8N26

> The person who carries the weight of the institution, I think, is the quality assurance officer . . . A principal will come and lead administratively all aspects, but the quality assurance officer is that arm or that body of the institution. I believe that the quality assurance officer is the person who will drive transformation within the institution. (8N26, 104–106, 2024)

The QAO noted that developing an institutional quality culture requires the QA to have specific traits. These include effective communication skills, tolerance – especially of divergent views, persuasive skills, charisma, innovation, influence, confidence, trustworthiness, emotional intelligence, and love. They should also possess the necessary competencies to pioneer protocols to improve academic integrity, develop official onboarding and orientation protocols for new lecturers, maintain a strong system for the monitoring and evaluation of students' academic performance, ensure strategies are employed to meet students' learning needs and give attention to safety and security management.

Quality Consultant

Participant 5Z21 was the only one to share the belief that the role of QAO exceeded that of the quality controller and the manager. Although 5Z21noted that the QAO's role was "too wide" and "under-defined". The participant asserted that:

For me, though, I know that the quality assurance officer's responsibility is to serve pretty much like an institutional consultant to ensure that our best practices are observed and that we're also meeting and exceeding the requirements of our external stakeholders to drive continuous satisfaction (5Z21, 22, 2024).

How have QAOs Been Executing Their Roles in Their Teacher-Training Institutions?

Challenges

Leadership Support. Four of the six QAOs (1P50, 5Z21, 0P15 & 8N26) indicated that they could have better performed their role if they had the full support of their leaders. The lack of leadership support varied across institutions and impacted the participants in different ways. For example, participant 0P15 emphasised a multiplicity of challenges owing to a lack of leadership support. This list includes working with a vice principal who "quality assures her own portfolio and therefore indicated that she does not need the quality assurance officer" (46–48), being excluded from management meetings and decision-making situations in the institution, and the numerous leadership transitions that have occurred at the institution since the participant has been in the position of QAO. Participant 0P15 explained:

> Over the last two years since I have been QA and have worked in the office, as I said, we have had three principals. So, there are three different visions that have three different focuses. So, working with the three different ones would have three different sorts of outcomes because each one is a different person. I think that my role can bring about positive change, but I don't think that I'm given enough scope to do so with all these changes in principals. (0P15, 58–60, 2024)

Another participant shared that garnering stakeholder support was challenging because leadership engendered a culture of unaccountability and unethical practices in the institution. In some cases, it was out of ignorance. Nonetheless, leadership's actions caused the staff to perceive the role of the QAO to be one of organisational encumbrance. Participant 1P50 shared:

> Well, as I said, this lack of appreciation or understanding of quality management systems, you know, as far as our senior administrators are concerned, they don't have a full understanding of what quality management systems are . . . But there's not this emphasis on quality assurance in the institutions. . . . I think this is a major challenge to build a quality culture in the institution because if the institution feels that quality assurance is to flag them and lick them over their head and say, you can't do that, you know, it gives this negative impression of what quality assurance is about. (39–44, 2024)

Participant 5Z21 also divulged that:

> You're pretty much guided by your top management and quality assurance is as strong as it is empowered by the top management. So, while training and everything was done, the implementation of some things was pretty much left up to cowboy style. (5Z21, 66; 2024)

Resistance from Staff and Other Stakeholders. Two participants (8N26 & 1P50) also said that they were challenged by the resistance from staff and other stakeholders to the mechanisms and procedures that were implemented. They asserted that not everyone was willing to accept the unfamiliarity of QA and the sudden changes it brought. While the participants indicated that they felt it was a part of their role to enlighten the ignorance of stakeholders so that they would "buy into the idea and see the importance of quality assurance in transforming the institution", participant 8N26 posited that some persons "don't really want to change" (38–40, 2024).

Additionally, participants 8N26 & 1P50 indicated that being a newly employed staff who introducing a new concept of accountability and governance further complicated the matter of how QA was executed in their institution. According to participant 1P50, ". . . you hear some of them even remark, 'How you just come here, and you want to do this and that?'" (20, 2024)

Clannish Behaviour. Participant 8N26, on the other hand, spoke of encountering a "clannish culture" that was very "tribal" in operation. There was no succession planning regarding the QA office. As such, the person who previously held the position was said to have "left the institution with all the wealth of knowledge like a dying tribal chief . . . and then you just start to walk on the square one" (118, 2024). Participant 8N26 also highlighted that there were sub-clans that had information or could make changes in their area to benefit other areas of the institution but refused to share or adjust because it would not benefit their territory.

Training. While all the participants revealed that training in the area was essential to executing the role of a QAO, only three (2R13, 7B56 & 0P15) claimed that lack of training impacted their performance. They acknowledged that they gained a better understanding of their role by having attended conferences, board meetings, and participating in workshops, however, participating in these does not negate the fact that they have not received any formal training. Participant 2R13 asserted:

I was just saying to someone the other day that, gosh, I wish I had training. I was asked to write a policy. And I'm saying, hey, I have been writing policies and hoping that they're good policies. I've never been trained (26, 2024).

Self-regulation Challenges. Both participants 0P15 and 2R13 noted that they had challenges completing much of their administrative duties as QAOs because they did not manage their time effectively. Conversely, only participant 0P15 presented personal competencies as a possible challenge to executing QA roles. Defeatedly the participant uttered, "Maybe is me. Maybe I just don't know my role. Maybe I am the problem"(96, 2024).

Professional Challenges. Regarding professional challenges, Participant 5Z21 shared that a designated office space was not provided to the QAO. Documentation and document creation, staples to the quality control process, were therefore said to be difficult for the participant who had to assume a nomadic mode of operation. The issues of limited funding for QAOs to participate in training sessions, and to purchase needed resources were also highlighted by participants 7B56 and 1P50.

With Some Level of Ease

Leadership Support. Three of the participants (2R13, 1P50, and 7B56) said that despite the challenges that they faced, they were able to carry out aspects of their role with some level of ease because they had the support of their leader. Participant 1P50 highlighted that the principal was very supportive of the role of the QAO, and suggested that this was because the principal, who was also new to the establishment, could perhaps capitalise on the success of the QA office, as his transformation of the institution.

Tenure. Participant 2R13, on the other hand, suggested that tenure and relationship-building engendered the type of support needed to build a quality culture. The participant shared:

> So, there is support. There is support from all levels of administration and faculty and whatever category of workers I have their full support most times

> . . . I don't want to sound precocious, but it's the relationship. I've been there for 21 years . . . It is really a paper person strategy where I deal a lot with consultation and democracy, and using those strategies, I get them to buy in . . ., I don't really have difficulty (2R13, 35–45; 2024).

Discussion

The Behavioural Theory of Leadership holds that an individual's leadership is determined by their actions and accomplishments rather than by their characteristics or hierarchy within the organisation (Benmira & Agboola, 2021; Perera et al., 2021). Based on this assumption, it is reasonable to agree with Lashman (2009) that QAOs in teacher-training institutions are leaders in their own right because of the total quality management functions they perform. They oversee making sure that the graduates or the product is "fit for purpose," in addition to overseeing the effectiveness and caliber of the educational production process. Thus, it is crucial that QAOs' understanding of and performance in their roles within teacher-training institutions enable them to establish and maintain a culture of quality.

In this study, the QAOs' perception of their role was concurrent with the presented literature in that they believed their role was to carry out mandatory QA tasks (Garcia & Jamias, 2023; Scharager, 2018; Seyfried & Pohlenz, 2020), bringing about institutional improvement through the implementation of QA mechanisms (Garcia & Jamias, 2023; Scharager Goldenberg, 2018), develop institutional quality culture (Garcia & Jamias, 2023; Jarrell & Kirby, 2024; Seyfried & Pohlenz, 2020), bring about institutional improvement through the implementation of QA mechanisms (Garcia & Jamias, 2023; Scharager Goldenberg, 2018), develop institutional quality culture (Garcia & Jamias, 2023; Jarrell & Kirby, 2024; Seyfried & Pohlenz). In essence, the QAOs believed that their role is to be task-oriented leaders who focus on details, bureaucracy, compliance, and the issuing of directives (Rajbhandar, Rajbhandari &, 2016).

Such a perception of their role in the initial implementation of QA mechanisms in their institutions can be beneficial, as QAOs may be the only ones with expert knowledge in the area (Henkel & Ade, 2019). However, persisting with this approach could pose a risk, as the institution may eventually perceive QA as a "bureaucratic burden" and "illegitimate interference" (Seyfried & Pohlenz, 2020, citing Lucas, 2014). Additionally, task-oriented leadership behaviours have been known to

create a low degree of organisational performance in higher education (Alvi & Rana, 2019).

It, therefore, behooves QAOs to adopt elements of the people-oriented style of leadership, such as providing training in QA protocols and procedures and involving stakeholders in decision-making as time progresses. Assuming such people-oriented leadership behaviours may help to alleviate some of the challenges faced by QAOs from staff (Henkel & Ade, 2019; Santos et al., 2021). Quality Assurance Officers should also be cognisant that creating an institutional quality culture will not occur overnight. Consequently, stakeholders must be given the space and the grace to grow and understand what quality is, the need for QA, how to build a quality culture, and the institutional ramifications when culture is not developed. Therefore, they must be able to strike a balance between people-oriented and task-oriented leadership behaviours. Essentially, the success of QAOs hinges on the extent to which they embrace the tenets of corporate leadership (Tran, 2021).

This study also indicated, as in prior studies, that leadership support is critical to QAOs' successful role execution (Mgaiwa, 2021; Nguyen, 2021; Nguyen et al., 2021; Seyfried and Pohlenz, 2020; Taroreh et al., 2022; Tetteh et al., 2021). Participants stated that they were challenged because their superiors wanted to take on QA responsibilities rather than allowing them to do their jobs; they were excluded from crucial decision-making meetings, and leaders showed little care for practicing and supporting QA procedures. This kind of behaviour from the leaders of the institution is undesirable and unacceptable because it not only predicates a culture of unprofessionalism and unethical acts, but it will also neutralises the power of the QA office and render it a "toothless tiger" (Seyfried & Pohlenz, 2020).

Principals and presidents must publicly acknowledge the internal distribution of power within their institutions and highlight that QAOs are also leaders who have been authorised to operate within their capacity. Quality Assurance Officers are cognisant of the fact that they are leaders and have assumed the "transformational," "charismatic," and "servant" leadership styles because they want to contribute to the "buildership" of teacher-training institutions. Hence, QAOs should be given the latitude to maximiae their contribution to developing their institution and be included in critical decision-making. By doing this, leaders affirm the functions of QAOs, and also set a precedent that dictates that respect and compliance are mandatory for all stakeholders regarding QA (Seyfried & Pohlenz, 2020; Tetteh et al., 2021). According to Mustaja & Janee (2023), leaders must be the "quality motivators" in their institutions.

Similarly, principals and presidents must confront their ignorance about QA to maximise their contribution to the adoption of quality procedures in their institutions (Tetteh et al., 2021). Having this knowledge would enable them to better organise quality control efforts and promote initiatives for continuous improvement by making the most effective use of QA procedures. Principals and presidents have the ultimate say in funding, project implementation, and project prioritisation because they are the institutions' main accountable officers. Principals and presidents make judgments in these areas based on their understanding of total quality management as they work to satisfy stakeholders and provide high-quality products (Mustajab & Jansee, 2023). However, according to Ahmad and Ahmad (2023), leaders whose knowledge of QA is limited to what is required to meet the compliance requirements of external quality bodies are less effective than those who have a more comprehensive understanding of total quality management and intend to use that knowledge to transform their institution.

As in studies conducted in Asia, QAOs in this study admitted that while they possessed key leadership traits, they needed additional training in their expert area. Nguyen (2021), Nguyen et al. (2021), and Tetteh et al. (2021) have all argued that for QAOs to truly create an institutional quality culture, they must be knowledgeable in QA practices, and the policies procedures, and mechanisms that undergird teacher education. They also need to be equipped with the requisite skills and competencies associated with Industry 4.0 and its relationship to education, such as managing Big Data (Santos et al.,2021). Similarly, QAOs should also engage in continuous reflection to sharpen and develop their efficacy by using Blake and Mouton's (1960s) Managerial Grid (Ramzan & & Khurram, 2023).

Finally, the participants in the study shared that personal competency and self-confidence, time management, and the unavailability of a designated space for the QAO to operate were challenges that they also faced. The literature covered did not examine these self-regulated and professional challenges. However, as QAOs engage in training in QA mechanisms and engage in continuous reflection, they should be able to overcome their self-regulated challenges. Alternatively, the failure to designate a professional space for QAOs to operate is indicative of the disregard given to the area by the respective institutional leadership. It is hoped that as leaders become more educated about QA mechanisms, they will recognise the value of QA and address their professional treatment of QAOs in their institutions.

Conclusion

QAOs were of the perception that their role is to execute mandatory QA practices, including acting as consultants to their leaders. Some of the QAOs indicated that in executing their role they had been challenged by lack of leadership support, resistance from stakeholders, self-regulated challenges of time management, and ignorance of the area, as well as the professional challenge of not being assigned an office. Consequently, some QAOs noted that, owing to tenure and leadership support, they were able to execute their tasks with ease.

In applying the behavioural theory of leadership, the total quality management functions that QAOs must execute and what they have been able to accomplish qualify them to be considered leaders. As leaders, QAO needs to demonstrate the correct behaviours at appropriate times. At the implementation stage of QA mechanisms in their institutions, a more task-oriented approach is appropriate, but as the organisation gets accustomed to QA, a more people-oriented approach is needed. Overall, though, corporate leadership is needed for QAOs to perform their tasks effectively and allow quality to be embedded in the fibre of the institution. Additionally, QAOs must engage in self-reflection using the Blake and Mouton's management grid to regulate their leadership styles.

Recommendations

1. Quality Assurance Officers must have a fulsome understanding of their role in teacher-training institutions beyond what is documented in their job descriptions.
2. Quality Assurance Officers must be provided with training in QA mechanisms and techniques in higher education. Additional areas of consideration for training are organisational leadership and building psychosocial relationships.
3. Officers from the position of the J-TEC or the tertiary unit in the MoYE could collaborate with QAOs and use the findings of this research to develop a specific training curriculum for future QAOs in the TCJ, especially for those who have not had any formal training in the area.
4. Quality Assurance Officers must adopt cooperative leadership behaviours in dealing with staff and other stakeholders to garner their commitment and drive continuous improvement.
5. Principals and presidents need to be supportive of QA implementation in their institution. They should also be trained in QA mechanisms and techniques.

6. Both QAOs and top leaders must ensure that a formal succession plan is created outlining the continuity of a quality culture in the institutions. Also, best practices in Human Resource Management should be employed to ensure the appropriate orientation of new QAOs.
7. There is scope for further research in the area using a mixed method and other designs. Likewise, further studies could also include examining the accomplishments of the QAOs since they have been in their positions.

Limitations

This study has potential limitations which may have impacted the findings. These include the fact that the researcher is new to conducting phenomenological research, and the limited literature which served as a reference point for discussing and analysing the findings. Likewise, more time could have been spent on this research project.

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JOURNAL OF ARTS SCIENCE AND TECHNOLOGY

School Observation:

A Conduit for Re-imagining Teacher Development

KARNETTE BATCHELOR EVERING
University of Technology, Jamaica
Email address: karnette.evering@utech.edu.jm

Abstract

School observation is a crucial component of the teaching practice experience for student-teachers in their first year of training. This exercise provides the initial opportunity for student-teachers to understand and adjust their thoughts about the teaching profession. It affords first-hand experience of the dynamic realities of the classroom environment, allowing them to observe a variety of teaching methodologies employed by experienced teachers. The purpose of this correlational longitudinal study was to examine the experiences of Technical and Vocational Education and Training (TVET) student-teachers at school observation. The study tracked their journey throughout their teacher preparation practice. It examined their attitudes, perceptions and understanding of teaching and compared the changes from first year school observation to fourth year teaching practice. Data collection measures included reflections, interviews and surveys. Releasing the imagination theory will guide the discussion on students' observation experiences. Thematic analysis was used to analyse the reflections. The preliminary findings from a purposive sample of fifteen students' reflections indicated that they approached the observation exercise with much enthusiasm, anxiety and uncertainty. At the end of the exercise, some were interested in the teaching profession, while others were disinterested. Also, some student teachers reported being encouraged to remain in the profession. The findings highlight the significance of experiential learning and its role in producing 21st-century teachers to meet the demands of the classroom.

Keywords: School observation, student-teachers, technical and vocational education and training (TVET), experiential learning, longitudinal study

Introduction

One of the most effective and fundamental components of teacher education is learning through practicing (Allen et. al., 2019). This concept of 'learning by doing' was coined by John Dewey and highlights the significance of hands-on experiences in education. To practice, it is recommended that observation takes place. School observation/ classroom observation/ off-campus observation/ field observation/ early field observation is an important component of the teaching practice experience for pre-service or student-teachers. Its use creates opportunities to examine teacher practice at different levels of teacher education programmes (Brouwer and Korthagen, 2005). It allows pre-service teachers the opportunity to develop relationships with more experienced teachers and learn various teaching styles and effective classroom management (Hudson et al., 2010). It also enhances the theoretical aspects of knowledge by connecting the concepts taught in the training programme with the needs of the teaching profession and creates opportunities for student-teachers to connect theory learned to practice (Walden, 2005).

In Jamaica, teacher education programmes are typically offered by teachers' colleges. However, there are also universities such as The University of Technology, Jamaica and The University of the West Indies, along with other training agencies that offer training in teacher education. These institutions offer teaching programmes at the early childhood, primary and/or secondary educational levels. They may also offer postgraduate training in specialised subject areas or initial teacher education training. In general, the teaching curriculum entails pedagogy or education courses, specialised subjects and supervised practicum to include a research project (Miller & Roofe, 2013). The teacher training programme has evolved over the years, from a certificate to a diploma to a bachelor's degree in education. The duration of study ranges from 3 to 4 years for the bachelor's degree (Roofe & Miller, 2013) and offers both full-time and part-time options.

To enter a teacher education programme in Jamaica, one must complete high school/ secondary education successfully or already have a teaching diploma with the intent to matriculate (Evan, 2006). When a student-teacher graduates, he is expected to register with the Ministry of Education and the Jamaica Teaching Council (JTC), the agency responsible for regulating the teaching profession, to be eligible to teach at a public or private school, in the specialised field/area studied.

Background of the Problem

Based on reflections, observations and informal conversations with year one students (who entered in 2022) in a Technical and Vocational Education and Training (TVET) teacher preparation programme at a tertiary institution, and lecturers in the same school, over a period of two years, student-teachers' attitudes, perception and understanding of teaching have shifted. Being exposed to the realities of the school climate and the teaching - learning environment, there has been a change in the mindset of some student-teachers. Some found teaching to be boring, tiring and strenuous with much anxiety, hesitance and uncertainty while others found it to be interesting, intriguing and exciting. Some student-teachers also entered the institutions to observe, with little or no interest in teaching. The image of the teaching profession (positive and negative) also played a pivotal role in the perceptions and mindset of student-teachers. This image ranges from low wages to lack of resources and an increase in school violence.

In order to complete the Bachelor of Education (B.Ed.) Technical and Vocational Education and Training (TVET) programme at the University of Technology, Jamaica (UTech, Ja), one has to complete four years of training in the School of Technical and Vocational Education (SOTAVE), which is housed in the Faculty of Education and Liberal Studies (FELS). The school observation exercise is a major component of the module 'Becoming a Teacher', which is offered within the first semester of the first year of the programme. To successfully complete this module, student-teachers are engaged in one week of school observation in the month of November. This is where they are assigned to a secondary school to get a first-hand view and knowledge of the dynamic realities of the classroom environment (Grootenboer, 2006). During the exercise, student-teachers observe various aspects of the teaching and learning environment and journal their observations of the happenings for each day, with the assistance of a school observation guide prepared by the University through the office of the Teaching Practice Coordinator. Additionally, the school observation guide includes forms that require student-teachers to provide information such as the name and address of the school being observed, name of Principal/ Vice Principals, teachers and subjects observed as well as grade levels and dates of observation, classroom layout, number of students in class and their genders. At the end of each session, the observed teacher signs a prepared log sheet acknowledging the presence of the student-teacher during the session. The classes observed are not limited to their field of specialisation as student-teachers do not observe the accuracy of

content. Instead, they are expected to observe teaching methodologies, classroom behaviour management strategies, assessment methods, student-teacher relations and general school climate.

Student-teachers are also expected to maintain a journal and submit a reflective paper at the end of the observation period. Studies have indicated that reflective practices contribute to developing self-awareness, critical-thinking skills and professional competence among pre-service and in-service teachers (Farrell, 2015). The importance of journaling and reflective writing is also supported by Moon (2004), who posits that journaling and reflective writing are integral in engaged learning and teacher preparation as they provide deep insights into the knowledge, beliefs and experiences of the student-teacher. Similarly, this is supported by (Chabon & Lee-Wilkerson, 2006, p.151), who opines that journals serve as a means of reflection on practice and build ongoing records of these practices. They also support reflective journaling as it constitutes an "honest examination of values, feelings, beliefs, recognition of preexisting biases and assumptions; connection of new experiences with prior learning; and modification of development of new perceptions or perspectives about themselves, others, and the learning process.

The reflection should describe evidence of learning and classroom discoveries, their experiences, including hopes, fears, expectations, attitudes, perceptions and understanding of teaching, observations, problems encountered, memorable moments, views on teaching strategies and classroom behaviour management observed and the interrelatedness of theory and practice. School observation introduces student-teachers/pre-service teachers to the challenges and issues concerning teaching as a practice as they observe and learn the types of behaviours displayed by experienced teachers. Additionally, it provides an early opportunity for student-teachers to understand and adjust their views of the teaching profession, contributing to their overall professional development.

Significance of the Study

The findings of this longitudinal study will contribute to the body of literature in TVET teacher education. It will also serve to help school leaders, programme developers and managers, and policymakers to strengthen their teacher education programmes, making them more attractive and 21st-century ready. Additionally, the findings of this study will help to create a stronger model for teacher preparation and practice in teacher-training colleges and other teacher-training institutions

nationally and internationally. Policymakers may also be able to acknowledge the gaps in the education and training system that need to be addressed.

Purpose of the Study The purpose of this correlational longitudinal study is to explore the experiences of Technical and Vocational Education and Training (TVET) student-teachers who engaged in school observation (2022 cohort). The study is also aimed at tracking the journey of these TVET student-teachers to the end of their teacher preparation practice (AY 2025-26). It will also investigate their attitudes, perceptions and understanding of teaching and compare the changes from school observation in year one to their final practicum exercise in year four.

Research Questions

This research will seek to answer the following questions:

1. What are the experiences of TVET student-teachers on school observation?
2. What are TVET student-teachers' attitudes, perceptions and understanding of teaching?

Releasing the Imagination Theory

To guide the discussions on students' school observation experiences, Greene (1995) Releasing the Imagination Theory was utilised. This theory emphasises the importance of imagination in various modes of learning, including cognitive modes, and the prospective for social change. It focuses on several themes, including the arts and aesthetics, multiculturalism and the tensions and passions of caring. According to Greene (1995), it is essential to balance vocational training with the development of the imagination and new visions of our future teachers for them to develop an understanding of diverse perspectives and 'breakfree' from traditional thinking. To develop this social imagination in our students, she opines: "We who are teachers would have to accommodate ourselves to lives as clerks and functionaries if we did not have in mind a quest for a better state of things for those we teach and for the world we share. *It is simply not enough for us to reproduce the way things are*" (Greene, 1995, p1). This approach creates the climate for a more expressive and inclusive environment.

Greene's concept of social imagination is seen as a powerful framework for discussing student-teachers' reflections. Some of its key areas support the view that social imagination can be used as a lens through which student-teachers reflect on their experiences. Through these reflections, they can consider how their experiences differ from those of others and how they can frame their future

experiences. This involves interacting with students and educational environments (such as off-campus field experiences) and reflecting on teaching practices. The Social Imagination Theory is also applicable in real-time as student-teachers carry out 'reflection-in-practice (during the lesson) and adjust their attitudes, perceptions and understanding based on these ongoing experiences. The primary goal of Greene's social imagination theory in reflection is not only for retrospection but also to consider what could be. It entails being 'wide-awake' to the possibilities of teaching and learning. Additionally, the theory can help student-teachers imagine and develop alternative approaches and strategies to improve teaching as a practice. In support of the social imagination theory and reflective practice, Lyons (2010) opined that "the ideal of professional education shifts focus from knowledge alone to the way one thinks and acts, including engaging in reflective thinking processes for professional practice and learning and developing necessary character traits." Studies have also indicated that reflective teaching joins theory and practice in a logical, practical and practicable manner.' (Mathew, Mathew & Peechattu, 2017; Al Ahdal & AlAwaid, 2014).

During an engagement in school observation, pre-service teachers can internalise the philosophy of 'learning by doing' through engagements with students and reflecting on their experiences (Stephens, 2011). Through this experiential learning, pre-service teachers can apply skills and knowledge to real-world situations (Ramirez, 2020). This also allows them to effectively engage in reflective practice and journaling, observe best practices and develop their own teaching and learning techniques.

Literature Review

In this literature review, the following themes are explored as experiences of pre-service teachers while engaged in school observation: classroom environment and classroom behaviour management. Additionally, the themes of anxiety, nervousness, uncertainty, and rewarding careers will be explored as attitudes, perceptions and understandings that pre-service teachers have of the teaching profession.

Classroom Environment

"The classroom environment should do as much to foster cooperation and acceptance as the instructional methods the teacher uses" (Bucholz & Sheffler,

2009). According to Adeyemo (2012) when a welcoming, safe and secure classroom is created, it will positively impact students' academic performance. Similarly, researchers and educators alike have proven that the total classroom environment should be pleasant, comfortable and psychologically uplifting. The physical setting should provide educational stimulation, create a feeling of wellbeing among the students, support the academic process (Adeyemo, 2012). In an explanatory sequential mixed methods research by Abas (2016) in the Philippines, the focus was on the perspectives of graduating pre-service teachers regarding difficulties during their field observation. Data was collected through questionnaires, surveys, focus group interviews and key informant interviews from 136 respondents through stratified random sampling. The findings indicated that pre-service teachers had overall moderate difficulties during field observation related to the students, assigned tasks and learning environment. On the contrary, a qualitative phenomenology study by Lester & Cuayzon (2024) investigated the lived experiences of five pre-service teachers from Adamson University during their internship. It sought to identify the challenges faced and the professional growth the pre-service teachers experienced using Clark Moustakas' phenomenological reduction to analyse their narratives. The findings indicated that pre-service teachers experienced significant challenges adapting to diverse learning environments and managing classroom dynamics. In support of this, Obispo, K. P. C. (2023) engaged in a qualitative study with a phenomenological design titled "Experiences and challenges encountered by the pre-service teachers in a community immersion pogram." The study focused on the lived experiences of pre-service teachers from their own perspectives. Thirty-two (32) pre-service teachers from a local higher education institution in Olongapo City, Philippines were involved, and data was collected via interviews and observations. Aspects of the findings indicated that the main challenges pre-service teachers experienced were aligned with the class environment, such as managing diverse student needs and adapting to different classroom settings.

Classroom Behaviour Management

To prepare teachers who will work responsibly and intelligently in an increasingly diverse society, we need teachers who are willing to think and act 'outside the box' and challenge the 'taken-for-granted text,' routines and schooling arrangements through active participation in critical and systematic inquiry (Cochran-Smith, 2004). One of the most challenging areas of classroom practice for pre-service and

in-service teachers is student behaviour and classroom behaviour management. This has been reported as a serious concern for pre-service teachers (McNally, I'anson, Whewell & Wilson, 2005). Similarly, Lewis, Romi, Qui & Katz (2005) opined that disciplinary issues are rated as the leading causes of stress and burnout among educators. This, therefore, makes effective classroom behaviour management one of the most 'persistent perceived needs' of pre-service teachers (Ayers, 2004). It is the view that principals and other administrators think highly of those teachers who are skilful in classroom behaviour management and can control disruptive students. This often puts a strain and burden on pre-service teachers as they are aware that their assessment is mainly dependent on their ability to effectively manage bad behaviours in their classes as well.

Abas (2016) conducted a qualitative study examining pre-service teachers' perceptionsof five major fields of the teacher education programme in the Philippines. This study analysed their experiences while doing off-campus observation in selected secondary schools. Data was collected from 136 pre-service teachers through open-ended questions, focus group interviews and a key informant interview. The results showed that student-teachers' experiences were mostly related to students' attitudes and behaviours. These were desirable and undesirable behaviours and attitudes of both teachers and students. A closer examination of the findings revealed that good attitudes of both students and cooperating teachers, good guidance and enhanced skills of pre-service teachers and active participation were identified by pre-service teachers as the most popular experiences, while, students' unpleasant attitudes were the only experience student-teachers deemed undesirable in all five programmes. This indicates that students' bad behaviours and attitudes are still a major problem in schools and must be addressed through effective classroom behaviour management techniques.

Anxiety, Nervousness and Uncertainty

A teacher's work is often as strenuous and always changing. This, it is said, makes the profession demanding and often stressful (Korte et al., 2023; Rasanen et al., 2020). It has been argued by Husu & Toom (2016) that today's teacher needs a greater capacity to handle the uncertainties, incomplete tasks and the dynamism of the profession itself. Studies have also indicated that both working as a teacher and learning to become one are quite emotional journeys that can significantly impact pre-service teachers' identities and the way they learn to become teachers (Lindqvist et al., 2017). In addition, pre-service teachers often feel inadequate and

uncertain as they strive to meet society's expectations of teachers. If these student-teachers cannot fit the 'ideal' teacher mold, it could lead to severe discomfort and further amplification of their uncertainties regarding being suitable or even interested in the teaching profession. To further develop the point, Korkko, Lutovac & Korte (2024) examined the experiences of Finnish pre-and in-service teachers' experiences of inadequacy and uncertainty in the teaching profession. Data was collected from 37 pre- and 21 in-service teachers through written narratives on teacher work. The findings of this research suggested that feeling inadequate and uncertain stemmed from various factors. These include heavy workload, unsure of expectations, the lonely nature of some teaching responsibilities and the demands of the teaching curriculum.

Rewarding Career

As students, student-teachers have observed teaching for many years and have a good knowledge of what it means to work as a teacher. Darling-Hammond (2017) postulates that these early acquired beliefs should be challenged in teacher-preparation programmes as they hinder student-teachers' who are learning to become and develop as teachers (Westwick & Morris, 2015). Dorsah, Abukari, Tindan & A-Ingkonge (2022) conducted research aimed at identifying pre-service teachers' experiences during supported teaching in schools in Ghana. This was carried out through a qualitative approach with a phenomenology design. The findings indicated that pre-service teachers gained experience in classroom instruction, inclusive pedagogy, community of practice, and classroom management. They also developed a positive perception of teaching as a profession. This is supported by Grytsyk, N., Smolina, S. (2024) who engaged in a study titled 'Piloting the impact of classroom observations for pre-service teaching practice evaluation." Data was collected through surveys, which were used to analyse checklists. The checklists were completed by both bachelor's and master's pre-service English teachers while they developed their observational skills during teaching practice. The study's findings indicated that classroom observation is significant in enhancing pre-service teachers' professional growth and providing real-life experiences.

Obispo, K. P. C. (2023) conducted a qualitative study with a phenomenological design titled "Experiences and Challenges encountered by the Pre-service teachers in a Community Immersion Program." The study focused on the lived experiences of pre-service teachers from their perspectives. Thirty-two (32) pre-service teachers

from a local higher education institution in Olongapo City, Philippines, were involved, and data was collected via interviews and observations. The findings showed that pre-service teachers' desire to pursue teaching was reinforced. They also deemed the programme motivating and inspiring. They indicated that the programme gave a glimpse into the real world of teaching, where they learned and identified methods of classroom behaviour management and how to deal with different learners. The study also recommended that more time be allocated to community immersion programmes as they prepare pre-service teachers better for real-world teaching scenarios.

Gaps

Most of the literature on student-teachers' experiences was done outside of Jamaica. The researcher was unable to find literature explicitly related to TVET teachers. Research on school observation in the context of this paper was limited as most of the literature obtained referenced school observation exercise as teaching practice/teaching practicum, which is done in the final year of the teacher education programme. There were also very few studies found on the experiences of student-teachers while on school observation in the true context of this study. Therefore, this research will seek to fill the gap in existing literature as it relates to TVET teacher preparation programmes and,more specifically. student-teachers' experiences while engaged in school observation.

Research Methodology

Research Design

The research will take the form of a correlational longitudinal study. This was chosen as it examines changes, and studies how processes take place and impact each other over extended periods of time. Longitudinal studies have long been used to determine factors that describe changes among individuals over a long or short-term period. Additionally, they "analyse the causes of interindividual differences in intraindividual changes" (Baltes & Nesselroade, 1979).

The longitudinal design examined the same individuals over the period of their teacher-education training at the University of Technology, Jamaica to detect, track and provide a strong framework for understanding any changes and development that might occur during the period of their training (Thomas, 2020). Data was

collected from the same sample at the end of their teacher-education training.

Sample

The sample for this study was drawn from students enrolled in the B.Ed. TVET programme at the University of Technology, Jamaica. The criterion for selecting this programme is that it provides teacher education training and includes modules that emphasise and demonstrate the importance of reflective practices. A purposive sampling technique was used to select 15 students who participated in school observation exercise in 2022. They represented Business and Computer Studies, Industrial Technology, and Food Service Production and Management programmes. There was no age or gender barrier. However, only student-teachers with no teaching experience were selected to participate.

Total sample size is (n=15).

Data Collection

To ensure triangulation and a full understanding of the research questions, a variety of data collection methods were considered. These methods are reflections, interviews and surveys. However, for this paper, reflections will be shared. Student-teachers were asked to keep a journal throughout the week of school observation and to prepare open reflections on their overall experience over the period. These documents give vital insights into the thoughts of pre-service teachers and allow for tracking of any changes in their attitudes and practices (Moon, 2006). They were also provided with guided questions to assist in the process. However, they were not limited to the scope of these questions. The reflections were submitted via email and were coded numerically based on the order of receipt.

Data Analysis

Creswell's (2022) thematic analysis was adopted to analyse the student-teachers' reflections. The researcher became familiar with the data by reading and re-reading the reflections. A coding system with initial codes and codes to be added was recorded assigned accordingly. Significant statements within the reflections were extracted, and recurring themes were identified and created based on patterns observed. These themes were then used to present the preliminary results of the study.

Ethical Issues

Several ethical principles were considered during the study, including informed consent, anonymity, privacy and the duty of confidentiality. Ethical clearance was sought from the **University Ethics Committee**.

Informed Consent

A consent form was sent to participants, fully disclosing the purpose and scope of the study and inviting them to participate (Fleming & Zegwaard, 2018). Participants were informed that their identities would not be disclosed before, during or after the process and that the records would be secured on a password-protected computer. The necessary considerations were also taken to ensure that risks that could possibly emerge because of information provided by participants were minimised.

Anonymity and Privacy

Pseudonyms and codes were used to represent participants and their institutions to protect their identity (Creswell, 2016). Participants were informed that they had the right to withdraw from the study at any point if they felt uncomfortable or threatened.

Results

The preliminary findings of this research indicate that the classroom environment and classroom behaviour management formed a crucial part of pre-service teachers' school observation experiences. Anxiety, nervousness and uncertainty, and teaching as a rewarding career formed a major part of the attitudes, perceptions and understanding that pre-service teachers have of the teaching profession.

Classroom Environment

The study revealed that student-teachers were active observers in the school observation exercise and described the classroom learning environment as generally vibrant, positive, alive and engaging. They also described the general classroom environment as inclusive, where students felt comfortable sharing their thoughts and ideas. The classroom climate was also described as warm,

where teachers demonstrated genuine care and love for their students. Samples of respondents' narratives are outlined below:

> "Learning environment was vibrant." – RR2
>
> ". . . Positive and inclusive learning environment . . . alive and engaging." – RR2 & RR8
>
> ". . . mutual respect between teachers and students . . ." – RR1, RR2, RR3, RR4 & RR8

RR2 was impressed with the level of dedication and passion the educators demonstrated. RR2 also observed the enthusiasm of teachers to deliver their content and to interact with their students. "They demonstrated genuine care for the students and greeted them warmly each morning." RR5 & RR8

Classroom Behaviour Management

Respondents spoke of being concerned about this area. However, it was observed that in most cases, the teachers managed their classes well. Samples of respondents' narratives are outlined below:

> "Unruly students were one of the deterrents that made me dislike the teaching profession. However, the way teachers managed the challenges made me more hopeful for teaching as a job."– RR7
>
> "Some students appeared to be out of control and feared by the teachers." – RR4
>
> "Today, the teacher had to send for the Dean of Discipline to assist with class control." – RR10
>
> "It is evident that this teacher has the students under control. She doesn't shout at the students, and they listen and fall in line.."- RR8:

Anxiety, Nervousness and Uncertainty

The findings indicated that feelings of nervousness, anxiety, uncertainty, hesitancy and worry were hallmarks of the attitudes, perceptions and understanding that student-teachers have toward teaching. However, as the days of school observation progressed, some of those feelings dissipated. Samples of respondents' narratives are outlined below:

> "I was very nervous since it was my first time attempting this venture."– RR1
>
> ". . . feelings of anxiety and anticipation. I was hesitant and slightly worried" – RR4

"I was a bit apprehensive and unsure of what to do. . ." – RR9

". . . I was nervous because I didn't know what to expect." – RR7

Rewarding Career

Despite the negative attitudes and perceptions described by some student-teachers, others have described it as a rewarding career for various reasons. Some have even expressed a greater interest in the profession. Samples of respondents' narratives are outlined below:

"The exercise solidified my decision to become a teacher." – RR6

"I see teaching as a rewarding career not for the money but because you can make a difference in even one student's life." – RR10

"I always saw teachers as the backbone of society and hoped others would for the worst but genuinely hoped for the best." – RR4

"This experience has not only broadened my understanding of effectiveeducational practices but also served as a source of inspiration for my own professionalgrowth." – RR2

"I think teaching is my calling and I will enjoy my profession despite the challenges that teachers face on a daily basis." – RR6:

Discussion

The preliminary findings from a purposive sample of fifteen student-teachers' reflections indicated that student-teachers generally had similar experiences while on school observation. They revealed that classroom environment and classroom behaviour management were deeply observed. It was also found that student-teachers approached the observation exercise with great enthusiasm, anxiety and uncertainty. However, at the end of the exercise, some were interested, while others were disinterested in the teaching profession. Some were also encouraged to stay in the profession as they deemed it rewarding based on their classroom observations. Additionally, the findings vealed the significance of experiential learning and its role in producing 21st-century teachers to meet the demands of the classroom environment.

Research question 1, asked. What are the experiences of TVET student-teachers on school observation? Their experiences, as outlined in their narratives, were mainly situated under the themes of classroom environment and classroom

behaviour management. These play a critical role in the teaching and learning process and were found to be the highlight of the school observation exercise. These preliminary results generally agree with the literature surrounding the experiences of pre-service/ student-teachers on teaching practice school/ field observation.

Research question 2 asked, What are TVET student-teachers' attitudes, perceptions and understanding of teaching? Based on the frequency of responses, the themes of anxiety, nervousness, uncertainty and teaching as a rewarding career were derived. Student-teachers observed the experienced teachers' modes of operation and found teaching a rewarding career despite its challenges. The literature explored was closely aligned with the findings of the study. The findings revealed that a sense of anxiety, uncertainty and nervousness may stem from several factors and appear to be a staple in the work of teachers, closely related to mental strain and stress. First-hand pre-service teachers recognise observe, and can relate to the challenges of the teaching profession as they prepare for such roles in the future. This knowledge and observation help to heighten the level of uncertainty and anxiety.

Greene (1995) Releasing the Imagination Theory emphasised the practice of reflective writing as it improves pre-and in-service teachers' practice in several ways. This was also supported by the literature explored and is a major component in most modules delivered to these pre-service teachers. As these pre-service teachers journey through their studies, they will engage in other aspects of teaching practice, which will also require them to engage in reflective practice. Through these reflective activities, they will effectively complete their capstone /action research projects. Reflections enabled student-teachers to develop self-awareness and classroom behaviour management techniques to use with their future students. Most pre-service teachers expressed the idea of inclusivity and creating a vibrant and positive classroom environment as areas they observed carefully and found great joy and hope in experiencing. This is in alignment with existing literature which emphasises the merit of reflective practice in fostering a culturally competent and inclusive classroom climate (Brookfield, 2017; Gay, 2018).

Conclusion

This study examined the experiences of Technical and Vocational Education and Training (TVET) student-teachers, cohort 2022, on school observation/ off-campus observation. It also examined the attitudes, perceptions and understanding

that pre-service teachers have regarding teaching and compared the changes from school observation in the first year to final teaching practicum in fourth year. Additionally, it outlined how journaling and reflective practices enhance professional practice and link theory and practice in a logical manner. It also emphasised that journaling and reflective practices assist student-teachers with tracking their personal and professional progress and planning for the future. This study is beneficial to teacher education as it highlights the importance of reflections in teacher education programmes and the best practices observed in our Jamaican secondary schools.

Recommendations for future research include conducting interviews and having pre-service teachers complete survey instruments. Additionally, as a longitudinal study, the study will continue to explore how these pre-service teachers' attitudes and perceptions about teaching have changed over time.

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Exploring Advisors' and Advisees' Views of Academic Advisement at a Tertiary Institution in Jamaica

CLAUDINE CAMPBELL, CYNTHIA ONYEFULU, ALICIA WILLIAMS, LEONIE SIMMS, HEATHER THOMAS-FINLAY
University of Technology, Jamaica

Abstract

Academic advisement is an important aspect of student retention and success at the tertiary level, involving two main players:advisors and advisees. Academic advisement as an aspect of quality assurance has been widely studied for many years, although precise definitions vary across localities. Despite this, advisors and advisees continue to experience significant challenges, such as the students not knowing their advisors and not meeting with them during their studentship. The purpose of this study is to determine advisors' and advisees' perceptions of the academic advisement process, to determine the challenges advisors and advisees face in academic advisement, and to hear from stakeholders how the process could be improved. The study was guided by five research questions and an exploratory qualitative case study design. Purposive sampling was used to recruit 13 advisors and 44 advisees (n = 57). Three data collection methods were used: interviews, questionnaires for advisees, and document reviews. Data analyses included descriptive statistics for the questionnaires, thematic analysis for the interviews, and content analysis for the document reviews. The results revealed that advisees and advisors perceived academic advisement as important . Conclusions from the study are that the advisement process needs a more systematic approach, and academic advisors should be trained and provided with the appropriate institutional support.

Keywords: Academic advisement, quality assurance, student success, tertiary education, higher education

Corresponding Author: Claudine Campbell – CACampbell@utech.edu.jm

Introduction

Academic advising or advisement is a collaborative process involving professional skills, knowledge, and communication to assist students in completing their studies (Larson et al., 2018). It is a crucial process in students' academic success and vital to the academic faculty goals of learning institutions (El-Sheikh et al., 2019). Elnibras (2023), citing Tewary et al. (2020), stated that academic advising is "a situation in which institutional representative gives insight or direction to the college student about academic, social, or personal matter" (p. 251). Academic advisement is targeted to improve students' learning experience and maintain their success (Elnibras, 2023; Trombone & Strydom, 2021) and contributes to institutional solid retention plans (Rattin, 2024).

The two main groups in this process are the advisors and advisees. The academic advisors are faculty members whose primary role is to provide students with comprehensive academic services, including academic advising, performance assessments, graduation checks, and other topics relevant to students' success (Cheung et al., 2017; Lee & Metcalf, 2017). Generally, advisors are equipped with analytical and personal interaction skills to fill several roles. Advisors support students in multiple ways, including helping with registration, informing students of the university's policies and resources, monitoring students' performance, conducting orientation sessions, and providing career guidance (Ivywise, 2022). Advisors usually meet regularly with their advisees to fulfil these functions. During the meetings, academic advisors' roles also include providing students with the necessary information about campus services and the connections between these services and the students (Rattin, 2024). Other terms used when referring to advisors are advocates, coaches, personal tutors, and mentors (Flaherty, 2023; McGill et al., 2020). Orr (2023) noted that academic advisors are essential in higher education institutions and contribute immensely to student success. Menke et al. (2020) note that the field of academic advisement has evolved from a prescriptive process that only provides curricular information to a developmental process involving problem-solving and decision-making skills. They also note that despite the expansion and development over the years, a lack of clear boundaries and practices in the roles and responsibilities of academic advisors still exists.

Background of the Study

The academic advisement process is formal and structured at the selected tertiary institution. An academic advisement manual and policy were developed, approved and made accessible to guide academic advisors and advisees. These guidelines include that academic advisors must meet with their advisees via an initial group meeting. Subsequent meetings can be held on a one-to-one basis unless a common problem among advisees arises, then a group meeting can be called. The one-to-one meetings can be initiated by either the advisor or advisee. Specially designed forms were developed to formalise the process so that advisors can track students and follow up on issues so that they are resolved promptly.

Statement of the Problem

In a review of the process at the university under study, the University Council of Jamaica (UCJ) (2018) flagged academic advisement as one of the critical student processes that needs significant improvement. The UCJ reported insufficient academic advisement practices at the faculty/college level. They also found a high level of non-submission of advisement reports from academic advisors. The university policy is that all academic advisors must submit academic advisement reports at the end of each semester. The UCJ flagged the academic advisement process primarily due to the low number of submitted reports.

Academic advisors and advisees have also complained about their negative experiences with the process. On the one hand, students have stated their dissatisfaction with the quality of guidance from academic advisors. On the other hand, academic advisors have explicitly complained that the advisement process is time-consuming and tedious. Academic advisors also stated that the process is too formal and involves completing forms. They shared that this is an uncompensated, onerous, and additional duty and responsibility. Advisors noted that most students do not seek advisement; some seek it only when experiencing a challenge.

Purpose of the Study

The purpose of this study is threefold: First, to determine advisors' perceptions of the academic advisement process, second, to determine the challenges advisors and advisees face in academic advisement; and third, to gather suggestions from the advisors and advisees on how the process could be improved.

Research Questions

The overarching research question is: *How is the academic advisement process conducted at a selected tertiary institution in Jamaica?* Five specific research questions were generated from this question.

1. What perceptions do academic advisors have on the academic advisement process at a tertiary institution in Jamaica?
2. What are the advisees' perceptions of the advisement process?
3. How do advisors conduct academic advisement when meeting advisees?
4. What are the perceived challenges in the academic advisement process?
5. What are the recommendations to improve the academic advisement process at this institution?

Delimitations of the Study

The study focused on academic advisement at the undergraduate level. Therefore, it did not include advisors involved in the graduate advising process. Furthermore, the study focused on academic advisement practices and experiences of advisors and advisees in one faculty.

Significance of the Study

The results of the current study will be beneficial in several ways. First, the study will add to the knowledge of academic advisement in Jamaica. Second, it will shed light on challenges and possible solutions for improving the processes and practices of academic advisement. Finally, if the process is improved, it will lead to a better student experience and may improve student retention and graduation rates.

Review of Literature

The reviews were done by searching Google Scholar and EBSCO Host using 'academic advisement', 'advisors' and 'advisees', 'higher education', 'quality assurance', 'student success', 'tertiary education', and 'undergraduate studies' as keywords. The review is presented based on themes generated from the research questions, including:

- Advisors' perceptions of academic advisement
- Advisees' perceptions of academic advisement

- How academic advisement is conducted
- Challenges in the academic advisement process
- Improving the academic advisement process

Advisors' Perceptions of Academic Advisement

Advisors are at the forefront of academic advisement and, therefore, are among the stakeholders with experience and information about the process (Troxel et al., 2021). In this section, studies on the advisors' perceptions were reviewed. These include studies by Aiken-Wisniewski et al. (2015), Menke (2020), Moosa (2021), Orr (2023), and Van and Said (2018), to mention a few.

Aiken-Wisniewski et al.'s (2015) study was on advisors' perceptions of advising as a profession. These authors stated the four characteristics a profession should have: education, sole jurisdiction, self-regulation, and public service. A phenomenological research design was used to determine advisors' perspectives about academic advisement as a profession. The results, among other things, showed differences in the perceptions of advisement as a profession because the advisors experienced the process differently. Aiken-Wisniewski et al. noted the need for clarity on the tasks and responsibilities performed by academic advisors, which, if not addressed, would influence the practice of advisement. Similarly, Menke et al. (2020) studied the perceptions of 181 academic advisors in public and private institutions in the United States. Their study revealed that advisors gave high ratings to the items that measured their perceptions of the importance of academic advising tasks in core competencies (informational, relational, & conceptual areas).

Van and Said's (2018) qualitative research study on advisors' perceptions of academic advising implementation at public universities in Malaysia showed that advisors and advisees had a close relationship. The academic advisors' perceptions were favourable because they believed that the process helped the students in several ways, such as course registration, managing their studies, knowing about policies and regulations, and planning to achieve good academic performance (Van & Said, 2018). Orr (2023) used a qualitative research study to explore academic advisors' attitudes and competencies in conducting academic advisement with students who experienced substance use. Although this study focused on advisors' perceptions of students with substance use, it provided information on how such a group of students can be advised. From the advisors' responses, the study concluded that the advisors needed training on substance use to address the students' concerns more effectively and confidently since some of them lacked

knowledge on the topic, felt uncomfortable, and lacked confidence in discussing substance use. Orr (2023) noted the need for an intrusive advising model to be used, which would help advisors during the advising process.

Moosa (2021) conducted a descriptive case study to explore the perceptions of nine advisors on the value of advising students during the COVID-19 pandemic. The study revealed that advisors used multiple communication modes during the COVID-19 pandemic. However, email was mostly used because the advisors felt it was better to reach more students, although other modes, including Microsoft Teams, WhatsApp, Zoom, Skype, and telephone calls, were also used for advisement with students who had academic and/or personal issues (Moosa, 2021). Nevertheless, these advisors also expressed the challenges faced with advising students during the pandemic. These included, among others, technological issues, internet and electricity problems, adjusting to the transition from face-to-face to emergency remote learning, contextual, environmental, and resource challenges, as well as social inequalities.

In summary, in all the studies reviewed in this section, the authors examined the academic advisement process from the advisors' perspectives, showing their preferred methods of communicating with the students to the perceived challenges encountered. It also revealed the need for training to be able to do the job better.

Advisees' Perceptions of Academic Advisement

Elnibras (2023) used a descriptive cross-sectional design to explore 89 medical students' perceptions of academic advisement at the University of Tabuk in Saudi Arabia. The results showed, among other things, low student satisfaction with academic advising due to the lack of understanding of the functions of academic advisors, advisor unavailability for meetings, and general lack of assistance. The results indicated the need to improve academic advising to enhance student knowledge and attitude and increase satisfaction toward academic advising. El-Sheikh et al.'s (2019) cross-sectional study focused on developing corrective measures to improve the academic advising process for both academic advisors and students in the Faculty of Nursing at Mansoura University in Egypt. Their study revealed that the students agreed that their advisors performed their role commendably. This is consistent with the study by Alshuaybat (2021), who found that Al-Shoubak University College in Jordan students were satisfied with their academic advising process. Alshuaybat's study showed that the students were aware of the academic advisement due to their advisors' willingness to inform

them. The study also showed that the academic advisors were present in their offices during the process. Gudep (2007) also found that the advisees at Skyline College in Sharjah in the United Arab Emirates also showed satisfaction with their academic advisors because of their positive attitude towards their problems. However, the study by Saadeh et al. (2007) contradicted these findings. Their study showed that students at a university in Jordan were not satisfied with their advisors' performance during the academic advisement process.

Cheung et al. (2017) is one of the few studies focusing on building academic advisement consultation methods for Chinese students. Their study examined undergraduate students' views in universities in Hong Kong and found they had a positive attitude and experience. Tobi-David et al. (2018) conducted a comparative study of academic advisement practice in public and private universities in Nigeria using a survey research design with 560 undergraduate students and 85 faculty advisors. Their study revealed that academic advisement was at the developing stage, and many of the students believed that the process was moderate. They found differences in the respondents' perceptions of the advisors' knowledge of the university requirements, advisors' skills, and the type of university (public vs private), which impacted academic advisement practices.

Saba'Ayon's (2015) study used a mixed-methods approach to examine the perceptions of 185 students in a Lebanese university on the academic advising they received. The results showed that the students had negative perceptions of the academic advisement they received due to unsatisfactory experiences with their advisors. This is in contrast to the findings of Gudep (2007), who studied the attitude of 482 Emirati undergraduate students and found that they had positive attitudes toward advising. Furthermore, a cross-sectional study by Kannan et al. (2023) revealed that most nursing students and 88.0% of foundation year students, respectively, believed that the advising process impacted their grade point average (GPA).

How Academic Advisement is Conducted

Academic advisement is critical to the teaching and learning experience, supporting and guiding students as they navigate the academic journey. An overview of the literature has provided an appreciation of academic advisement, its intended goals, and the challenges associated with the process (McGill, 2019).

Each institution has a policy and/or a set of regulations that guide academic advisement. Academic advisors, in general, play different roles. These documents

outline the meaning of the process and the roles and responsibilities of advisors and advisees. According to Jamaludin et al. (2021), some of the roles of advisors are "promoting active learning, developing thinking skills, creating effective learning zones, promoting success, providing effective feedback, recognizing and creating learning windows, developing good relationships, developing learning pedagogy, enhancing motivation and accepting individual differences" (p. 20). Troxel and Kyei-Blankson (2020) also recognised the pedagogical aspect of academic advisement by noting that the primary function of advisors included teaching and facilitating student development.

The quality of information offered by academic advisers to advisees is crucial to assist them in progressing in their respective university programmes and to allow them to navigate future endeavours outside of their university life (McGill, 2019). Mu and Fosnacht (2016) supported this notation by stating that advisors help students connect their academic choices to their larger goals (academic, professional, & personal), thus fostering holistic development, which is important when shaping students' lives. Vianden and Barlow (2015) also added that the quality of advising positively impacts student's loyalty to the institution. Some students will seek the advice of their academic advisor when they experience difficulties; the majority would return to their advisors if the knowledge gained is deemed reasonable and factual and has helped them overcome their challenges. Sheldon et al. (2015) highlighted in their study that the advisor's autonomy supportiveness was the strongest determinant of students' overall satisfaction ratings. However, an advisor's availability and knowledge also play a significant role in these judgments, indicating that all three types of information are needed to predict global satisfaction with the advisor best.

As a result, satisfaction with advising is often linked to students' expectations of the advising process and perceived advisor behaviours (Anderson et al., 2014). This suggests that a pleasant advising experience enhances satisfaction and fosters confidence between advisors and advisees, increasing retention rates within universities. Habley (2004) and Smith and Allen (2014) also expressed the need for college student retention.

According to Ivywise (2022), academic advisors are adjacent career holders on the educational organizational chart to teachers, guidance counsellors, and professors. The author(s) purport(s) that the role of academic advisors is equally important as that of those directly involved in the teaching and learning process. Ivywise stated that academic advisors work closely with advisees to guide a successful outcome based on quality decisions or choices throughout their academic journey.

Awadh (2018) noted that the relationship is key to achieving students' academic success and outcomes. A similar view was expressed by Rattin (2024), who noted that in advising students, advisors provide students with needed information about campus services and help them make connections between them, which is vital to their retention and success in student performance.

In conducting academic advisement, the National Academic Advising Association [NACADA] (2006) has noted that academic advisement has its pedagogy, which involves teaching and learning and sets curricula, both academic and non-academic, such as extracurricular activities for students. The act of teaching and learning and the activities involved play a part in the quality of the academic advising process (as cited in Awadh, 2018).

A study conducted by the American Institutes for Research (AIR) at 47 colleges found that the split advising model is mainly used by colleges that practise the decentralised advising model (Feygin et al., 2022). This model assigns faculty and staff in different academic units and departments to students. These faculty and staff advisors are called 'transition-focused' advisors, who advise students until they have satisfied particular requirements (such as a specific number of credits or entry to specific academic programmes). Once the students satisfy the requirements, they are sent to an academic advisement unit office (Feygin et al., 2022). The advantages of this model are that the students build a relationship with the necessary academic supports, connect students to important supports which are non-academic, and assist students in selecting and enrolling in the correct courses/modules (Feygin et al., 2022).

In reviewing these best practices, careful attention was paid to how advising was conducted in various tertiary institutions. The literature review revealed that there is no standard model of academic advisement in higher education institutions. At the University of North Dakota, the hub-and-spoke model was implemented. This model comprises a central unit of Academic Core Advisors (ACAs), where each advisor serves a college or school. This central unit would be responsible for training, communication, and providing basic advising to students (Plumm & Borgen, 2023). This model's main advantages are that the core advisors offer support and guidance to schools and colleges, academic advisors and students; the core advisors help to improve staff satisfaction; and the core advisors offer assistance during peak advisement times. Other approaches to academic advisement are prescriptive, proactive, and development (Rattin, 2024). These models or approaches in conducting the advisement process are discussed below.

Prescriptive model. According to Troxel et al. (2021), in this model, the advisor's authority is a one-way flow of information from advisors to students who are not active in the process. Rattin (2024) added that consultation with an advisor is by appointment. The advisors are said to shepherd students by assisting them in course selection to meet their programme requirements and ensuring that students meet the prerequisites of the courses they select (Rattin, 2024). Citing other sources, Rattin noted limited interaction between advisors and students in the prescriptive model. This is because the "advisors play no significant role in the holistic development of students and generally have no interest in helping students identify long-term goals beyond their academic course of study" (Rattin, 2024, p. 18).

Proactive or Intrusive Advising Model. In this model, the advisors contact the advisees at critical stages in their studentship (Schwebel et al., 2008, as cited in Rattin, 2024). For instance, "(a) during the freshman year, (b) at the point of declaring a major, and (c) during grad checks prior to graduation" (Rattin, 2024, p. 19). Citing several sources, Rattin noted a higher retention rate for students in this model, and it was the preferred model by most students.

Developmental Advising. According to Troxel et al. (2021), this model focuses on shared responsibility between the advisor and the students, who are both actively engaged in information sharing. Rattin (2024) stated that this model emphasises the holistic development of students. According to Rattin, in this model, advisors meet with students face-to-face and one-on-one and use academic and development theory and practice to improve the decision-making and problem-solving skills of the students in the advisement process. This results in high student satisfaction, retention and graduation rates and reduces student isolation. Citing Crookston's work (1972), Rattin stated that the advising process shifts from the advisor to the student by making them more involved in college activities and events to gain the college experience at the same time, taking responsibility for their learning (Rattin, 2024).

In summary, no matter the model or combination of models used by the advisors during the process, the literature review has shown that a relationship between the advisors and advisees needs to exist, and both parties should be committed for the process to be effective and for student success to be achieved.

Challenges in the Academic Advisement Process

In an article for *Inside Higher Education*, Flaherty (2023) noted gaps in academic advising in the United States of America. For instance, there are variations in the roles of academic advisors. These include but are not limited to the lack of academic guidance for course registration, required courses to meet graduation requirements, and course sequence (Flaherty, 2023). Flaherty also noted variations in how advisees want their matters addressed. For instance, some students want their advisors to treat their needs holistically because they have different individual issues. Another challenge is how advisees access their advisors. Flaherty observed that while it was easy for some to meet with their advisors face-to-face or virtually, it was hard for others; furthermore, some advisees were assigned advisors while others had to find their advisors (Flaherty, 2023). El-Sheikh et al. (2019) also noted some of the challenges encountered in the academic advising process: (a) training for the academic advisors, (b) defining their roles more accurately, and(c) reducing their workload. One of the obstacles observed by Davidson et al. (2020) is that some students are unprepared for university life.

In summary, the review revealed several challenges in the academic advising process. Some are attributed to how the advisors perform their roles and responsibilities, while others are student-related. This points to the need for improving the process, which is discussed below.

Improving the Academic Advisement Process

Several authors have addressed the need to improve the advisement process and made varied suggestions. For instance, McGill (2019), in a literature review article, pointed to the need for a clearer definition of the field of academic advisement, the advisors' roles, and the role of the professional association. In the bid to improve the process, McGill (2019) discussed the three characteristics of academic advising that will be useful in finding solutions to obstacles: (a) *issues with scholarship*, such as "defining the field of academic advising, articulating the knowledge base, and conducting [the] necessary research to demonstrate effectiveness" (p. 89), (b) the *expansion of graduate programmes*, such as making it necessary to obtain graduate certification on advisement for advisors and (c) the establishment of an academic advisement community, such as the National Academic Advising Association (NACADA). McGill (2019) noted obstacles such as the need for training of advisors to perform the advising role, autonomy in carrying out their personal

and occupational duties, and the absence of a consistent administrative home for advising. Based on the challenges El-Sheikh et al. (2019) noted in their study, they suggested that the process could be improved by (a) holding university-level meetings for the exchange of knowledge and experiences, (b) selecting academic advisors who can perform the task accurately, and (c) ensuring that academic advising is in line with the quality assurance standards. Based on the study's findings in South Africa, Trombone and Strydom (2021) recommended continuous professional training for advisors. This view was also expressed by Gudep (2007), who also recommended technology and training to improve academic advisement. Other suggestions included using smaller groups or individual sessions for better results, peer advisers for support, and videos and flyers to spread information to advisees (Gudep, 2007). Troxel et al. (2021) also recognised the role of technology in academic advisement and the need for proper training for it to work effectively.

Steele and White (2019) suggested that advisors should scrutinise, discuss, and study educational policies and practices and be proactive in generating viable solutions (Steele & White, 2019). On the other hand, Troxel's (2019) study recommended improvement on the scholarship of student advisement through research, professional development, providing release time to people whose primary role is on student advisement and aligning academic advising within the teaching and learning mission of the institution.

McGill (2019) was not the only author who considered the professional aspect of academic advisement. McGill et al. (2020) also addressed the professionalisation of academic advising by using qualitative content analysis to examine academic advising literature on professional values, skills, behaviours, training, and continuing professional education and development. They believed that professionalising academic advising would promote excellence.

El-Sheikh et al. (2019) suggested corrective actions for improving the academic advising process. These include training sessions and incentives for advisors, establishing clear standards for selecting advisors, establishing a comprehensive academic advising regulation with quality assurance standards, declaring academic advisement in the orientation programmes for all new academic staff members and students, and evaluating the academic advising process.

Other solutions offered were establishing best practices in conducting academic advisement with university advisees and holding meetings within the first few days of the start of the semester at the university (Yale College, 2024). For instance, concerning meetings, Yale College recommended that advisors make known to advisees the dates and times for scheduled meetings in the first meeting. University

of Richmond (n.d.) concurred with holding the first advisor/advisees meeting during orientation. The literature, however, does not indicate a standard format for meetings between academic advisors and their advisees. Meetings last 15 minutes to half an hour. Advisors meet with students as a group in some cases and individually on other occasions. Each advisor seems free to conduct the collaborative meeting according to personal preferences and styles. This also suggests the need for standardization of how meetings are conducted.

Methods

Research Design

An exploratory case study was used. Exploratory case studies have a qualitative philosophical orientation (Bhatta, 2018) and are used to answer how and what questions (Yin, 2014). This design was used because it assisted the researchers in gaining a better understanding and an in-depth description of the phenomenon of academic advisement (Yin, 2014). Furthermore, this design was used because it allowed the researchers "to determine the feasibility of research procedures . . ." since it can be "a prelude to additional research efforts …" (Hancock & Algozzine, 2011, as cited in Hill, 2017, p. 42).

Selection of Site and Participants

The study was conducted at one university in Jamaica. This institution was intentionally selected due to ease of access. Within this university, one academic faculty was purposefully selected. Furthermore, 16 academic advisors (lecturers) and 50 advisees (students) were purposively selected across four courses of study because they had experienced academic advisement. The sample size was ($n = 66$).

Data Collection

Data methods included semi-structured interviews conducted via Zoom with the advisors, an online questionnaire created using Google Forms for advisees, and a document review used to understand the different aspects of the academic advisement processes. The interview and online questionnaire were used to gain a deeper understanding of the perceptions of the academic advisement process from the perspectives of the advisors and advisees (Merriam, 2014; Merriam & Tisdell, 2015; Yin, 2014).

Pilot and Main Studies

The interview schedule and online questionnaire were pilot tested in April 2024, while the main study was conducted in May 2024. Based on the pilot's findings, minor corrections were made to both data collection methods before they were used in the main study. The reliability coefficient for the pilot and main study were 0.977 and 0.980, respectively.

Trustworthiness and Authenticity

The participants verified the interview responses through member-checking, which is one of the criteria of trustworthiness, as recommended by Lincoln and Guba, as cited in Stahl and King (2020). This ensured that the researchers reported the participants' responses accurately and fairly (Korstjen & Moser, 2018; Noble & Heale, 2019).

Data Analysis

The interviews were analysed using Braun and Clarke's (2021) six-step thematic analysis. Content analysis was used to analyse the reviewed documents, such as the academic advisement policy, guidelines and reports. Simple descriptive statistics were used for the online questionnaire. These data analysis methods are consistent with the data collection methods used. An additional calculation was done to check the reliability of the online questionnaire.

Ethical Issues

The ethical guidelines for conducting educational research, as outlined by the British Educational Research Association (2018), and the Data Protection Act principles were observed. These included obtaining ethical clearance from the faculty research ethics committee, ensuring that the participants gave their consent before data were collected, respecting their rights, declaring a conflict of interest, and maintaining confidentiality and anonymity (Mirza et al., 2023).

Results and Discussion

Response Rate

There were 54 participants: 44 (88%) advisees responded to the online questionnaire, and 13 (81.2%) participated in the interviews. Daikeler et al. (2022) found that the average response rate of online surveys was 36%. According to Hennink et al. (2017), nine interviews were needed to reach coding saturation.

Furthermore, the overall response rate of 86.4% (for both the advisors & advisees), according to Babbie (2020), was good. The researchers' follow-up activities included emailing the participants with several reminders. However, these reminders did not increase the response rate, especially for the online questionnaire.

Demographic Characteristics of the Respondents

Advisors. Five (38.5%) advisors are males, and eight (61.5%) are females. Six (46.1%) of the advisors teach in teacher education programmes, while seven (53.9%) are from the Communication Arts and Technology programme. These advisors have been involved with the academic advisement process for at least one academic year.

Advisees. Fourteen (31.8%) are males, and 30 (68.2%) are females. Ten (22.7%) of the advisees were 21 years and below, 27 61.4%) were 22 to 31 years, and 7 (15.9%) were above 31 years. Thirteen (29.5%) advisees are males, and 31 (70.5%) are females. Thirty (68.2%) students were enrolled in teacher education programmes, while 10 (22.8%) were in the Communication Arts and Technology programme.

Advisors' Perceptions of the Academic Advisement Process

Research Question 1: What perceptions do academic advisors have on the academic advisement process at a tertiary institution in Jamaica?

The interview data were used to answer this research question. After the thematic analysis, three main themes merged from the interviews when advisors were asked about their perceptions of the academic advisement process: (1) lack of structure, (2) number of meetings, and (3) workload and number of students. Each is reported below.

Lack of Structure. The advisors felt there was no structure in the faculty academic advisement process. For instance, an academic advisor (**AA-08)** stated,

"I do feel currently academic advisement is a bit loose." **AA-04 said,** "Yes, it would help them more if it was more structured and more participation by other parties." While **AA-01** said, "It needs overhauling."

Number of Meetings. For the number of meetings held with advisees, **AA-03** stated, "I think that there should be more effort being made in meeting the students and constantly reminding them of the importance of academic advisement." **AA-03,** however, admitted that "I really don't have scheduled meetings, you know, so those meetings will be like most times, a spontaneous meeting" **AA-01** also stated that meetings are not held frequently but held "only when they come with a problem". **AA-08** stated, "I find first-year students are more likely to attend the meetings when they start the semester. It was rather interesting to note the response from **AA-13** who revealed that "There was a significant change after the pandemic where students hardly engaged in the process. I tried to invite students to meetings with me on the virtual platform. Both response and attendance were low."

Workload and Number of Students. The advisors expressed their perceptions of the academic advisement process by stating their concerns about the workload associated with the number of students assigned to them. For instance, **AA-07** stated, "I think it's a little bit unrealistic the number of students you have." **AA-09** said, ". . . it just seems like there are a lot of different things to fill out, with many line items on each . . . I think it's a lot of documents." **AA-07** responded similarly: "It is also too much given the workload lecturers have to carry out."

Participants perceive a lack of structure in the academic advisement process. This view is not isolated to this institution, as Troxel and Kyei-Blankson (2020) asserted that the process of academic advisement varies in educational institutions. They opined that due to the lack of a standardised structure in and across institutions, advisement roles are not clearly defined, and the outcomes are not consistently assessed. According to McGill (2019), academic advisement has morphed into a profession that directly responds to the increasing challenges that students experience during their educational journey.

The requirement for academic advisors to meet with students is low but unsurprising. Flaherty's (2023) study revealed that 2 in 10 public higher education students had to meet with their advisors at least once. The exact number shared that they were required to meet with their advisors periodically, while closer to 3 in 10 private higher education students said they were required to meet with their advisors at least once.

Setting up meetings with academic advisors has also been challenging at several higher educational institutions. Flaherty (2023) stated that only 20% of students in public higher education institutions wanted a face-to-face meeting with their academic advisors, while only 35% of their private tertiary counterparts wanted to meet face-to-face with their academic advisors. Flaherty (2023) added that a director at a Community College shared that students have requested both face-to-face and virtual options to meet with their academic advisors. The online platforms have improved student accessibility to advisement.

These participants' views on workload are similar to those of participants in a research study conducted by El-Sheikh et al. (2019) and Orr (2023). The participants in that study complained that tertiary institutions should carefully assess academic advisors' workload so that they have sufficient resources and time to engage in intrusive advisement, which is required to address the advisees' needs. Orr stated that those participants highlighted that academic advisors (lecturers) were assigned other work responsibilities external to academic advisement, and academic advisement carries a significant amount of work.

Advisees' Perceptions of Academic Advisement Process

Research Question 2: What are the advisees' perceptions of the advisement process?

The online questionnaire results revealed three main factors in the advisees' responses: (1) Assistance and encouragement, (2) Knowledgeable, and (3) Ease to talk to. Each is reported below.

Assistance and Encouragement. This factor accounted for 13 items (78%). See Table 1. The minimum and maximum mean values were 1.00 and 4.00. However, the mean values of the items were from 2.63 to 3.11, indicating that most of the advisees' responses were between disagree and agree on the Likert-type scale. These variations in their responses can be seen in the standard deviation values, which ranged from 1.06 to 1.67.

Knowledgeable. This factor accounts for four items (6.7%). See Table 2. The minimum and maximum mean values were 1.00 and 4.00. However, the mean values of the items were from 3.05 to 3.11, indicating that most of the advisees agreed in their responses on the Likert-type scale. These variations in their responses can be seen in the standard deviation values, which ranged from 0.98 to 1.08.

Easy to Talk to. This factor accounts for three items (5.1%). See Table 3. The minimum and maximum mean values were 1.00 and 4.00. However, the mean

Table 1: Advisees' Perceptions of the Advisement Process (Assistance & Encouragement Items)

Items		Mean	SD
20	My academic advisor helped me understand the university's policies.	2.79	1.13
19	My academic advisor assists me in making important decisions regarding my modules, major/minor selection/electives.	2.89	1.22
4	My academic advisor shows genuine interest in my academic progress.	2.82	1.67
15	My academic advisor encouraged me to participate in extracurricular activities.	2.64	1.18
18	My academic advisor gives me accurate information on my programme and module selection.	2.91	1.18
16	I believe the advisement meetings with my advisor have been rewarding.	2.82	1.06
5	My academic advisor encourages me to ask questions.	2.95	1.14
14	My academic advisor encouraged me to actively participate in my academic journey.	3.00	1.09
12	My academic advisor respected and appreciated my opinions.	2.98	1.07
13	My academic advisor referred me to appropriate support offices/departments/units.	3.11	1.13
17	I am happy with my academic advisor.	2.93	1.19
6	My academic advisor always attended our scheduled advisement meetings.	2.82	1.11
7	My academic advisor showed a willingness to assist me in resolving my personal challenges.	3.00	1.08

Table 2: Advisees' Perceptions of the Advisement Process (Knowledge Items)

Items		Mean	SD
10	My academic advisor is knowledgeable about the career opportunities available in the programmes/courses of study offered by my Faculty.	3.07	1.02
11	My academic advisor is knowledgeable about the different courses of study in my Faculty.	3.11	0.99
9	My academic advisor is knowledgeable about the University policies.	3.29	0.98
8	My academic advisor is knowledgeable about my course of study.	3.05	1.08

Table 3: Advisees' Perceptions of the Advisement Process (Knowledge Items)

Items		Mean	SD
2	My academic advisor is approachable.	3.11	1.08
1	My academic advisor is accessible.	2.88	1.15
3	My academic advisor listens to me.	2.91	1.09

values of the items were from 2.89 to 3.11, indicating that most of the advisees' responses were between disagree and agree on the Likert-type scale. These variations in their responses can be seen in the standard deviation values, which ranged from 1.08 to 1.15.

It is important that academic advisors' attitudes are accommodating to advisees. The attitudes of academic advisors can have a negative or positive impact on the satisfaction or experience of advisees (Tobi-David et al., 2018). In a study conducted by Elnibras (2023), students at a higher educational institution were allowed to assess the attitudes of academic advisors via a survey. The survey results indicated that students had positive views of the level of assistance their academic advisors offered (M = 3.04, SD = 1.42). Academic advisors were rated slightly lower regarding the encouragement they offered their advisees (M = 2.89, SD = 1.39). Academic advisors were considered knowledgeable as the rating range was fairly good (M = 2.78 to 3.54, SD = 1.18 to 1.35).

Gudep's (2007) study revealed seven-factor loadings on students' attitudes towards academic advising in the United Arab Emirates (UAE). Although the factors are not the same as those in the current study, they showed that the students had favourable views of their academic advisors. Similarly, Cheung et al. (2017) found that students had favourable views of academic advising. Rattin (2024) also found in her study that traditional students found their academic advisors were courteous and professional/approachable (M = 5.4, SD = 0 .9), and they listened (M = 5.2, SD = 1.0). The non-traditional students also believed their academic advisors were approachable (M = 5.0, SD = 1.1). However, there was a slight difference in opinion on how much their academic advisors listened to them (M = 4.8, SD = 1.2).

Advisors' Meeting with Advisees

Research Question 3: How do advisors conduct academic advisement when meeting advisees?

The analysis of the interviews revealed six main factors in the advisors' responses: (1) time spent on academic advisement, (2) student-initiated academic advisement meetings, (3) student preparation for academic advisement meetings, (4) personal advice, (5) career guidance, and (6) advice on curriculum matters. Each of the themes and their responses are reported below.

Time Spent on Academic Advisement. Academic advisors stated that varying times were spent on each academic advisement session. Five (38.5%) advisors stated

that the minimum duration for academic advisement per student is 5 minutes. In contrast, one of the participants stated that the maximum duration for academic advisement per student is 2 hours (depending on the nature of the issues). For instance, **AA-03** said, "So sometimes it can be like a 5-minute meeting," while **AA-07** stated, "It can be up to 2 hours, depending on the issue."

Five (38.5%) advisors shared that the minimum duration for academic advisement per week is approximately 1 hour, while two (15.4%) said the maximum duration is approximately 4 hours. For instance, **AA-02** shared that meetings are not held weekly, so if and when students do have issues, the duration of the weekly meetings is about "30–45 minutes." **AA-03** indicated that "between 2 to 2 and a half hours per week' were spent advising students. **AA-05** said that "3 to 4 hours" were spent on average to advise students. Also, **AA-06** stated that "2 hours, sometimes more than 2 hours. Maybe 4 hours."

Student-initiated Academic Advisement Meetings. Advisors revealed that academic advisement meetings are not set for any particular time, but students initiate the meetings with advisors when they have issues. For instance, **AA-03** said, "I really don't have scheduled meetings, you know, so that those meetings will be, like most times, a spontaneous meeting." **AA-08** stated, "They will initiate. So I find first-year students are more likely to attend the meetings". **AA-10** indicated, "I've never arranged a general meeting with the students."

Student Preparation for Academic Advisement Meetings. Advisors indicated that advisees are usually prepared to a certain extent for the meetings. Advisees tend to share their issues and expect the advisors to provide the solutions. For instance, **AA-06** stated, "Most times, but sometimes, they are not fully aware of information to share." **AA-03** shared, "They just want all the information from you. You must provide them with all the information. They don't come equipped with any form of information as it relates to finding a solution to the problem they come to you; you must find a solution for them."

Personal Advice. Advisors shared that they offered personal advice to advisees. However, depending on the nature of the personal issue(s), advisors refer the advisees to the University Counselling unit. For instance, **AA-10** said, "Yes, but generally, what I tend to do is refer them to the counsellor." **AA-01** stated, "Yes, some issues are not academic. I refer those to the school's counsellor." **AA-07** also shared, "Yes, I also recommend them to the Health Centre, Programme Director, Year Coordinator, etc." **AA-13** said,

> Sometimes, the discussion includes personal issues such as mental health issues . . . other times, the issues may focus on finances, or reasons for changing plans

> or difficulty surrounding staying in school. Other times, they feel overwhelmed, so I give them tips on coping and dealing with stress.

However, some academic advisors do not offer advice on personal issues. For instance, **AA-08** stated, "No, I never deal with personal problems. It is always academic, related." **AA-02** said, "No, definitely no. Yes, they are referred."

Career Guidance. Advisors stated that they provide career guidance to advisees during meetings. For instance, **AA-05** stated, "Yes, I am presently doing so. The first years I've had 3 cases of first years coming up that they don't think is teaching they want. They don't want to be teaching." **AA-07** shared, "When necessary. Yes, I do provide career guidance."

Advice on Curriculum Matters. All the advisors stated that they provided students with information on curriculum matters such as module selection and programmes offered in undergraduate studies. **AA-05** said, "Yes, I have given a lot of advice as it relates to module selection." **AA-08** stated, "Yes, I do, so usually that is one of the discussions that we have . . ." **AA-04** said, ". . . just to probably clarify just to give clarification on the programme that they are in."

The duration and frequency of academic advisement seem consistent with the literature. According to Rattin's (2024) study, most students reported no group academic advisement sessions for an academic year. The ones who met with their academic advisors had only one or two meetings. The duration of these meetings averaged about 30 minutes. More than 50% of the students reported meeting with their academic advisors individually once or twice during the academic year. The average duration of each individual meeting was less than 30 minutes.

Advisee preparation for advisement sessions seems to be a challenge for academic advisors. Most students seem to have the notion that they must present their problems to the academic advisors and that they will provide solutions. This speaks to a more significant issue that Davidson et al. (2020) observed: some students are unprepared for university life. They stated that this lack of preparation, among other factors, can hinder student retention, persistence and completion of their respective programmes.

The results from this study were consistent with findings from a study conducted by Menke et al. (2020), which found that the academic advisement process consists of relational, informational, and conceptual attributes. The findings revealed that these attributes are fundamental to the academic advisement process. Conceptual attributes were rated the lowest, while informational competencies ranked the highest. Menke et al.'s study provided the idea that conceptual (theoretical)

knowledge is vital in executing the duties of an academic advisor. Informational competencies were rated the highest, and according to the literature, this attribute seems to be predominantly overrated as academic advisors tend to be seen as the repositories of information and serve the main purpose of providing information to students (McGill et al., 2020). In the service model of academic advisement, relational and informational competencies are fundamental, and conceptual attributes are the least important (Steele & White, 2019). According to the literature, academic advisement in the service model is akin to customer service, where the students are the most important customers in the institution.

Perceived Challenges in the Academic Advisement Process

Research Question 4: What are the perceived challenges in the academic advisement process?

Of the 44 advisees who completed the online questionnaire, 20 (45.5%) indicated they had experienced challenges, while 24 (54.5%) indicated that they had not experienced any challenges. The challenges acknowledged by the advisees were classified under four themes, namely, (1) late awareness of their advisors and some were not assigned an advisor, (2) lack of timely feedback/poor communication, (3) difficulty in scheduling meetings and having only one meeting for the semester, and (4) Other issues (administrative, personal, module selection, etc.).

All 13 advisors interviewed also had experienced challenges. The challenges expressed by the advisors included too much paperwork (e.g., advisement forms), lack of support from other departments, slow pace of processes (e.g., add-drop, transfer of credits), advisees making contact with their advisors only when there was a crisis, and lack of information to share with advisees. Academic advisors have expressed their concerns with the advisement process in this study. This is consistent with studies by McGill (2019), El-Sheikh et al. (2019), and Flaherty (2023) that revealed challenges faced by academic advisors. Flaherty reiterated comments made in Inside Higher Ed that academic advisement is an area that has always suffered from a lack of resources and value. Other problems cited were very high caseloads, the exacerbation of student issues caused by COVID-19, and the lack of support and tools that have caused advisors to leave advisement permanently.

Improving the Academic Advisement Process

Research Question 5: What are the recommendations to improve the academic advisement process at this institution?

The advisors' suggestions were classified into the following themes: (1) scheduling regular meetings, (2) communication, (3) timetabled activity, (4) training for advisors, (5) positive change in attitude (effort and interest/participation) of academic advisors, (6) participation of supporting units, (7) reward/award outstanding academic advisors, (8) timely provision of advisee lists, (9) selection of suitable academic advisors, and (10) assign an Administrative Support who is dedicated to academic advisement.

These results were consistent with the studies by Cheung et al. (2017) and Hamlet (2016, as cited in El-Sheikh et al., 2019), and El-Sheikh et al. (2019), who acknowledged improving academic advisement through having small but regular meetings and training advisors. In studies conducted by Rattin (2024) and Habley (2004), most academic advisors did not receive formal training, so they were not sure how to provide effective advisement. Also, there were no standard criteria for selecting academic advisors and who best to advise first-generation, undecided, and transfer students.

Although academic advisement is time-intensive and labour-intensive, there needs to be a personal connection between advisor and advisee. Integration and frequent use of technology can facilitate this connection (Orr et al., 2022). Smith and Allen (2014) found that when students meet more with their academic advisors, they are more satisfied and will tend to exhibit greater persistence in completing their programmes. Students' persistence positively impacts the retention and graduation (completion) rates (Troxel, 2019).

Implications of the Results

This study highlights the need for improvement in the academic advisement process at this institution. The academic advisement process needs a systematic approach involving distributive leadership and advisors exhibiting the relational, conceptual and informational attributes when executing the advisement role. Advisors and advisees stated that there were infrequent advisement meetings. This indicates that advisees have not been provided the necessary support to make informed decisions on their academic journey. To address this concern, academic advisors must adhere to the advisement policy and manual, which provide guidelines on required meetings with advisees.

Several advisors stated that their duties and responsibilities were unclear. This information suggests that academic advisors have not been engaged in the advisement process as required and are not performing as expected because they

lack a clear understanding of their duties and responsibilities. To address this concern, academic advisors need to access the advisement manual and policy in the Faculty's repository created for academic advisement. Academic advisors also need to be trained to execute their duties and responsibilities.

Participants in the survey indicated late awareness of their advisors, and some were not assigned an advisor. This information indicates that advisees were not able to contact their assigned advisors before critical decisions (for example, module selection) were made. To address this issue, advisees should be notified of their academic advisors in a timely manner. If academic advisement is improved, this would positively impact the student experience index and the retention and completion rates.

Conclusion and Recommendations

This tertiary institution has exhibited a strong commitment to improving the programmes it offers. In its quest to improve the programmes, academic advisement must be used as a bolster. In so doing, academic advisement needs to be accorded importance and resources so that it will serve its function and assist the University in achieving its goals and objectives. In the last UCJ accreditation visit, academic advisement was flagged as an area that needs improvement.

There is no evidence that academic advisement at the university used for the study has a standard systematic approach, nor do academic advisement activities or academic advisors. Giving serious consideration to the complaints from advisees and academic advisors, this exploratory qualitative study was conducted. This study garnered the academic advisors' and advisees' views of the academic advisement process. Although advisees described their advisors as approachable, encouraging, assisting, and knowledgeable, there was dissatisfaction with the frequency of advisement meetings, lack of accurate communication, and late notification of assigned academic advisors.

Several recommendations emerged from this study. The following recommendations are made based on the results and their implications:

1. **Advisors' Perceptions of the Academic Advisement Process.** This recommendation has three sub-headings. (a) *Lack of Structure.* It is recommended that the administrative structure of academic advisement be improved. The academic advisement process should be better structured. This will make it more effective for both the advisors and advisees. (b) *Number of Meetings.* Regarding the number of meetings held with advisees, a minimum and max-

imum number of meetings should be required for the advisors and advisees in a semester. A constant reminder using the Outlook calendar could be used to send messages to both parties about the pending meetings. (c) *Workload and number of students.* The number of advisees to be assigned advisors should be re-evaluated. Efforts should be made to ensure that the advisors' workload is manageable.

2. **Advisees' Perceptions of the Academic Advisement Process.** This recommendation has three sub-headings. (a) *Assistance and Encouragement.* Based on the advisees' perceptions of the academic advisement process, efforts should be made to inform both parties about the university's policies and the need to be guided by these policies. (b) *Knowledgeable.* Regular webinars on academic advisement should be held for both new and existing advisors. This will not only inform the advisors about the policies but will allow solutions to be discussed on challenges encountered (c) *Easy to Talk to.* Advisors need to be informed that they are available when meetings are scheduled. This will improve advisees' perceptions of their advisors' accessibility.
3. **Advisors' Meeting with Advisees.** This recommendation has three sub-headings. (a) *Time Spent on Academic Advisement.* There should be a minimum and maximum time for scheduled meetings. (b) *Student-initiated Academic Advisement Meetings.* Advisees should be encouraged to meet and/or contact their advisors throughout the semester and to avoid trying to meet only when there is a challenge. (c) *Student Preparation for Academic Advisement Meetings.* Advisors and advisees should be encouraged to be well-prepared for each meeting. This will make the meetings more productive.
4. **Personal Advice, Curriculum Matters, and Career Guidance.** Regarding giving advice and guidance, the type to be offered by advisors should be within the academic advisement policies and guidelines. Clear examples of such advice should be included in the documents to be given to the advisors.
5. **Perceived Challenges in the Academic Advisement Process.** Regular feedback could be encouraged to solicit information on the challenges the advisors and advisees face during the semester. Efforts could be made to find solutions to these challenges in a timely matter. All 13 advisors interviewed had experienced challenges. The challenges expressed by the advisors included too much paperwork (e.g., advisement forms), lack of support from other departments, slow pace of processes (e.g., add-drop, transfer of credits), advisees making contact with their advisors only when there was a crisis, and lack of information to share with advisees.

6. **Improving the Academic Advisement Process.** Technology should be used to schedule regular meetings between advisors and advisees. Both parties should practice better and more effective communication methods.

Suggestions for Further Studies

Based on the study's limitations, the following suggestions are made: Further studies should be conducted to examine how academic advisement affects students' retention and success. Studies can also be done to analyse how the advisors' responsibilities (workload) could affect the quality of academic advisement. A cross-case analysis of academic advisement best practices at other universities in Jamaica can be done to ascertain best practices.

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A Collaborative International Partnership Supporting STEM/TVET Professional Development:

A Cross Case Analysis of Lecturer's Practice

SHELIZA IBRAHIM[1], KAMINI JAIPAL-JAMANI[3], HOPE MAYNE[3], ERALDINE WILLIAMS-SHAKESPEARE[3], AUDREY PORTER DACOSTA[3], JUNIOR MARTIN[3], STEPHEN WALLDER[3], DEAN REID[3], KARNETTE BATCHELOR EVERING[3], ELAINE McLEAN[3]

[1]University of Toronto, [2]Brock University and [3]Univerity of Technology, Jamaica

Abstract

In an international faculty partnership between teacher educators from a university in Jamaica and Canada, the three first authors facilitated a STEM professional development (PD) summer institute in June 2022 for lecturers teaching in the Technical and Vocational Education and Training (TVET) programme at the Jamaican university. A goal of the collaborative international partnership was to promote changes to lecturers' teaching practices through professional development (PD) and reflection on practice. This study examined the impact of the STEM/TVET PD on lecturers' teaching practices in TVET teacher education courses/contexts during the academic year following the PD. Lecturers (n=7) as co-researchers documented through action research and reflected on their implementation of STEM, inquiry-based pedagogies in pre-service courses. A qualitative, cross-case study design was used to examine the results of the self-study conducted by the seven lecturers. Data sources for the cross-case analysis included a questionnaire on lecturer demographics and teaching practices and narrative reflections of changes to teaching practice based on lecturers' classroom observation data and analysis of artifacts from classroom activities (student interactions and assignments). The findings suggest that the knowledge and

experiences lecturers gained during the STEM/TVET workshops contributed to changes in lecturers' practices that emphasised STEM pedagogies, which promoted increased student engagement and peer collaboration in activities. The paper also illustrates how a collaborative international partnership supported transformative learning and contributes to the modest literature on faculty self-study research in TVET contexts. The outcome of the study is a framework for creating a collaborative international partnership to support transformative learning in teaching practice and research. The study also contributes to the scholarship of teaching and learning in higher education.

Keywords: International partnership, faculty professional development, collaborative self-study research, STEM, Pedagogy

Corresponding author: Sheliza Ibrahim – sheliza.ibrahim@utoronto.ca

Introduction

The Jamaican government has made a commitment to make Science, Technology, Engineering and Mathematics (STEM) a national priority as a means for promoting innovation, economic growth and Jamaican citizens' contributing to the global knowledge economy (Office of the Prime Minister, Jamaica declared a STEM island, 2024). Progress towards achieving the latter goals depends on the collaborative efforts of multiple stakeholders such as government and academia. The government's national vision of Jamaica as a "STEM island" (Office of the Prime Minister, Jamaica declared a STEM island, 2024) is backed by the revised Jamaican National Standards Curriculum, introduced in 2016. The new primary to secondary curricula emphasizes, among other topics, the learning of STEM skills, information and communications technology (ICT), and inquiry-based learning. Additionally, learning technological and vocational education and training (TVET) skills and concepts has been integrated with subjects across the grade levels (Buckle-Scott, 2021).

In response to these national curricular changes, Jamaican teacher education programmes have had to reflect on how the new National Standards Curriculum goals are being taught to pre-service teachers and, particularly, how lecturers can be supported to teach and model STEM instructional practices (e.g., engineering design, scientific inquiry model) that develop STEM skills (e.g., problem-solving which includes processes such as planning by generating potential solutions and

analysing and interpreting data; National Research Council, 2012). A challenge found during the implementation of the new Jamaican curriculum was that some classroom teachers had limited knowledge of STEM pedagogies due to lack of training, so, these teachers were hesitant to change from traditional lecture and note-taking instructional practices to more inquiry-based instruction (Mayne & Dixon, 2020).

Furthermore, in a sensitisation session with the UTech community to launch the transformation of the UTech Academy, later to become UTech Open: School of Lifelong Learning and Professional Development, President Brown, the new President at UTech, Ja. revealed that the university must strive to become a STEM University. This is part of his established vision and transformation of the university. With this thrust, all lecturers must be prepared to integrate STEM principles into their approach to teaching and learning. The overall aim of the university is to achieve globalised recognition.

This paper describes a collaborative, professional development STEM initiative implemented by an international partnership between two teacher educators affiliated with two universities in Canada and teacher educators/lecturers at UTech, Ja. The goal of the professional development was to provide lecturers teaching in the Technical and Vocational Education and Training (TVET) Teacher Education programme at the Jamaican University with knowledge and experiences about STEM pedagogies. The desired outcome of the PD was to enhance or change lecturer's teaching practices so that they would implement STEM-based pedagogies, such as using the 5E inquiry model (Bybee et al., 2006) to plan and model learner-centred pedagogies in their courses with pre-service teachers. Pre-service teachers entering the schools in Jamaica are expected to contribute to the widespread and sustainable reform of traditional, teacher-centered teaching to learner-centered pedagogies as they implement the new National Standards curriculum.

The findings of this study, about the impact of a collaborative, international, STEM/TVET professional development partnership on lecturer's teaching practice, contributes to the literature on international partnerships, faculty professional development and STEM/TVET pedagogies. Findings provide insights about the impact of collaborative international partnerships to engage faculty in collaborative self-study research to transform teaching practices, and the STEM/TVET pedagogies that were effective with pre-service teachers in practice.

Background Literature and Theoretical Perspectives

International University Partnerships and Transformational Leadership

International university partnerships can be created for many reasons, such as to bring about major changes in academic programmes in institutions, to engage students in community and service learning as part of coursework, and for faculty to share teaching and research expertise (Cozza & Blessinger, 2016). In relation to the current study, the international partnership was created to share teaching and research expertise. Such international faculty partnerships provide opportunities for faculty to collaborate on teaching and professional development activities which are often linked with joint research (Wood, 2023). Successful university partnerships depend on multiple factors, such as funding, ongoing communication, established relationships and trust, shared power and decision-making, clear goals and objectives and attainable outcomes (Cozza & Blessinger, 2016). Achieving goals that result in transformation, such as identity growth, changes in teaching practice, and institutional capacity, calls for transformational partnerships (Cozza & Blessinger, 2016). Bass and Riggio (2006) describe transformational partnerships as being characterised by inspired educators or stakeholders who are committed to achieving shared goals through innovative problem-solving. According to leadership research (Mhatre & Riggio, 2014), leadership styles range on a continuum from transactional (based on an exchange for mutual benefit) to transformational (a reciprocal relationship between leaders and followers to raise one another to higher levels of motivation, ethics and standards). Bass and Riggio (2006) purport that transformational leadership is characterised by four factors: 1) idealised influence is where leaders serve as positive role models and convey a clear vision, set ethical code of conduct, and promote collective purpose; 2) inspirational motivation where members are inspired and motivated by the confidence shown in them to meet performance expectations; 3) intellectual stimulation is when members are challenged and spurred to solve problems in novel and unique ways making them feel trusted and empowered; and 4) individualised consideration is when members individual needs are met by guidance and mentorship to improve their actions and leadership skills. Therefore, an important element of transformational partnerships is developing leadership capacity among members of the group. Research shows that university partnerships that engage all participants in decision-making at all stages of the process and involve them in the dissemination of the study results, develop faculty

leadership skills, promote changes in faculty teaching practices, and support faculty scholarship goals (Jaipal-Jamani et al., 2015).

Effective Professional Development

Professional Development (PD) may be conceived as a "structured, facilitated activity for teachers intended to increase their teaching ability" (Sims et al.,2021, p. 7). Not all PD results in meaningful changes to teaching practice; it is active collaboration with peers, where one studies personal practice and reflects and discusses the theoretical and practical knowledge about effective teaching, that brings about meaningful changes in individual and collective practice (Hargreaves & Fullan, 2012). Effective PD occurs when there is alignment of teacher needs and goals with those of the school or institutions' needs and practices and when the time and workload constraints of professionals are taken into consideration (Sims et al., 2021). Research shows that for higher education faculty, effective PD occurs when the goals of the PD align with faculty instructional, and scholarship goals and takes into consideration faculty schedules (Jaipal-Jamani et al., 2015). Other factors that enhance transfer of knowledge and skills to faculty from PD workshops are discussions with colleagues during the workshops to motivate and increase their confidence to change, and ongoing access to resources (e.g., online resources) to support and facilitate transfer of workshop activities into practice (Manduca et al., 2017). Meijer et al. (2017) also found that learning from and with other faculty, engaging in a study of teaching practice, and receiving support from facilitators resulted in transformative learning among teacher educators/university faculty. The preceding research on faculty PD was conducted in North America and Europe. Studies on teacher PD conducted in international partnerships also show that PD experiences that are collaborative, learning-centred, and aligned with teacher needs or concerns were effective (e.g., Flint et al., 2018). The Flint et al. (2018) study involved a partnership between a US and a South African university working with South African teachers. There are few studies reported of international partnerships involving professional development of higher education faculty. One study of an international partnership providing PD for teacher educators was between a university in Finland and the College of Education in Eritrea. The goal of the latter partnership was to develop a collaborative culture for professional development and develop teacher educator identity (Posti-Ahokas et al., 2022). An important result of this international, university partnership was that creating spaces for faculty to participate in learner-centred practices, engage in professional

discussions, and reflect on practice, was critical to teacher educator identity formation to promote change in the education system. In the current study, the Canada-Jamaica international university partnership facilitated a STEM/TVET professional development summer institute that took into account lecturer needs, incorporated professional discussions after workshop activities, and promoted reflection on practice through lesson design and classroom action research.

STEM Pedagogies for Learning

STEM pedagogies such as inquiry-based learning (IBL) models (e.g., 5E model), problem-based learning (PBL), and engineering design were a focus for the PD workshops as they aligned with Jamaican Ministry of Education directives. STEM pedagogies offer instructors a lens to explore their teaching practice from a more student-centred focus and contemplate what pedagogical shifts they can make to their current practice to promote student learning. For example, IBL promotes "learning that enables critical thinking, flexible problem solving, and the transfer of skills and use of knowledge in new situations" (Darling-Hammond, 2008, p. 2). It is an approach that can be adapted across disciplines and can be used to replace traditional teaching characterised by lectures, passive listening, and factual recall (Schmidt et al., 2015). Different models of IBL have been proposed in the science education literature. One well-established inquiry-based instructional model is the 5E learning cycle by Bybee et al. (2006). The phases of the 5E inquiry model are engagement, exploration, explanation, elaboration, and evaluation. More specifically, the five inquiry stages incorporate: Engagement – e.g., asking questions, activating prior knowledge; Exploration – e.g., hands-on investigation of phenomenon, research, critical discussion; Explanation – e.g., students explain phenomenon, teacher provides disciplinary concepts; Elaboration – e.g., students apply knowledge in new contexts, develop products; and Evaluation – e.g., student reflection on learning, assessment. The 5E model was explored in depth in the workshop and lecturers unpacked the 5 characteristics in detail during debriefing sessions.

Iterations of the 5E model give rise to other IBL pedagogies such as project based and problem-based learning that are hands-on and collaborative. According to Krajcik and Schneider (2021), PBL "immerses students in Driving Questions, investigations, and collaboration to construct knowledge and create artifacts" (p. 2). In a study with 2371 students on whether PBL improves elementary students' science learning and social and emotional learning (SEL), Krajcik et al. (2023)

found that the group that experienced PBL performed better on science and scored higher on the SEL constructs reflection, ownership, and collaboration than the control group. The latter findings reinforce the contention that PBL, which includes collaborating to create artifacts such as models, reports, and multimedia presentations, enables students to represent their emerging knowledge in concrete ways that can be shared and it helps them see connections to other disciplines and construct deeper understandings (Krajcik & Schneider, 2021).

Engineering design is also considered a key pedagogical strategy for students to make connections between the STEM subjects—students draw on knowledge of some or all the STEM subjects to solve open-ended problems that include trial and error and teamwork (Kelly & Knowles, 2016). The engineering design process involves a cycle that includes developing possible solutions, selecting the best possible solution, building a prototype, testing and evaluating the solution, and redesigning as needed (Hynes et al., 2011). Future teachers are required to implement the aforementioned STEM pedagogies in different ways in the classroom as the Jamaican National Standards Curriculum calls for the use of the 5E inquiry model and problem/project - based learning pedagogies. Hence the need for lecturers to be able to learn about and model these strategies in their courses with student teachers.

Methodology

Research Design and PD Summer Institute

A qualitative, comparative case study (Creswell & Creswell, 2017) was conducted to understand how lecturers integrated STEM pedagogies into their teacher education courses in a TVET teacher education programme after lecturers had participated in a STEM/TVET PD summer institute. The summer institute was an outcome of the collaborative international partnership (explained below) and was held during the summer of 2022 over three days at UTech, Ja. The hands-on workshops focused on STEM problem-solving approaches, specifically engineering design and project-based learning, and were linked to objectives in the Jamaican Resource and Technology Curriculum, grades 7, 8 and 9 to illustrate examples of STEM approaches to problem-solving.

The main research question guiding the study was:

1. How did lecturers' participation in the STEM/TVET PD impact their teaching practice in teacher education courses?

The study examined two research sub-questions:

1. In what ways did lecturers change their teaching practice after participation in the STEM/TVET PD?
2. What were lecturers' perceptions of how student-teachers engaged and learned during the implementation of STEM pedagogies in the course?

While the findings of case studies are not generalizable to the larger population, the rich details from a cross-case analysis make the findings credible and transferable – findings can be applied by educators in similar contexts by making connections which can inform decision-making in their contexts (Schoch, 2020).

Collaborative International Partnership

The STEM/TVET PD summer institute took place after a two-year international collaboration that initially involved 11 lecturers from the Jamaican university and the three first authors participating in a year of virtual PD during the COVID 19 pandemic. During this virtual collaboration, a needs assessment was carried out to determine the needs of the lecturers. The common need expressed by the group was to learn how to design and implement STEM inquiry-based learning for online teaching. The virtual PD therefore consisted of zoom meetings that included participation in an online STEM inquiry-based learning webinar/workshop, collaborative discussions among the 11 lecturers, and reflection on the implementation of IBL in teaching through completion of a set of reflective questions that five lecturers responded to. The results of this virtual PD collaboration were co-presented at conferences. Following the virtual PD collaboration, the need for lecturers to engage hands-on with STEM pedagogies in TVET curriculum contexts provided the impetus for and informed the design of the summer institute workshop activities that were delivered in person in 2022.

TVET Teacher Education Programme Context and Summer Institute Workshops

Lecturers who participated in the summer institute PD taught in the Faculty of Education and Liberal Studies at the university in Jamaica. The faculty offers an undergraduate, 4-year Bachelor of Education degree in TVET in the following areas: Family and Consumer Studies; Food Service, Production and Management; Apparel Design, Production and Management; Industrial Technology; and

Business and Computer Studies. Besides courses related to each specialisation, students take courses in Education (e.g., classroom and behaviour management, adolescent psychology for teachers, assessment in education, learning theories and practice, ICT for educators and instructional methods and practice) over the four years. The PD focused on providing lecturers with knowledge about implementing STEM problem-solving approaches such as engineering design and the 5E inquiry model (Bybee, 2014), which the new Jamaican National Standards curriculum now emphasised for lesson planning in TVET learning contexts. As such, the PD activities for the summer institute were situated in curriculum content linked to learning objectives from the Jamaican Resource and Technology Curriculum, grades 7, 8 and 9. Examples of workshop activities included an authentic STEM design challenge activity, building a hydroponic system, designing LED greeting cards for product development, and creating a 3D design for a room with TinkerCad. Workshops were co-developed and facilitated the three first authors in the international partnership. Hands-on activities were followed by pedagogical debriefing and reflection, and application of the 5E lesson plan template to design STEM/TVET activities

Workshop Participants

Twenty-five lecturers who participated in the STEM summer institute completed a survey on demographics and teaching experiences adapted from Hayes et al. (2016) on the first day; 22 lecturers provided consent to use their survey data. Prior experiences and knowledge of how to implement STEM pedagogies in teacher education courses through hands-on activities varied and were dependent on which programmes lecturers taught in. 40 % of lecturers taught courses in Education areas, while 50% taught in the TVET specialist areas. In response to how often lecturers integrated STEM into courses, for n =20, 10 % indicated never/rarely, 35% indicated sometimes, and 45% indicated often, with 10% responding for almost all classes. When asked how often they engaged their students in inquiry-based learning through problems and projects (n=22), 27% responded sometimes, 46% often, and 27% indicated in almost all classes. From these results, engaging in the PD and considering pedagogical shifts by implementing their learning from the PD was encouraged as it aligned with goals to integrate STEM pedagogies in practice.

Co-researcher Participants

On the last day of the STEM Summer Institute, an information session was held to invite all lecturers to participate in research where they would implement STEM pedagogies learned from the workshops, document their practice and reflect on transformative pedagogical shifts in their teaching. They would also participate in co-writing, presentations and publications. Of the twenty-five lecturers who attended the workshops over the three days, seven lecturers volunteered to be co-researchers and participate in the self-study component of the international partnership – applying the learning from the PD to their classroom practice, documenting changes to pedagogy and student learning, and reflecting on their practice. Self-study in Teacher Education is a methodology that educators use to engage in personal inquiry of their practices with the intent to improve student learning (White et. al., 2020). The personal experiences of educators through reflection and narrative act as the resource for research (Feldman et al. (2004). White et al. (2020) further explain self-study as a collaborative endeavour with critical friends who provide feedback and encouragement. These critical friend collaborations [are] "based on trust, care, and honesty" (White et al., 2020, p. 95). The self-study of teaching practice by the seven lecturers is reported in this article.

Support for Classroom Implementation and Data Collection

As part of the summer institute, the workshop facilitators provided a session for all lecturers on the last day on how to design their inquiry activities and how to conduct action research and collect data within the classroom During the implementation of STEM/inquiry pedagogies in their teacher education courses, a Google Classroom site was set up to provide pedagogical resources and research guidance to the seven co-researcher participants who provided consent to participate in the research. Hence, the selection of participants for the cross-case analysis was a convenience sample. The Google site contained an inquiry activity design template to help lecturers develop and plan their STEM or inquiry-based activities and resources and articles related to data collection and classroom action research. A reflection template was provided for lecturers to fill in to reflect on their practice during the teaching semester, or they could keep written observational and reflection notes. The three PD facilitators sent email reminders at intervals, and when it was observed that only a few lecturers had time to fill in reflections online, we sent out three reflection questions to respond to via email. The questions were: (1) How did you use the information from the STEM/

TVET institute workshop in your class? Briefly describe what you did in your classroom; (2) What changes did you make to your pedagogy? (3) How did these pedagogical changes impact your students' learning, attitudes, and motivation? Seven lecturers responded to the reflection questions of their teaching practice. Two lecturers also completed the activity and reflection templates in Google Docs. At the end of the 2023 academic year, seven lecturers created narrative reports which they presented as co-authors at an international conference in the summer of 2024. The seven lecturer co-researchers taught TVET content specialist courses and education courses in the different TVET and B.Ed. programmes.

Data Sources for Cross-Case Analysis

The main data source about how lecturers transformed their teaching practice after participation in the STEM/TVET PD was derived from a cross-case analysis of their narrative reports. The analysis and interpretations were triangulated with data from the following sources.

1. Demographics and teaching practices questionnaire
2. Responses to the email reflection questions.
3. Activity and reflection templates on Google Classroom

Since this study did not receive ethics approval for student data, student data is not included in the paper. Rather, lecturers' reports on student learning are included. This is a limitation of the study. However, all narrative cases written by lecturers were triangulated with classroom action research data that included lesson planning artifacts, observational notes on student interactions and participation in activities, quality of assignments, and oral and written feedback received from students. The three lead authors independently reviewed the case reports and data and looked for similar and different themes across the cases. A cross-case comparison was collaboratively written by the three lead authors from the lecturers' case studies with excerpts included to support interpretations.

Results of the Cross-case Analysis

Impact of the STEM/TVET PD on Lecturers' Teaching Practices

Lecturers in the study reflected on how they had changed their instructional practices in response to the reflection questions: How did you use the information

from the STEM/TVET summer institute workshop in your class, and what changes did you make to your pedagogy?

Integrating multiple STEM pedagogies and inquiry strategies for learning

Lecturers intentionally integrated project-based, problem-based and inquiry-based learning in the form of hands-on, collaborative in-class activities or as an application to be completed as a group assignment as described below.

Elaine, in the Couture Techniques module in the Fashion Design course, used a project-based, hands-on approach to engage students in learning how to create a high-end couture garment. Students had to conceptualise a high-end design, collect accurate body measurements, develop a pattern, choose appropriate fabrics, construct, communicate ideas, select appropriate fabrics and accessories to complete the garment, as well as execute fitting procedures to obtain a perfect fit. At the end of the course, Elaine reflected,

> I have integrated various strategies to enhance student engagement and understanding. For instance, I have introduced inquiry-based learning, hands-on activities and project-based learning to foster practical application of theoretical concepts, aligning with the workshop's emphasis on experiential learning. Additionally, I have incorporated research and real-world examples showcased during the workshop to make lessons more dynamic and relevant.

Junior taught the Education and Society module and used different strategies, such as questioning and research analysis to promote inquiry-based learning among students.

> I used the opportunity to encourage my students to participate in more inquiry-based learning by employing the use of questions, using research analysis more frequently, and conducting deeper analysis of evidence.

Audrey engaged her students in a STEM-centered project in the Consumer Economics course.

> Having recalled the learning space fostered by the STEM/TVET Summer Institute, 2022 that was fun-filled, cross disciplinary, engendered shared skills, knowledge, time and resources in a non-judgmental, competitive but guided format, I desired to replicate that model in at least one of my classes during the semester that followed. Consumer Economics, though a primarily theoretical module offered to students in year one provided the scope for me to experiment with STEM methodologies. . . . The rigor of collaborative and joyful work [Waste Literacy

> project by pre-service teachers]engendered several STEM methodologies – inquiry-based learning (IBL), project-based learning (PBL), problem-based learning (PrL), hands-on activities, collaborative learning and technology integration.

In the Family Resource Management course, Karnette had students work on projects that combined STEM and TVET skills.

> For example, students interacted with various household and industrial tools and equipment to explore and discover how they work and how they can be used in real-life scenarios and industry applications, which made learning more relevant and interesting. Students were also able to relate their own experiences and integrate them into simulated teaching exercises.

Generating new ideas for engaging students to collaborate online

Participation in the PD prompted some lecturers to reflect on how to engage students in inquiry pedagogies such as collaborative problem-solving and discussions in the online environment. Eraldine used Padlet to have students brainstorm in groups to create a resource page. Her students also used Nymspace (formerly Threads) to anonymously discuss topics such as teacher misconduct that they may not be comfortable sharing opinions on.

> I used a number of online tools to assist me in engaging my students. I used Padlet in many ways to facilitate TVET students in the educational courses I taught. It allowed them to work collaboratively to solve problems in curriculum planning and development and in assessment of learning outcomes.

Junior began incorporating online tools such as YouTube videos for analysis to engage students in collaborative presentations. "The workshop assisted me to find more creative ways to engage my students by using more online resources with my students."

Creating learner-centred spaces and assignments promoting student voices

Audrey described how participation in the workshop prompted her to reflect on all aspects of her pedagogy, especially expectations for course assignments. She redesigned course assignments to be learner-centred, such as the instructor collaborating with students to make decisions on topics. "There were areas in my practice which were skewed heavily towards teacher-centeredness, particularly some of the course assessments. I saw gaps which necessitated more intentional

collaboration with, rather than a didactic approach to my students."

Where previously she suggested what pre-service teachers should do, she now listens to students' ideas, and created opportunities for them to voice, discuss and choose topics that were meaningful to them.

Instructional sessions became enabling spaces where facilitators and students learned to listen to each other's narratives. I became more alert and appreciative of their accounts of their lived experiences, passions, tensions, dreams and, importantly, their culture. Students reframed the assignment into a fun-filled, collaborative, innovative, peer-centered initiative with opportunities to discover together.

In the Industrial Technology course, Dean reassessed how students would engage in the problem-based learning assignment. In the revised assignment, students visited an authentic community-building site. Students were tasked with exploring unique building requirements for a basic school for children ages 3–6 in an inner-city community school by doing a needs assessment at a real inner-city school.

Before the STEM/TVET institute we would do the [needs] assessment, and create the scope of work and tell students what the recommendations were. Now, we allowed the students to come to the building sites themselves and make their own assessments. Students assigned themselves roles, and came up with ideas and then evaluated the best solution. They looked at what is missing/needed and come up with solutions.

Creating learner-centred, interdisciplinary activities promoting STEM connections

Participation in the PD promoted some lecturers to make intentional connections between course content and activities and other STEM subjects.

Elaine noted,

> I shifted towards a more student-centered model, where learners actively participate in their own education through research, presentations, discussions, group work, projects, and hands-on activities. Additionally, I adopted a more interdisciplinary approach, connecting STEM concepts with real-world applications and other subject areas whenever possible.

In the Family Resource and Management (FRM) course, Karnette had FRM students create a recycled item suitable for a selected room in the home. To track the progress of solving this problem, students were required to create a booklet outlining the steps taken, and include illustrations of the steps. Subjects such as

math, science, English language, and chemistry were integrated into the solution presented in the booklet.

Creating authentic, problem-based learning tasks

In the Industrial Technology course, Dean had students collaborate to solve an authentic, real-world, problem that existed in a real community. "All projects are real life projects and implemented in real-life. They all satisfy the requirements of the health commission and parish."

In an online marketing course in the business and computer studies specialisation, Stephen created a group assignment that was problem-based and authentic. Students were given a real issue to problem-solve in groups and provide solutions. The problem was the recruitment problem-being experienced in this programme. Students were given the following scenario to solve.

You are required to research the background, history and viability of the School of Technical and Vocational Education, here at the University.

1. Establish and confirm this specialisation's (business and computer studies) continued viability within the School (in other words, how practical and feasible this product/service is in the current marketplace). The School has, over recent years, seen a decline in student numbers overall!
2. Based upon the assessment of the Specialisation's viability established in part 1. (above), develop strategies to enhance this viability through promotional initiatives etc., as you deem appropriate to improve recruitment to the specialisation.

Impact of STEM Pedagogies Implementation on Student Teachers

While student data could not be included as evidence in this study, the lecturers reported in their action research reflections how they perceived pre-service teachers' attitudes and learning were affected by the STEM pedagogies implemented. Quotes from lecturers in response to the question: How did the pedagogical changes impact your students' learning, attitudes and motivation are provided as supporting evidence.

Student engagement in activities and collaboration with peers increased.

Many lecturer participants reported increased student engagement in activities, as evidenced by increased class attendance and questioning during classes. There

was also evidence of productive peer collaborations with students taking on leadership roles.

Elaine noted:

> By shifting towards a more student-centered approach, I have noticed increased engagement and participation in class activities. Students are more eager to ask questions, collaborate with their peers, attend class sessions and take responsibility of their learning journey

Audrey commented:

> The transition from a group of complaining, irritable, pessimistic and unhappy students changed quickly when students reframed the assignment into a fun-filled, collaborative, innovative, peer-centered initiative with opportunities to discover together, hone and validate personal and others' skills and abilities. Students who had earlier appeared unassuming and passive, became leaders of specific tasks related to the project.

Junior stated that " Students' curiosity became the center of the learning process and they were actively engaged."

Students created innovative, high-quality, course or community-related projects

Lecturers commented on the high quality of assignments and products created by students. Eraldine stated, "In both undergraduate modules, students were required to complete a collaborative project–ePortfolio. For the ePortfolio students were assigned cases to resolve and for the most part were able to do so well."

Audrey describes how students presented their Waste Literacy projects at their display areas. "Each student's engagement with invitees to their display areas was persuasive, knowledge -based, and confident."

Dean describes the impact on students who engaged in the community project to build a bathroom facility.

> Since the TVET institute, we completed one project where we actually built a bathroom facility, $3M JamDollars. Students co–constructed knowledge with fellow students, lecturers, city & health commission, and industry experts (ie., tiling expert brought in by the student).

Students were empowered to take risks during learning

Some lecturers observed instances where students felt confident to take risks such as exploring learning opportunities to engage in learning outside the classroom.

Elaine reflected,

> Overall, these pedagogical changes have fostered a more positive and dynamic learning experience, where students feel empowered to take risks, explore their interests, and develop the skills they need to succeed in various aspects of their lives and future careers. They appreciate the variety of technical skills available to them and are more motivated to explore projects outside of class.

Audrey explained,

> One of the projects was at an off-site location at a primary school in the university's environment. Students independently reached out to school administrators and were provided a site on the school property to set up a greenhouse made out of plastic bottles

Students experienced time and task-management challenges during learning/ instruction

Lecturers noted that in flipped or online learning environments, additional time was spent to provide clarification about the content and learning tasks, and students needed additional time to complete projects.

Audrey stated,

> I relied primarily on a flipped classroom design, though received well, students failed to maximise on access to resources, and so, the time I hoped to use for full interaction was often times used to ensure students got the content and understood the intended concepts. Timelines were adjusted to facilitate students who, were hard-pressed, negotiated for more time to be given to complete the project.

Additionally, students were challenged to maintain engagement and focus during online tasks.

Eraldine commented.

> The students generally have a good attitude to learning but are often challenged with time and task management related issues. As we continue to adjust to remote delivery environments the challenge is to maintain a level of engagement an*d interaction that keeps them focused and engaged in the lesson.*

Discussion and Implications

In response to the main research question: How did lecturers' participation in the STEM/TVET summer institute impact their teaching practice in teacher education courses? thematic cross-case analysis of lecturer's reflections on their teaching practice was conducted. The findings indicate that lecturers' participation in the STEM/TVET PD, 1) enhanced lecturers' knowledge of STEM/TVET pedagogies as evidenced in their application of different STEM/inquiry pedagogies in their teaching practice, 2) prompted them to generate new ideas to engage students in online, collaborative learning; 3) prompted lecturers to create learner-centred spaces and assignments for student voices to be heard; 4) encouraged lecturers to create learner-centred, interdisciplinary activities and make intentional connections to other STEM subjects, and 5) inspired lecturers to reflect on their courses to create authentic, problem-solving assignment tasks. The following examples of STEM related pedagogies and skills were implemented in teaching practice: inquiry-based learning, hands-on activities, project-based learning, problem-based learning, real-world applications, collaborative learning, student centered learning, flipped classroom design and integration of online tools and ICT. Lecturers changed their teaching practice by shifting towards a more student-centred approach that encouraged student questions and peer collaboration, fostered industry experiences, and promoted critical thinking and problem-solving skills. Some examples of collaborative projects were students conducting a building needs assessment at a real school and conducting a marketing assessment on the viability of a TVET programme specialisation respectively. Online tools were applied by students to enhance digital literacy and engage in collaborative discussions and ideation. For example, students were guided in using Padlet to brainstorm and solve problems in curriculum planning and create products for assessment such as an ePortfolio. The changes that lecturers introduced into their teaching practice was done in their individual courses and was supported by the three facilitators (first three authors) who created an online Google classroom with research resources and responded to online questions to provide just-in-time support. Other studies have also shown that when university faculty engage in a study of their teaching practice and receive just-in-time support from facilitators, transformative learning occurs (Jaipal-Jamani et. al., 2015; Meijer et al., 2017). The facilitators also created a handbook with the STEM pedagogies and activities implemented during the summer institute that lecturers could refer to.

Ongoing access to resources has also been found to support and facilitate transfer of workshop activities into teaching practice (Manduca et al., 2017).

Lecturers also reported their perceptions of how students engaged and learned during the implementation of STEM pedagogies in the course. The impact on students' engagement and learning was ascertained by lecturers from classroom observations of student activities and assessment of student artifacts submitted. The findings about the impact of STEM instructional approaches on student engagement and learning were, 1) increased student engagement in activities, 2) increased collaboration among peers, 3) students were motivated to design and/implement innovative and community-related projects, and 4) students were empowered to take risks. Lecturers reported that leveraging real-world applications provided students with opportunities to apply TVET technical skills and research skills in realistic ways and motivated them to explore projects outside of class and take risks. In this study, examples of real world, problems and project-based learning included the marketing assignment on how to enhance student recruitment into the programme, the Home Economics assignment on waste literacy, and a constructiontTechnology project that involved designing, funding and building a Bathroom facility for a school. Students also experienced some challenges during flipped and online instruction such as the need for more time to be spent on clarification of content and tasks by the lecturer, and for students to complete projects. Students were also challenged to maintain focus during online learning.

Another important outcome of the study was lecturers' professional learning in research methods and scholarship. By participating in a collaborative, international partnership, lecturers were supported to do self-study and classroom action research. All co-researchers in this study participated in two virtual meetings, a research workshop at the summer institute, and an in-person meet-up to discuss the processes involved in conducting research such as data collection, pedagogical documentation, data analysis, triangulation of data and the action research process. Lecturer co-researchers then implemented STEM pedagogies or inquiry strategies or tasks in their teaching practice, reflected on these practices, carried out pedagogical documentation (writing out reflections, documenting student work, documenting teaching changes including pedagogical triumphs and challenges) and shared action research findings as case studies at an international conference. They gained expertise in conducting research, writing, and disseminating findings which supported their scholarship, similar to the findings of the Jaipal-Jamani et al. (2015) study.

Participation in the international partnership as learners and co-researchers can also be interpreted through the broader lens of supporting lecturers develop leadership in the areas of teaching practice and research. The characteristics of transformational leadership (Bass and Riggio (2006) can be applied to the international partnership to illustrate how community building and leadership in teaching practice and research were fostered. Idealised Influence was observed when faculty PD facilitators consulted with lecturers and created PD based on the needs of the lecturers in their local context – being prepared to communicate and model how to teach the Jamaican National Standards curriculum. Facilitators, therefore, communicated a vision for the PD that was a collective goal of the Faculty of Education–learning how to integrate STEM pedagogies in TVET teacher education courses. Inspirational motivation was achieved by facilitators modeling a variety of STEM pedagogies at the summer institute, such as designing hydroponics, which inspired and motivated lecturers to try out similar STEM problem-based pedagogies in their courses. Facilitators also provided workshops on action research communicated their confidence that lecturers could take on leadership to conduct independent research. Lecturers received "Intellectual Stimulation" by facilitators providing hands-on, design challenges during the PD such as using a design computer application to problem-solve in their own unique ways. Lecturers were also empowered to design their unique action research to be implemented in their classrooms. Lastly, the faculty partnership was characterised by individualised consideration where facilitators provided on-site and online support to lecturers during the planning and implementation of their action research.

Based on the aforementioned reflection of our international partnership through the transformative leadership lens, we propose a framework for collaborative international partnerships to support transformative learning as illustrated in Figure 1. In this framework, even though participants are academics and experts in their disciplinary or applied fields, they position themselves as learners and embrace the learnings from colleagues who bring expertise (e.g., in STEM pedagogies) into the international partnership. The first phase in the framework is represented as *positioning self as learner* within the international collaborative space. In this way, there is an interchange of ideas and academics learn from each other throughout the process. Power relationships are also minimised thereby promoting the formation of mutually beneficial relationships. The second phase of the process is *building capacity through engagement – lecturers participate* in relevant PD activities based on lecturers' needs. The next phase is *empowering*

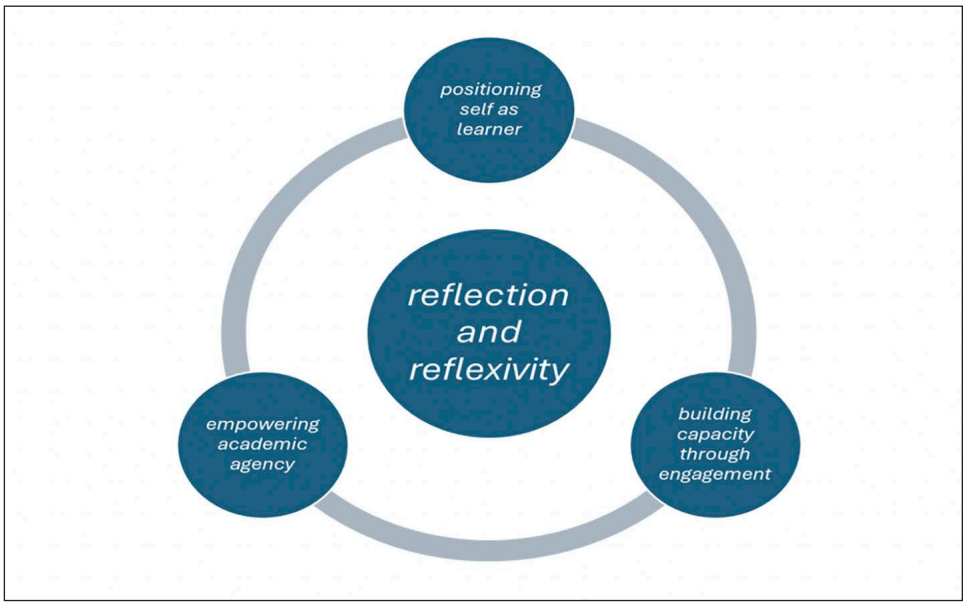

Figure 1. The Collaborative, International Partnership Framework for Transformative Learning

academic agency – lecturers to design and implement pedagogical practices and action research plans independently or in collaboration with colleagues who act as critical friends (White et al., 2020). Throughout the three phases, lecturers engage in *reflection and reflexivity* – lecturers reflect on teaching practice and action research which promotes a growth mindset that facilitates changes in teaching practice and engagement in scholarship.

Conclusion

This study reported on how the collaborative, international university partnership between two Canadian teacher educators and Jamaican teacher educators/ lecturers supported Jamaican lecturer's learning and integration of STEM pedagogies into teacher education courses and built research and scholarship capacity by supporting lecturers conduct research on their teaching practice. The Jamaican lecturers taught in a Faculty of Education that prepared student teachers to teach TVET subjects at schools. The study reported in this paper explored how the Jamaican lecturers implemented STEM pedagogies in TVET and Education courses after they attended a three-day STEM/TVET summer institute in Jamaica. The findings indicate that the STEM/TVET summer institute

workshops were successful at supporting lecturers change their teaching practices to incorporate learner-centered, STEM pedagogies such as inquiry and PBL that led to enhanced student engagement and peer collaboration in activities; activities implemented engaged students in authentic inquiry to problem-solve and create community-based projects. The student outcomes reported in the paper highlight the importance of designing PD workshops where lecturers collaborate with colleagues, participate in hands-on, STEM activities in authentic TVET curriculum contexts, and reflect on the pedagogical implications of the activities. The latter strategies help promote transfer of PD into teaching practice in ways that model how to teach with STEM pedagogies. Such modeling in teacher education courses provides TVET student teachers with pedagogical skills that they can draw on to implement the Jamaican National Standards Curriculum in primary and secondary schools. Lecturers' success at transforming their teaching practice, albeit in small ways, was supported by the dual goals of the international partnership – which were to provide knowledge of STEM pedagogies and provide knowledge about how to conduct research on classroom practice – which created an alignment with instructional goals and scholarship goals (Jaipal-Jamani et al., 2015; Sims et al., 2021). A final outcome of this study is a proposed framework for transformational learning through a collaborative, international partnership. This framework described how to enact a collaborative, international partnership that promotes transformational learning among faculty/lecturers in relation to teaching practice and research. In this study, lecturers, who were members of the collaborative international partnership, gained knowledge over a period of time about pedagogy and research in a supportive and caring environment. The latter collaboration empowered them with confidence to reflect on teaching practice through self-study and action research and engage in collaborative scholarship as evidenced by co-presentation of a paper at a conference and co-authorship in this paper.

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The Response to Emergency Remote Teaching in Response to the COVID-19 Pandemic at a University in Jamaica

KAMLA ANDERSON AND **MICKALIA PECK-AIKENS**
University of Technology, Jamaica

Abstract

This study aimed to evaluate the learning experiences of final-year students at a University in Kingston, Jamaica, specifically examining their experiences with both face-to-face and online teaching modalities. The urgent shift to online teaching, prompted by the COVID-19 pandemic, necessitated a rapid assessment of its impact on student learning. A mixed methods research design was employed, incorporating both quantitative surveys and qualitative focus groups/interviews. The quantitative component involved a structured questionnaire distributed to a sample of final-year students. This aimed to gather data on their perceptions of both learning modalities. The qualitative aspect included several focus groups, allowing students to share detailed insights into their experiences, challenges, and preferences. Key findings revealed that while students faced significant challenges with online teaching – such as technological barriers, reduced engagement due to lack of in-person interaction and difficulties in accessing reliable internet – many appreciated the flexibility and convenience that online learning offered. This enabled them to better manage their academic responsibilities alongside personal obligations, leading to a desire for continued access to flexible learning options in the future. Based on the study's findings, the authors recommend a deliberate integration of online learning at all levels and across all disciplines where feasible. They believe that when multiple class options are available, a fully online format should be offered at least 50% of the time to leverage the advantages of online learning and better accommodate adult learners. Additionally, further exploration of fully online courses of study should be considered where applicable.

Keywords: emergency online teaching, COVID-19, mixed-methods, online learning, higher education

Corresponding author: Kamla Anderson – kamla.anderson@utech.edu.jm

Introduction

Tertiary education is designed to help students develop competencies and skills that they need to thrive in the world of work (Howell et al., 2022). The methodology of teaching whether face to face or online, has the potential to influence the development of these competencies and will play a role in the experiences that students have. Online education had been gradually introduced in the Jamaican context with the introduction of the ICT education policy framework in 2012 (Beecher & Crowder, 2012). This policy sought to provide guidance to educational institutions and provide training to teachers and resources to students. The advent of COVID-19 hastened the implementation of this policy as schools were shuttered for an extended period during the years 2020–2022. The education system was therefore forced to pivot from face-to-face teaching to online teaching.

Students at all levels, from early childhood to higher education were thrust into online learning, many of whom had no prior experience with the same. There were some success stories across the sector and many accounts of students who languished under the weight of online learning (Bozkurt & Sharma, 2020 & Ruoslahti, 2020). For many institutions, the utilisation of an online learning management system (LMS) was necessary to maintain business continuity in the education sector to accomplish the desired educational objectives in response to the worldwide pandemic COVID-19 (WHO, 2023).

The goal of this study was to obtain tangible data from the final year students at Dryton University[1] in Kingston, Jamaica about their experiences with online learning. For many students, they had not engaged in online learning previously as they had only experienced face-to-face learning before the pandemic. Dryton University has provided tertiary education in Jamaica for over 50 years in a wide range of disciplines including science, business and engineering to over ten thousand students annually. Prior to the pandemic the university had offered classes primarily face to face with only a few courses offered using the online modality.

1 This is a pseudonym utilised to protect the identity of the institution

During the pandemic, students had to learn to navigate the online learning management system, Moodle, to get access to notes, graded assessments and other teaching material as well as learn to utilise synchronous tools such as Zoom and Blackboard Collaborate for live teaching sessions. Moodle is an open-source software which includes multiple features that can be used in the online teaching & learning process and can be accessed anywhere on any type of electronic device with internet capability (Aulianda et al., 2023). The pivot to online learning required significant investment on the part of the university by way of provision of hardware and software tools for both faculty and students. Students were required to adapt to new ways of learning including utilising asynchronous modalities, and taking assessments online (Yan et al., 2021).

Theoretical Framework

This study is undergirded by the Community of Inquiry model developed by Garrison, Anderson & Archer (Picciano, 2017). This model outlines the various elements that contribute to the learning environments for online and blended courses. These include social presence, cognitive presence and teaching presence. The model suggests that a successful learning community is formed when participants feel connected to each other socially, when they can actively engage in critical thing and knowledge construction and when they are guided effectively by an instructor. This model is useful in this study because it provides a model for an analysis of the students with the online platform and allows us to compare their experiences with the face-to-face modality.

Online Learning and the COVID-19 Pandemic

Online learning has become more prevalent in the last decade, especially with the advent of the COVID-19 pandemic. Understanding students' experiences with online learning will help to improve overall effectiveness and hopefully improve learning outcomes. The literature reviewed in this study will help to situate this study and provide a broader context for the findings.

Considering the novel experience during the COVID-19 period, there are several researchers who have documented their experiences that can be helpful for the Jamaican context. There are many advantages to online learning as outlined by Ferri et al., (2020) including the ability to study anywhere, time saving and cost saving benefits. Similar benefits were highlighted by the students in this study as

they outlined their experiences in online learning, many of whom experienced it for the first time. These advantages were critical when Jamaica along with the rest of the world sought to grapple with the impact of the pandemic while attempting to maintain learning.

Yan et al., (2021) highlighted the issues faced in China. Their findings highlighted the challenges with access to resources and stable internet access which impacted the desired learning outcomes. The study outlined the need to choose a suitable learning management system (LMS) which facilitates usage on mobile devices. Aulianda et al., (2023) outlined benefits of Moodle for students which include improved student engagement and outlines how the features of Moodle can benefit students and possibly increase student outcomes. This study helped to inform the design of this study, albeit within a Jamaican context to determine the students' experiences with Moodle. Additionally, Ruosalhti (2020) highlighted the social factors that impacted online usage from the perspective of the teachers. Some of these included perceptions of ease of use and the ability of teachers to interact with students. The article also outlined the ease with which students interacted during online learning, which indicates that the students could adapt easily to the change. However, teachers believed students concentrated less in an online capacity, and this has the potential to negatively impact learning outcomes. As Ghodke (2023) stated, the online classroom during COVID-19 became the real classroom, online learning was no longer a luxury, but it became a reality. In this study the author highlighted the perceptions of the students regarding the advantages and disadvantages of online learning. Some of these included: interaction with students and teachers, the freedom to learn from home, the cost saving element of not going out to school and the ability to pause videos as needed. Some of the disadvantages highlighted included technical challenges, social detachment and lack of self-discipline to work on their own. The author did note however that the advantages of online outweighed the disadvantages although both are important to take note of when seeking to implement online learning. The conclusion from this study was a recommendation of a blended modality to take advantage of the benefits from both the face to face and the online modality.

In addition, Ferri et al., (2020) outlined some of the majors taken in Italy as they struggled with an extensive period of lockdown which significantly impacted education. Their study highlighted the three categories of challenges faced by respondents during the lockdown: technological, pedagogical and social. The pandemic highlighted the inequalities faced by students, those who had ready access to devices and internet access and those who did not. The students who

had limited or no access were impacted tremendously during the lockdown and suffered learning losses. The issues are also magnified when comparing rural and urban areas. The study also highlighted the knowledge gaps for lectures and teachers required for successful online teaching and learning.

Methodology

The research utilised a mixed methods approach, specifically a deductive sequential design (Cresswell & Plano-Clarke, 2011). The following objectives were identified for the study:

1. Measure and quantify student experiences in online learning
2. Determine the pedagogical experience of the final year students with the use of the Dryton University Learning Management System (LMS).

Participants and Sample

The estimated population of final year students at Dryton University is 3,554 based on statistics received in 2022 from the University's admission department. Using a population of 3,554 students and a confidence level of 95%, with a margin of error of 5% the target for the study, which is appropriate for a descriptive study was 400 students with 329 responses (Althubaiti, 2022). The students were recruited for participation in the study via social media and email. Their contact information was received under a confidential report from the university's admissions department. It is estimated that the survey took no longer than 15 minutes to complete and participants completed the same at their convenience within the timeframe provided (four weeks).

Data Collection Procedures

An online survey utilising google forms was disseminated to obtain the quantitative data required for this study. After the data from the surveys were collected and analysed, interviews and/or focus groups were conducted with 10–15% of the sample.

The survey was conducted to assess students' experiences and satisfaction with the Learning Management System (LMS) during and after the transition to online learning, particularly in response to the COVID-19 pandemic. It aimed to gather insights on how well students adapted to the LMS, evaluate the effectiveness of its

features, and identify areas for improvement in online education. Understanding these aspects helps the university enhance the learning experience and support student needs more effectively.

The survey gathered responses from 329 students, with a demographic split of 71.4% female and 28.6% male, representing a good cross-section of the university. Seven out of eight faculties participated. Pre-pandemic, 17.2% of students had never used the Learning Management System (LMS), but this dropped to 2.1% during the pandemic. Over 63% found it easy to adapt to the LMS, while only 11% faced difficulties.

A focus group was also conducted to explore the students' experiences with both face-to-face and online learning during the COVID-19 pandemic. The quantitative data was collected and analysed first, and then the qualitative data was collected and analysed. Both data sets have been merged to produce a comprehensive analysis. The analysis of the quantitative data was conducted using Microsoft Excel software. This tool was utilised because it provided detailed organisation, analysis and cleaning of the data without the complexities of other tools (Tuttle, 2023). The software helped the researchers to identify trends and patterns in the data which were utilised to inform conclusion for the study. The transcripts from the interviews and/or focus groups were transcribed manually by the researchers and sent back to the participants for member-checking. The data was then analysed using content and thematic analysis (Clarke & Braun, 2013). Codes and themes were assigned manually by analysing the responses of the participants and checking for overlapping thoughts and phrases. This analysis helped to provide a comprehensive review of the data obtained.

Ethical Considerations

Participants were contacted via email and telephone and were invited to participate the study. The students, after expressing interest in the study, were required to consent prior to participation. The consent form outlined the study's purpose, and any potential risks for the participants. Permission to conduct the study was obtained through the University's ethics committee before data collection. The participants were given a minimal mobile credit incentive upon completion of the instrument. It is not believed that the study exposed the participants to any known physical or emotional risks. Additionally, this student data was not shared with any third-party stakeholder. Students were required to provide contact details on the survey for follow-up (participation in the focus groups). Pseudonyms have been utilised for the participants and the institution involved in the research.

Results

The results from the survey helped to answer the objective of measuring and quantifying students' experiences with online learning. Of the 329 students who completed the survey, 71.4% were female and 28.6% were male, which is a fair representation of the overall spread across the two genders for the University. Representatives from 7 out of the 8 faculties within the University responded to the survey. Prior to the pandemic only 17.2% of students had never utilised the LMS, as indicated from the data collected and that number dropped to 2.1% after the start of the pandemic. When asked about adapting to the use of the LMS over 63% of students indicated that they adapted easily with only 11% expressing difficulty. The students were asked to outline the experience that they had with the various features of the LMS, and the table below summarises their response:

The features that were included in the survey represent the most popular features that are commonly utilised in teaching & learning and help to ensure that learning outcomes are achieved (Aulianda et al., 2023).

When asked to rate their overall experience in relation to convenience or comfort (Aulianda et al., 2023) with utilising the platform with the LMS, over 62% of

Table 1: Responses of the students to the Experiences with various features of the University's LMS

Features of the LMS	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied	Did not use
Forums	3.3%	4%	37.4%	21.6%	8.5%	25.2%
Quizzes	3.3%	7.9%	26.7%	38.9%	21.2%	2%
Assignments	2.7	6.1	21.3	45.1	22.6	2.2
Video links	3.4	8.8	26.8	37.2	16.5	7.3
Wiki	7.0	7.6	28.7	9.7	4	43
Glossary	6.4	8.2	28.7	11	4	41.7
Turnitin Assignment	6.1	10.4	24.7	34.8	20	4
Chat	5.8	7.0	32	21.6	11.3	22.3

students expressed satisfaction and 13% expressed dissatisfaction. In terms of ease of access, over 61% expressed satisfaction and 13% expressed dissatisfaction. In terms of flexibility, 59% expressed satisfaction with 11% expressing dissatisfaction. In terms of assignment submission 46% of students were satisfied with the capabilities of the system while 19% were dissatisfied. 54% of students agreed that the LMS provided an efficient way of learning while 13% disagreed. 58% of the students were satisfied with the quiz submission process on the LMS while 14% were dissatisfied. When asked about the cost effectiveness of utilising the LMS, 16% were satisfied and 56% were dissatisfied. When asked about the ease of building relationships with faculty in an online environment 57% of students were satisfied while 15% were dissatisfied. When asked about the ease of building relationships with other students in an online environment 65% of students were satisfied while 10% of students were dissatisfied.

Students reported on how they managed time in the online learning environment. Thirty-seven percent expressed satisfaction and 26% expressed dissatisfaction. When asked about the opportunity for participation in an online learning environment, 63% of students expressed satisfaction while 9.4% of students expressed dissatisfaction.

The participants were asked to indicate their preferred modality between face to face or online at least 60% of the time for future classes. Twenty-one percent indicated face to face, 51% indicated online and 28% indicated both. The students described their experience with online learning. of the following aspects were highlighted: They reported that it was more convenient, cost effective, more flexible and access to recordings was an advantage. Some of the disadvantages that they highlighted were less physical interaction with peers, limited communication with lecturers and difficulty with transitioning from face to face to online. When asked to compare their online learning experience vs face to face, the students noted the cost saving opportunities with online learning and opportunities for online collaboration, but highlighted challenges with networking/limited opportunities for interaction. They outline that challenges with online learning included Wi-Fi connectivity issues, intermittent Moodle access, limited opportunities for learning practical courses, limited response via email from lecturers. However, students were overall satisfied with the features offered by the University's LMS with the usage of the system being high.

Focus Groups

The focus group data helped to determine the pedagogical experience of the final year students with the LMS, and the discussions highlighted both advantages and challenges of online learning. Students appreciated the adaptability of remote learning, allowing them to better manage personal and academic commitments. However, they also reported struggles with staying engaged and focused during online sessions, a sentiment echoed in research by Garris and Fleck (2020). Those researchers analysed students' experiences with the transition to online learning. Like the focus group findings, this study pointed out that while online learning offers convenience, it may lack the immediacy and connection of in-person classes.

Furthermore, students reported decreased participation in online classes, feeling that their engagement was lower compared to face-to-face settings. This aligns with previous research such as Martin and Bolliger (2018), which emphasises the critical role of engagement strategies in online environments. The lack of active involvement in online learning was seen as a key drawback, and participants in both the study and focus group expressed the need for more interactive online platforms to mitigate this issue.

Students reported varied experiences with online quizzes and exams. Some appreciating the reduced stress of remote assessments, while others were concerned about technical problems and the potential for dishonesty during exams. Overall, the group favoured the flexibility of online learning but highlighted the need for better engagement methods and technical support to improve the remote learning experience. The focus group data revealed that most students had a preference for online learning due to its flexibility and convenience, which was particularly beneficial for those balancing work and school and also for students dealing with long commutes. However, a smaller group of students still favoured face-to-face learning for its interactive environment, hands-on activities, and immediate feedback.

Discussion

The challenges faced by the Jamaican students in this study are by no means unique as similar challenges were faced around the globe during the covid-19 pandemic (Yan, 2021). It is noteworthy that students wanted to maintain online learning after the worst of the pandemic had passed to help them to balance their work-life responsibilities. Blended learning can help to bridge the gap between

the desired flexibility and the social needs that students have (Ferri et al., 2020). An expansion of fully online programmes will require a robust investment in devices and the development of a significant broadband network to meet the needs of all stakeholders on campus. This investment will require a strategic shift from the university's senior management and a commitment to resources both human and physical. Before the pandemic, the focus of the university leadership was on holding classes in person and maintaining the physical campus. One of the lessons that emerged from the pandemic was that online learning is a viable option, and it can help to maintain business continuity. The online teaching model that was utilised during the crisis must be expanded upon to develop and deliver fully online programmes to meet the needs of the 21st-century student. The students discussed the need for flexibility and want the option of pursuing education while working full or part time.

Conclusion

The objectives of the study were met. The survey data provided critical information on student experiences in both face-to-face and online modalities. The students indicated challenges with the transition due to the sudden pivot to online learning given the need to respond to the Covid-19 crisis. For the most part, the final year students seemed to have adapted commendably with most of their responses being positive towards online learning while not being ignorant of the challenges faced. Overall, the students seem to prefer the online learning experience when compared to face to face learning, to capture benefits outlined above.

Based on the study's findings, the authors would recommend a purposeful inclusion of online learning at all levels across all disciplines where possible. The researchers believe that where the opportunity for multiple classes exists, a fully online option should be available at least 50% of the time to capitalise on the benefits of online learning and to meet the needs of adult learners. While lessons are to be learnt from this period, it must be clearly understood that the measures that were taken to sustain learning during the pandemic, do not represent the ideal standard of online learning (Hodges et al., 2020). The requisite planning and preparation are needed to maintain standards outside of an emergency. It is also critical to ensure that online courses are developed with the three levels of interaction included: student to content, student to student and student to instructor. These interactions must be meaningfully planned and integrated into the online environment to ensure they are achieved (Riggs, 2020).

It is critical to learn from the pandemic experience so that the lessons learnt will not get lost in a hasty attempt to return to the former teaching and learning modality. Online learning should become a purposeful part of the fabric of teaching and learning instead of an accidental unintentional outcome. The need for continuous training in online delivery and development is crucial. Adherence to existing local, regional and international standards is critical to ensure that the University is providing a quality output, which can stand up to the rigour of internal and external assessment.

The study, although useful, is limited in terms of the use of one university and the relatively small sample size that was utilised. Also, convenience sampling was utilised as opposed to a true random sampling. However, it is believed that the data garnered can provide helpful information to guide policy and additional studies can be undertaken to guide the conversation on online learning especially in a Jamaican context.

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Academic Stress, Mental Health, and Coping among University Students during the COVID-19 Pandemic

KENISHA NELSON, NICOLE OLA CAMERON AND **KAI BARRATT**
University of Technology, Jamaica

Abstract

Along with the usual stresses of university life, the COVID-19 pandemic introduced additional challenges for university students, exacerbating stress and mental health issues, particularly as academic and social structures abruptly shifted online. This study investigated the impact of the pandemic on the mental health of undergraduate students at the University of Technology, Jamaica, focusing on the prevalence of stress, anxiety, depression and the coping strategies students employed during this period. Using a cross-sectional design, 377 participants completed a structured survey, which included the Hospital Anxiety and Depression Scale (HADS). Findings showed that over two-thirds of participants reported frequent experiences of stress, anxiety, and depression, with 53% meeting the HADS criteria for mild to severe anxiety and 44% for depression. Participants reported significant disruptions across various domains of their life including social relationships (64%), finances (57%), sleep patterns (51%), eating patterns (49%), and academic performance (43%). Forty-six percent of participants reported a deterioration in their mental health since the pandemic and notably, 13% reported suicidal ideation. Stress due to academic demands was associated with anxiety and depressive symptoms. Nonetheless, participants commonly employed more adaptive coping strategies such as exercise (36%), making social connections (34%), and reliance on religious faith (31%), than maladaptive ones. The study demonstrates the significant impact of the pandemic on students' mental health and underscores the need for universities to enhance mental health support services, especially during crisis situations.

Keywords: Academic stress, mental health, coping, COVID-19, university students

Corresponding author: Kenisha Nelson – knelson@utech.edu.jm

Introduction

The COVID-19 pandemic, which was declared in March 2020, profoundly affected various aspects of life globally, with significant implications for mental health, particularly among university students in developing regions. In these regions, the shift to online learning was met with infrastructural limitations, such as inadequate internet access and a lack of technological resources (United Nations, 2020). These barriers hindered students' ability to participate in academic processesm which also contributed to increased academic stress as they struggled to keep pace with their peers in more developed regions (Barbayannis et al., 2022). Academic stress is the psychological strain experienced in relation to academic demands (Kristensen et al., 2023). The disparity in educational resources has highlighted the vulnerabilities of these communities. University students are particularly vulnerable to the pressures of academic expectations. In small island states like Jamaica, the pandemic further complicated the educational landscape due to limited resources. Many students faced challenges such as power outages and unreliable internet connections, which made attending online classes difficult (Fikuree et al., 2021). The stress of these obstacles was compounded by the fear of economic instability and job loss, as many families in these regions rely on tourism and other vulnerable sectors (Blackman, 2022). This situation created a perfect storm of academic and personal stressors, leading to heightened anxiety levels among students.

The intersection of academic stress and mental health challenges underscores the urgent need for comprehensive support systems in these vulnerable populations. Many students reported feeling isolated and unsupported, as mental health services are often limited or stigmatised in these regions (Robinson et al., 2021). The lack of access to counselling and psychological support has left many students coping with their stress and anxiety alone, which can lead to long-term detrimental effects on their mental well-being (Gallimore et al., 2023). Research indicates that students who received encouragement and assistance from family members and peers experienced lower levels of stress during the pandemic (Yang et al., 2022). Understanding the coping mechanisms employed by students during

this tumultuous period is crucial for informing future support systems and interventions that can enhance resilience and promote mental health in higher education settings.

Therefore, this paper aims is to explore the multifaceted nature of academic stress during the pandemic, assess the relationship between stress and changes in mental health and understand the coping mechanisms students employed. By shedding light on these issues, we can better inform policies and practices that promote resilience and mental health among university students in the face of ongoing challenges.

The COVID-19 Pandemic and Academic Stress

Research indicates that the transition to online learning, sudden changes in academic structure, and social isolation have increased feelings of anxiety and depression among students. Students reported heightened levels of stress and anxiety due to the abrupt shift to remote learning, which disrupted their academic routines and social interactions (Lee et al., 2021; Wang et al. (2020). Zarowski et al. (2024) in their review noted that self-harm, depression, obsessive-compulsive disorder, and other problematic mental health indicators increased among the student population during the pandemic. These indicators were amplified by multiple factors, including risk perceptions of disease contraction and disease severity (Clabaugh et al., 2021) and the digital divide, which the pandemic heightened as students struggled to navigate online learning (Ferri et al., 2020). In addition, students had to endure financial distress due to the economic disruptions brought about by the pandemic (Zarowski et al., 2024). These factors not only impacted academic performance but also posed significant challenges to mental health and well-being.

As students navigated these challenges, many faced difficulties maintaining motivation and managing their time effectively, leading to increased academic pressure (Barbayannis et al., 2021). Moreover, the pandemic has highlighted existing disparities in access to mental health resources. Many universities struggled to provide adequate support services, leaving students to cope with their stressors largely on their own. The lack of access to in-person counselling and support groups during lockdowns further complicated the situation, as students were often left isolated with their struggles. This isolation can lead to a vicious cycle where academic stress contributes to mental health issues, which in turn affects academic performance (Jiang et al., 2022).

The long-term mental health implications of the pandemic on college students have been particularly profound, with emerging research suggesting potential lasting psychological consequences. A longitudinal study by Huckins et al. (2020) demonstrated that students experienced significant declines in mental wellbeing, characterised by reduced social interactions, increased sedentary behaviour, and disrupted sleep patterns. Moreover, Kaparounaki et al. (2020) found that the pandemic disproportionately affected students with pre-existing mental health conditions, with limited access to traditional support systems intensifying their psychological challenges. Chen et al. (2021) conducted a comprehensive meta-analysis revealing that the pandemic's mental health impact extended beyond immediate psychological distress, potentially influencing students' academic performance, career trajectories, and long-term personal development. Their research indicated that approximately 40% of students reported persistent anxiety and depression symptoms even after the immediate crisis period, suggesting a potential "mental health pandemic" alongside the medical crisis. The combination of academic stress, social disconnection, financial uncertainties, and ongoing health concerns created a complex mental health ecosystem that required comprehensive institutional and individual interventions.

University Students' Coping Strategies

Coping strategies play a crucial role in how students manage academic stress. As students faced disruptions in their academic routines, social isolation, and heightened mental health concerns, many turned to various adaptive techniques to manage stress and maintain their well-being. Research suggests that adaptive coping mechanisms, such as seeking social support and engaging in problem-solving, can mitigate the negative impacts of stress (Aldao et al., 2010). Conversely, maladaptive strategies, such as avoidance and substance use, can worsen mental health outcomes (Folkman & Moskowitz, 2004). During the pandemic, students have had to develop new coping strategies in response to their unique circumstances, such as reliance on digital platforms for social interaction and support (Ferri et al., 2020) or even more emotion-focused strategies (Clabaugh et al., 2021). Furthermore, the pandemic has prompted a reevaluation of the importance of mental health awareness and support systems within academic institutions. The need for universities to provide more comprehensive mental health programmes that address the specific challenges faced by students during crises is well-documented (Abad Santos et al., 2023; Hunt & Eisenberg, 2010; Jiang et al., 2022; Son et al., 2020; Weber et al., 2022).

The existing evidence suggests that the COVID-19 pandemic heightened academic stress among university students, revealing critical intersections between academic demands and mental health. Understanding these dynamics is essential for developing effective coping strategies and support systems to enhance student well-being. The current study will investigate the convergence of university students' experience of academic stress and mental health. The research questions used to guide this study are:

1. How did the pandemic affect students' overall well-being?
2. Did students experience any significant changes in their mental health during the pandemic?
3. 3a. What mental health challenges did students experience during the pandemic?
   3b. What is the relationship between the levels of stress experienced by students and reported levels of anxiety and depression?
4. What coping strategies did students use during the pandemic?

Methods

Research Design

This study used a quantitative approach. In 2021 and 2022, undergraduate students at the University of Technology, Jamaica (UTech, Ja.) were surveyed via a cross-sectional survey.

Participants/Sample

Data was collected from 377 undergraduate students who were completing the Academic Writing Courses in semesters one, two, and three during the 2021/22 academic year at the university. However, due to missing data, 256 cases were used for analysis in the study.

At UTech, Ja., Academic Writing 1 (AW1) and Academic Writing 2 (AW2) were mandatory general education courses until 2023. The COVID-19 pandemic forced these modules online in March 2020 via the Moodle learning management system, accelerating the shift to remote learning. Before this, Moodle was used to access resources with minimal university-wide interaction. The emergency transition to remote learning in 2020 saw high failure rates in AW1, prompting research

into the challenges faced by students during this period. This paper is based on a larger research project that investigated the difficulties students encountered in academic writing modules delivered remotely, particularly in adapting to digital learning environments and overcoming engagement barriers. The broader research project included two surveys administered to students who completed Academic Writing 1 and Academic Writing 2 during the pandemic at UTech, Ja.

Materials

As part of the larger study, data collection was carried out through a cross-sectional survey chosen for its broad applicability, ability to generate generalizable results, and statistical reliability. A structured questionnaire with 57 closed-ended questions was used. Participants recorded information on demographic details, their English language proficiency, and shared experiences related to class participation, online learning, and mental health during the COVID-19 pandemic.

For this study, participants were asked to self-report the frequency of mental health challenges such as stress, depression, anxiety, loneliness, self-harm, and suicidality. For example, "Please indicate how often you have experienced the following since the COVID-19 pandemic." Items were measured on a 5-point Likert-type scale – "Never" to "Always". In addition, the Hospital Anxiety and Depression Scale (HADS), a standardied self-administered screening tool often used in clinical settings, was used to measure the severity of anxiety and depression. It consists of 14 items on a 3-point Likert-type scale (range 0–3). Each sub-scale (anxiety and depression) consists of seven items and is summed to give a score ranging from 0-21 (Zigmond & Snaith, 1983). Since its development, the HADS has been used in clinical practice and non-clinical research and has shown satisfactory psychometric properties (Bjelland et el., 2002; Breeman et al., 2015; Djukanovic et al., 2017). The questionnaire also included measures of perceived changes in mental health, measured on a 5-point scale (e.g., "My mental health has gotten significantly worse" to "My mental health is much better"), and indicators of disruption in various life experiences, measured on a 5-point scale ("Not at all" to "Very much"). Participants were also required to report on coping strategies used during the pandemic.

Data Collection Procedures

Prior to data collection, ethical approval was obtained from the University of Technology, Jamaica's Ethics Committee, ensuring adherence to the university's

ethical guidelines. Data collection occurred from July 2022 to April 2023. The study used a convenience sample, and participants were recruited using email and posters. Additionally, module facilitators and student representatives were asked to assist with the recruitment of participants from their classes and student networks. The survey was conducted online using a Google Forms link, benefiting from cost-effectiveness, quick data collection, and broad reach. This method also enhanced improved response rates and maintained participant anonymity, fostering more honest and accurate responses.

Data Management and Analysis

Completed questionnaires were extracted from Google Forms and exported to Microsoft Excel for coding and cleaning. The cleaned data were analyzed using the Statistical Package for Social Sciences, Version 23 (SPSS 23). Descriptive statistics were used to summarise, and reduce the data into manageable clusters for reporting and further analysis. To assess the relationships among variables, Chi-square analyses (χ^2) were conducted to determine differences in frequencies across categorical variables. Differences among groups were assessed using One-Way Analysis of Variance (ANOVA).

Results

The results of the study present findings across several key areas related to the impact of COVID-19 on university students. These include the disruption to students' lives due to the pandemic, the prevalence of mental health challenges such as stress, anxiety, and depression, changes in mental health status, and the coping strategies employed by students.

Table 1 presents the descriptive statistics for the demographic variables. The results indicated that 75% of the participants were female. The majority were between the ages of 17 and 20 years old (38%), in the second year of their studies (52%), and from the College of Health Sciences (31%).

RQ1: How did the pandemic affect students' well-being?

Participants reported various challenges affecting their well-being during the pandemic. As shown in Figure 1, approximately two-thirds indicated that their social relationships were affected, while over 50% stated that they encountered financial

Table 1: Demographic Characteristics of the Sample (N=256)a

		n	%
Gender (n = 256)	Male	64	25
	Female	192	75
Age (n = 255)	17-20	98	38
	21-24	83	33
	25-28	33	13
	29 and over	41	16
Faculty/College (n = 252)	College of Health Sciences	78	31
	Faculty of the Built Environment	26	10
	Faculty of Engineering and Computing	75	30
	College of Business and Management	21	8
	Faculty of Education and Liberal Studies	9	4
	Faculty of Science and Sports	19	7
	Faculty of Law	17	7
	Joint Colleges of Health	7	3
Academic Year (n = 255)	1st Year	71	28
	2nd Year	132	52
	3rd Year	34	13
	≥ 4th year	18	7

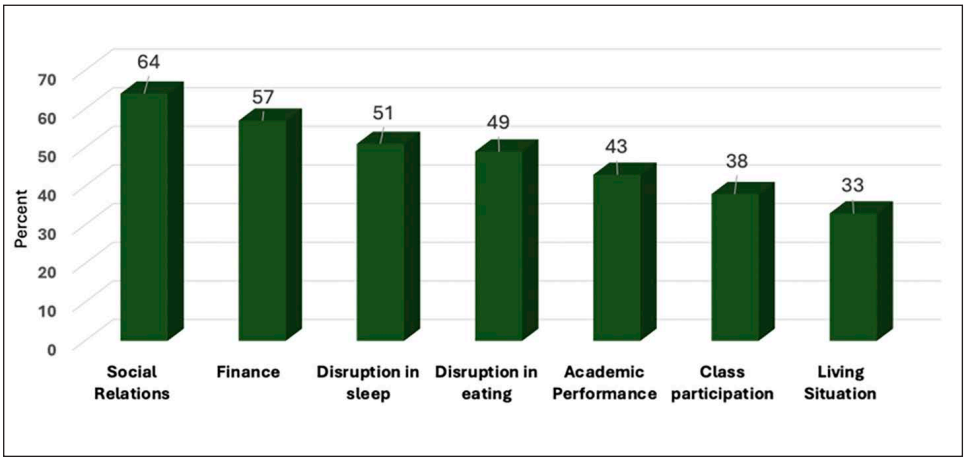

Figure 1: Areas of Life Affected by COVID-19

difficulties and disruptions in their sleep. More than a third of participants also indicated challenges in other areas, including disruptions to eating patterns (49%), academic performance (43%), class participation (38%), and living situations (33%).

RQ2: Did students experience any significant changes in their mental health during the pandemic?

Figure 2 shows the distribution representing changes in the mental health of participants. Changes in mental health for the worse were noted by 45.5% of participants. Over 39% indicated no change in their mental health status, while a small number of participants (14.9%) indicated that their mental health had gotten at least a little better during the pandemic. Stress appears to have affected participants' change in mental health status. Chi-square analysis showed that participants who experienced higher levels of stress were more likely to report that their mental health had deteriorated during the pandemic (χ^2 (4, n= 254) = 35.50, $p < .01$, $phi = .37$).

RQ3a: What mental health challenges did students experience during the pandemic?

As shown in Figure 3, 85% of participants reported experiencing stress during the COVID-19 pandemic. Most participants also reported anxiety (69%), depressive symptoms (65%), and loneliness (59%), while 13% and 7% reported having suicidal ideation and engagement in self-harm behaviours respectively.

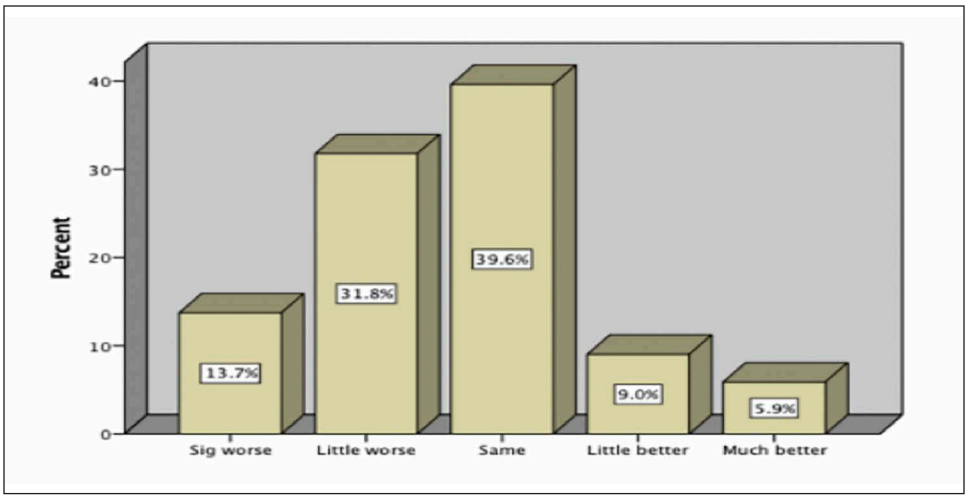

Figure 2: Self-Reported Change in Mental Health During COVID-19

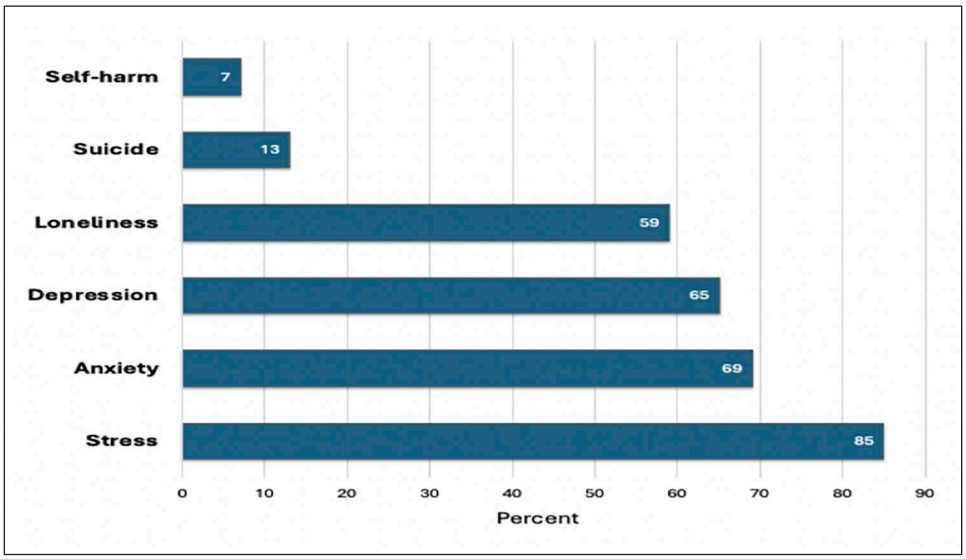

Figure 3: Mental Health Challenges Experienced by Participants during COVID-19

RQ3b. What is the relationship between the levels of stress experienced by students and reported levels of anxiety and depression?

Participants also completed the HADS, which is a standardised measure used to identify people with depression and anxiety. In this study, approximately half of the participants met the criteria of 'caseness' for mild to severe anxiety (53%), while 44% met the criteria for mild to severe depression. The distribution of severity of anxiety and depression is presented in Figures 4 and 5.

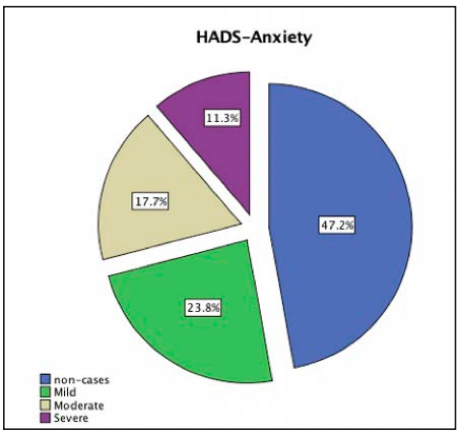

Figure 4: Anxiety Scores on the HADS

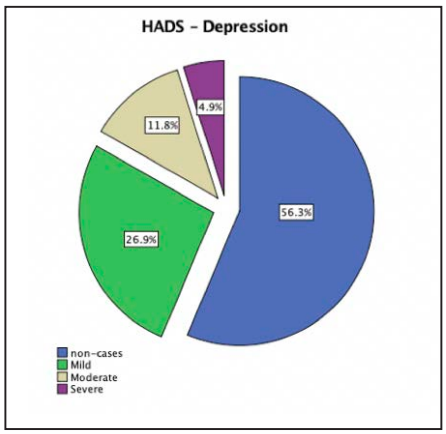

Figure 5: Depression Scores on the HADS

Differences among levels of stress and experience of anxiety and depression symptoms using the HADS were assessed. One-way Analysis of Variance showed statistically significant difference at the p <.001 level in anxiety (F (2, 244) = 19.72, p = 0.000) and depression (F (2, 241) = 22.31, p = 0.000) scores based on level of stress experienced. Post-hoc comparisons using Tukey HSD tests indicated that mean scores for participants who recorded low stress (M = 6.54, SD = 4.60) was significantly different from those who recorded moderate/high stress (M = 9.98, SD = 4.49) for anxiety. Thus, participants who recorded high stress levels were more likely to report experiencing anxiety. Similarly, the mean score for low stress group (M= 5.58, SD = 3.49) was significantly different from the moderate/high stress group (M = 8.81, SD = 3.94) for depression. Therefore, participants who reported high stress levels were more likely to report experiencing depressive symptoms.

RQ4: What coping strategies did students use during the pandemic?

Participants reported using several coping strategies during the pandemic. Figure 6 shows the most frequently used coping strategies to be exercise (36%), making social connections (34%), and relying on religious faith (31%).

In addition, most participants used multiple forms of coping. As shown in Figure 7, 55% indicated using more than two coping strategies to get through the period of the pandemic while studying at UTech, Ja.

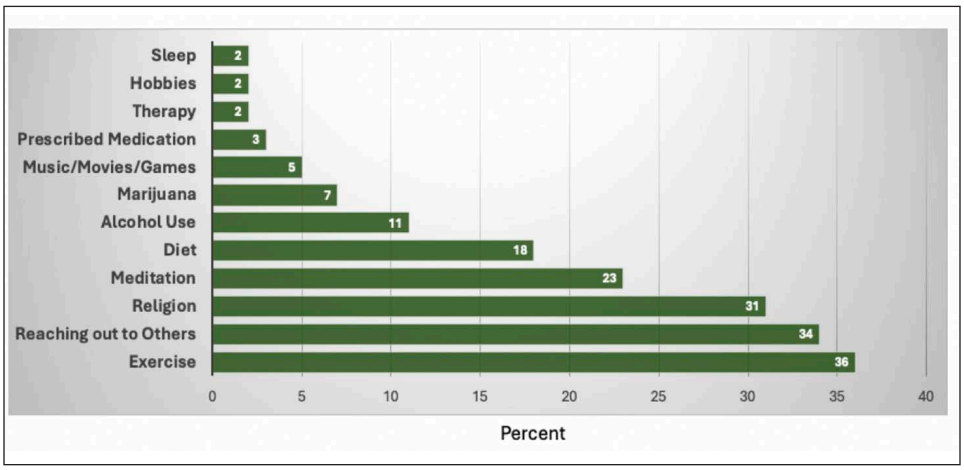

Figure 6: Coping Strategies used by Participants During COVID-19

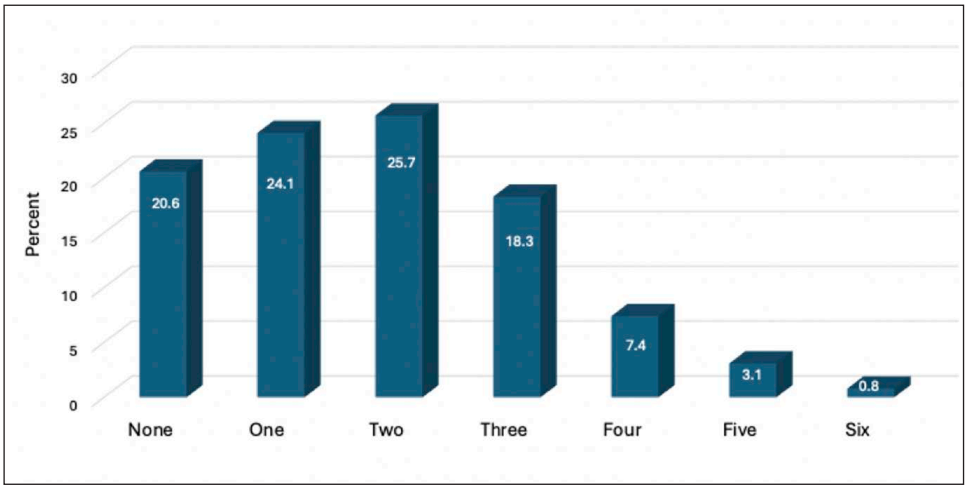

Figure 7: Number of Coping Strategies used by Participants

Discussion

This study investigated the experience of stress and mental health challenges among undergraduate students at the University of Technology, Jamaica during the COVID-19 pandemic. Additionally, the study investigated the various coping strategies employed by students during the pandemic.

Impact of the COVID-19 Pandemic on University Students' Well-Being

The COVID-19 pandemic presented unprecedented challenges for university students, particularly due to the sudden shift to online teaching and limited access to support services. The findings of this study highlight disruptions across several domains of students' lives, with potential implications for their mental health and general functioning. Over two-thirds of participants reported impacts on their social relationships, while more than 50% indicated that their finances and sleep patterns were affected. Additionally, over one-third experienced disruptions in eating habits, academic performance, class participation, and living situations. These findings align with existing research that found similar disruptions in university students' lives during this period. For example, Lee et al. (2021), found that students experienced strained relationships with family and reported disrupted friendships. Most participants in that study reported gaining weight due to increased eating and many lost a job or internship opportunity. Son

et al., (2023) also reported on changes in sleeping, eating patterns, living situation, financial challenges, and academic performance. The consistency of these findings across studies underscores the multiple ways in which university students were affected by the pandemic and may be an indicator of the complexities of mental health challenges faced during this period.

Changes in Student Mental Health Status

When asked about their perceptions of changes in their mental health during the pandemic, 45% of participants reported deterioration, which is comparable to findings by Hewitt (2021), who reported that 58% of undergraduate students in the UK experienced mental health changes. Notably, the present study found that frequent experience of stress was positively correlated with deterioration in mental health. These findings reaffirm existing literature, which shows a trend of increased levels of psychological distress among this population during the pandemic (Chen & Lucock, 2022; Shah et al., 2020; Weber, 2022) and corroborate the relationship between heightened stress levels and poor mental health outcomes among university students (Jiang et al., 2022).

Mental Health Challenges Experienced by Students

Consistent with previous research (e.g., Lee et al., 2021; Wang et al., 2020), a significant number of students (over two-thirds of participants) reported frequent experience of symptoms of stress, anxiety, and depression. Results from the HADS showed that more than half of the participants met the criteria for mild to severe anxiety, while approximately one-quarter met the criteria for depression. The HADS, widely used as a clinical screening instrument, identifies potential mental health issues that may require further support and intervention. These findings align with previous research conducted by Chen and Lucock (2022), who identified anxiety and depression as common mental health problems experienced by university students that were likely exacerbated by pandemic-related stressors. Zarowski and colleagues' (2024) review of the literature on the effect of the pandemic on university students' mental health also demonstrates a pattern of mental health challenges among this population during the period.

The findings of this study indicate that more than half of the participants experienced loneliness. Building social relationships and engagement in social activities are some of the anticipated hallmarks of university life, and the loss of this experience may have contributed to students' experience of loneliness. Prior

research suggests that a reduction in opportunities for in-person social interactions during the pandemic led to reliance on social media, which paradoxically resulted in an increase in loneliness and social isolation (Shah et al., 2020). Weber et al. (2022), in their longitudinal study of mental health changes during the pandemic, found that feelings of loneliness increased among students and were associated with anxiety and depressive symptoms. These findings further suggest that loneliness was a risk factor for psychological distress for university students and highlight the need for alternative remote strategies, such as helplines, to support students experiencing distress, particularly during crises.

Suicidal ideation and self-harm behaviours commonly emanate from poor mental health experiences (Elboge et al., 2021; Zawoski et al., 2024). This study found concerning rates of suicidal ideation (13%) and self-harm behaviours (7%), exceeding rates of 8% for suicidal ideation reported by some studies (Son et al., 2023). Zawoski et al. (2024) highlight several factors that are linked to suicidal ideation, including anxiety and depressive symptoms, social isolation, and disruption in sleep patterns. Several of these risk factors were identified in the current study and may have inadvertently increased the likelihood of suicidal ideation and self-harm behaviours. Having an elevated risk of suicidal ideation during a period of limited access to support services highlights the vulnerability of this population during the pandemic and emphasises the need for accessible mental health resources.

The Relationship between Stress, Anxiety, and Depression

Findings showed that academic stress significantly influenced students' levels of anxiety and depression during the pandemic. Participants who recorded lower levels of stress were less likely to experience symptoms of anxiety and depression. Several studies have examined the relationship between academic stress and similar mental health outcomes among university students during this period, consistently finding significant associations despite differences in the measures used (Jiang et al., 2022; Lee et al., 2021). The consistency in findings suggests that the stress of academic demands, compounded by the changes caused by the pandemic, is directly linked to anxiety and depression among students.

Coping Strategies used by Students

Coping approaches for managing stress vary among individuals, and existing literature suggests that differences in these strategies can significantly influence

stress levels and mental health outcomes. In this study, participants reported using a range of coping strategies, with over half employing multiple approaches to manage pandemic-related stress. The most reported strategies included exercise, connecting with others, and reliance on religious faith, followed by meditation and attention to diet. These predominantly adaptive coping strategies align with strategies from other studies where students engaged in activities such as talking to friends and family, watching movies, and exercising during the pandemic (Chen & Lucock, 2022; Son et al., 2020). The prevalence of the use of these approaches among participants is encouraging, indicating a tendency toward adaptive rather than maladaptive coping strategies in response to stressful situations. Notably, fewer students used maladaptive coping strategies such as marijuana and alcohol. Research shows that students who use adaptive coping strategies such as exercise and social interaction typically experience lower levels of distress, while those who engage in tobacco use are more likely to report higher levels of anxiety and depression (Chen & Lucock, 2022). Employing adaptive strategies, along with the use of multiple strategies, reflects participants' active efforts to manage pandemic-related stress.

Limitations

Despite the usefulness of the results, the study has limitations. Firstly, the cross-sectional design collected data from participants at a single time point. This means that changes in participants' experiences and mental health outcomes over time were not measured. Specifically, beyond self-reported changes in mental health, it is not clear whether there were objective changes in specific mental health outcomes from before the pandemic and whether these changes persisted throughout the period of the pandemic. Second, the study was restricted to students enrolled in a particular module at one university, which limits the generalizability of these findings to other student groups studying within the same university and students at other tertiary institutions in the region. Additionally, while the HADS has been used in non-clinical samples in other research, it is possible that the cut off scores may affect how we assess anxiety and depression in clinical samples and the general population. Given these limitations, future research should aim to include a more representative sample to better explore the ongoing challenges faced by university students in Jamaica and the broader Caribbean. Collecting more empirically driven data will enable universities to better understand and address the intervention needs of students experiencing mental health challenges.

Conclusion

Notwithstanding, the limitations, this study is significant as it highlights the impact of the COVID-19 pandemic on university students' mental health, revealing notable academic stress, anxiety, and depression. Over two-thirds of participants reported experiencing these symptoms, with more than half meeting the criteria for mild to severe anxiety. Loneliness emerged as a significant risk factor, which may have further intensified psychological distress. Additionally, disruptions in social relationships, finances, sleep, and academic performance likely contributed to students' mental health challenges. Despite these difficulties, many students demonstrated resilience by adopting multiple coping strategies, such as exercise, social connections, and religion. However, the findings underscore gaps in institutional mental health support, suggesting that universities were unprepared to address students' needs. The findings highlight the need for the University to strengthen its mental health support systems, especially during crises. The high prevalence of mental health challenges and rates of suicidal ideation also emphasise the importance of implementing more robust remote support services such as helplines and online counselling services. The University should also consider broadening student support programmes to include interventions that promote adaptive coping strategies and stress management skills. Finally, future research should aim to monitor the long-term impact of the COVID-19 pandemic on university students' mental health and evaluate empirically driven interventions to address these challenges.

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Threshold Concepts on the Move:

A Report from a Cross-Disciplinary Working Group

SHELIZA IBRAHIM[1], MICHELLE TROBERG[2], CLAIRE GOUVEIA, CHRISTOPHER EATON[2] AND MARK BLAAUW-HARA[2]
[1]University of Toronto, [2]University of Toronto, Mississauga

Abstract

Jan Meyer and Ray Land (2003; 2005) introduced threshold concepts as conceptual gateways that lead to new ways of understanding or interpreting core notions of a discipline. Since then, the idea of threshold concepts has been taken up in many pedagogical contexts. Threshold concepts have been characterised as initially troublesome – the knowledge is not easily integrated – but ultimately transformative, irreversible, and crucial for further learning and full participation within a discipline. This paper presents the findings of a threshold-concept workshop in which we engaged university educators (n=40) in a critical discussion on using threshold concepts as the changing landscape of education integrates Artificial Intelligence (AI) tools into pedagogy. Our data describe educators' perceptions of AI and pedagogy and provide an example of how workshops can be constructed to help instructors develop their teaching, a timely topic given how pedagogical scholarship is now seriously engaging with the way AI will impact teaching and learning (e.g., Cope et al., 2021; Holmes et al., 2023; Mollick & Mollick, 2023). We not only used the workshop as a data collection method, but it is also the focus of analysis in and of itself. The major findings of the workshop were an almost unanimous perception of value in cross-disciplinary discussion of these topics and an articulated sense of the importance and the nuance of liminality at the intersection of AI and threshold concepts. Our research offers a snapshot of university educators questioning and adapting threshold concepts to a shifting landscape involving students, disciplines, and new technologies.

Keywords: Threshold concepts, interdisciplinary teaching, university pedagogy, highereducation, student learning

Corresponding author: Sheliza Ibrahim – sheliza.ibrahim@utoronto.ca

Introduction

This paper presents the findings of an initiative we took as members of the *Working Group in Threshold Knowledge in University Pedagogy* at the University of Toronto, Mississauga. As universities grapple with massive changes in the educational landscape brought about by artificial intelligence, our working group identified opportunities in the cross-disciplinary potential of threshold concepts to promote productive pedagogical conversations around these changes. We launched a broad invitation across several disciplines to share ideas, puzzlements, and pedagogical shifts as colleagues faced the impact on how AI might influence the way learners acquire core disciplinary knowledges. This study centres on our workshop about threshold ideas and AI, which convened around 40 instructors, librarians, and educational developers.

A leading idea presented at the workshop was that the intersection between human and non-human entities such as Large Language Models – creates thought-provoking possibilities for pedagogy. AI has the potential to offer a dialogic space in which learners can dwell in the liminality, learn more about a concept, and efficiently triangulate what they learn in class with other sources of information. The impact of these possibilities – as well as the limits of AI long with the constraints of AI, were paramount in the minds of many during our session. Our group aimed to answer three questions:

1. How did educators engage in a cross-disciplinary workshop experience, and what impact did it have on them?
2. How does generative AI impact the teaching and learning of core concepts in different disciplines?
3. What epistemologies are shifting, given the new pedagogical environment?

Data was gathered from surveys, informal conversations held in breakout groups, and comments and questions made during the large group discussions. They revealed the value of cross-disciplinary dialogue during periods of consequential pedagogical changes and the importance of meeting the challenge of generative AI with powerful pedagogical tools like threshold concepts. Our research highlights the value of interdisciplinary working groups at a time when AI presents institution-level pedagogical issues that cut across curricula. The

UTM *Working Group in Threshold Knowledge in University Pedagogy* began informally in 2022 as a way to explore the teaching and learning of threshold concepts based on two themes. The first theme interrogated the metaphor of "threshold" itself (Blaauw-Hara et al., 2025), and the second theme investigated ways of implementing threshold concepts into courses taught by group members. The group expanded and was officially established as a working group on campus in 2024 with the broader aim of establishing a hub of reflection and research that reimagines undergraduate students' learning experiences through the lens of threshold concepts. For the current academic year, we focus on threshold concepts in light of new generative AI. We ask how generative AI impacts the teaching and learning of threshold concepts in diverse disciplines, how it affects epistemology in diverse disciplines, and how it might assist in identifying new threshold concepts. With obtaining official working group status, we now have a budget to explore our questions more deeply and to play the long game: our learning is iterative, and the events we organise reflect a process-oriented approach.

Literature Review

When Meyer and Land (2003) proposed the idea of threshold concepts, they likened them to portals that learners confront as they encounter new and troublesome knowledge. They explained that this troublesome knowledge challenges learners' prior knowledge, often seeming counterintuitive or contradictory to previous learning. These portals can be seen as liminal spaces where students wrestle with challenging knowledge that will help them think and act like professionals in a community or discipline (Meyer & Land, 2006). While this liminality may feel uncomfortable to learners, as White et al. (2016) explained, "conceptual change happens through navigating liminality during the learning process" (p. 54). Cousin (2006) and Meyer and Land (2006) detailed how mastering threshold concepts transforms understanding in a way that is likely irreversible. They also discussed how threshold concepts integrate with other knowledge, helping learners form new connections between concepts. As Beaty (2006) explained, threshold concepts are ideas that are often simple to express but turn out to be complex when put into practice. An example from writing studies is the concept that "writing is a knowledge-making activity" (Estrem, 2015b). Undergraduate students tend to think of writing as being simply a means of transcribing knowledge that one already possesses. The idea that "writers use writing to generate knowledge that they didn't have before" is often new to these novice writers, and it is challenging

on both an intellectual level (what does it mean?) and a practical one (how do I do it?). (Estrem, 2015b, p. 19).

Threshold concepts originated in Meyer and Land's home discipline of economics and have since been explored in computer science (Boustedt et al., 2007; Sorva, 2010), writing studies (Adler-Kassner et al., 2012; Phillips et al., 2019), education (Entwhistle, 2008; Nicola-Richmond et al., 2017; Webb, 2016), and library and information science (Townsend et al., 2011; Tucker et al., 2014), among other disciplines. Schwartzman (2010) highlighted commonalities in learning across several disciplines as learners can confront troublesome knowledge to establish new connections within their disciplinary practice. White et al. (2016) developed a useful framework for threshold concepts across disciplines to reveal some of these commonalities and how learners respond to them. Timmermans and Meyer's (2017) framework demonstrated how teachers can use these commonalities to develop learning outcomes around threshold concepts. They also encouraged educational developers and instructors to investigate differences in how learners deal with liminality.

Conversations around threshold concepts typically focus on the pedagogical means through which learners encounter threshold concepts. Much has been discussed around how threshold concepts are identified and constructed (e.g., Correia et al., 2024; Meyer & Land, 2005; Timmermans, 2014; Timmermans & Meyer, 2017). Discussions have focused on how learners confront troublesome knowledge, deal with liminality, and cross the threshold (e.g., Holmwood & Scales, 2019; McLean, 2009; Zwaneveld et al., 2016). There have been discussions about how instructors can support learners as they confront the threshold and learn core disciplinary ideas/practices (e.g., Timmermans & Meyer, 2017; Wismath et al., 2015). The literature also focuses on how curricula can be built around threshold concepts to ensure pedagogies are framed by threshold concepts consistently (e.g., Reeping, 2020).

Literature exploring how artificial intelligence might affect threshold concepts is sparse. The use of AI tools in classrooms is recent, and instructors across disciplines are only starting to understand their pedagogical implications. Allen et al. (2021) reported early results of a study to understand threshold concepts in AI courses for computer science.

Ball and Charlton (2015) posited that a key threshold concept of writing was understanding that "all writing is multimodal" (p. 42). In a different paper, several of this paper's authors pointed out the need to reconsider the metaphors with which threshold concepts are taught across disciplines, drawing attention to the

need to develop metaphors that resonate with students' social experiences, which are often influenced by digital interactions (Blaauw-Hara et al., 2025). Stambler et al. (2024) proposed that threshold concepts could offer a useful pedagogical approach to support learners' technological skill development. They argued that teaching with threshold concepts that are oriented to students' development of technical skills can "support efforts at teaching literacy as a sociotechnical practice to prepare students for digital life" (p. 6). They emphasised that these pedagogies could foster a sense of digital literacy that can transfer from various contexts (classroom or otherwise) where technological skillsets form an important part of social practices.

While the intersection between AI and threshold concepts is only beginning to produce published work, we think it is likely that generative AI will be as disruptive to threshold concepts as it has been to much of the rest of the teaching and learning environment. We thought it was time to engage with these questions, so we invited faculty from various disciplines to reflect on how AI might influence how students acquire threshold concepts.

Methodology

In this section, we describe the impetus for creating an interdisciplinary workshop to address our research questions, as well as our methods of data-gathering and analysis. In the tradition of action research, members of the Threshold Concept Working Group reflected on our own practice as AI technology began to impact our instruction, assessment, and teaching philosophies and methods. The members of our working group had experience in writing, rhetoric, mathematics and science education, computer science, linguistics, linguistic anthropology, and English. Through a series of reflective discussions, we sought to define how AI has impacted threshold concepts that were central to our disciplines and whether the epistemologies within our discipline were shifting as a result of AI's growing usage. Those initial discussions were explorative in nature and gave rise to a desire to know how other educators in higher education were grappling with these changes. We were also keen to replicate our cross-disciplinary discussions from within the TC working group with a broader and greater number of educators from various disciplines inside our university and across other local universities. Workshops also provide excellent opportunities to collect data for investigating the changing landscape of education and shifts in participants' pedagogical practices.

Research Problem

Educators in higher education are responding to generative AI when teaching and learning core concepts in their discipline and there is a need for cross-disciplinary dialogue and reflection about this.

Research Question 1: How did educators engage in a cross-disciplinary workshop experience, and what impact did it have on them?

Research Question 2: How does generative AI impact the teaching and learning of core concepts in different disciplines?

Research Question 3: What epistemologies are shifting given the new pedagogical environment?

We adopted an action research approach where practitioners, in this case our working group, addressed issues in teaching through inquiry into practice (McNiff & Whitehead, 2012). Using mixed methods to conduct research into teaching and organizational practices through a cycle of planning, acting, observing, and reflecting constitutes the action research methodology (McNiff & Whitehead, 2012). In this study, we map three phases: i) ideating a workshop (planning), ii) hosting the workshop event (action and observation), and iii) analysing the data (reflection).

Phase 1. We conceived ways to bring together faculty, educators, and librarians to collectively explore core concepts within this transformative era of AI and education. The process of ideating within a working group allowed us to brainstorm an event where we could also collect faculty demographics, experiences with teaching threshold concepts, and how participants were negotiating pedagogical possibilities with generative AI.

The planning phase took several months, including writing proposals for funding, hiring a research assistant, securing a keynote speaker with expertise in multimodal pedagogies, and creating promotional material. During this phase, the funding opportunities were completed to help support the workshop. We met regularly to discuss creating promotional material, developing surveys on Microsoft Forms, establishing the catering order, securing presentation tools and a room, developing resource guides for participants to use/download AI software such as Copilot so they were prepared for the session, etc. Our event also involved obtaining research ethics approval to collect data from the study.

Phase 2. The workshop attracted 38 participants, who learnt of it through a promotional flyer, email listservs, and personal connections that successfully

snowballed to others. The participants were affiliated with the University of Toronto and other universities in Southern Ontario. The agenda for the three-hour workshop was as follows:

- Workshop: Threshold Concept Working Group Introductions & Context
- Keynote: "AI as a threshold concept: Transformative troublesome irreversible integrative" was presented by Dr. Kathryn Hibbert, Professor & Associate Dean of Teacher Education, Western University followed by a Questions and Answers session.
- Small Group Breakouts (using ChatGPT and/or Copilot to explore discipline-specific threshold concepts).

Response survey. The Research Assistant made observational notes and took photographs of brainstorming maps, and the working group members divided themselves to serve as facilitators for the breakouts. The data collected included conversations/notes from breakouts/whole discussion, photographs of brainstorming maps created during the breakouts, surveys, working group reflections, and post-workshop meeting notes.

The survey asked participants to reflect on the following questions:

1. What are key takeaways you see from generative AI impacting how you think about teaching and learning core concepts in your discipline?
2. How might you consider your curriculum from a threshold-concept perspective impact your choices for content delivery?
3. How did you find the experience of working in cross-disciplinary groups to discuss technology and threshold concepts?
4. What did you find most effective about today's workshop, and what, if anything, would you change?
5. Briefly describe a threshold concept in your discipline that you are now rethinking in light of your learning from the workshop.

The survey was administered at the end of the workshop via a Microsoft Form and took approximately 15 minutes to complete.

Phase 3. We coded short-answer survey data across various themes and triangulated the data themes with data generated from the brainstorming and observational notes/discussions from the breakout sessions. These themes were streamlined as the survey data was analyzed. As an experiment we thought was consistent with the workshop, we also asked the generative AI program Copilot to analyze the data for common themes and compared those themes to ours, but

found our initial (human-generated) themes were best aligned with the data. The themes were shared and discussed in our results.

Results

The following section presents the results of our study, which aimed to capture how educators in higher education are responding to generative AI when teaching and learning core concepts in their disciplines, along with how they found this particular opportunity for cross-disciplinary reflection. A key theme that emerged was the embrace of cross-disciplinary collaboration, particularly in how generative AI can act as a catalyst for faculty from diverse fields to engage in meaningful dialogue about threshold concepts. We also found that this collaboration creates a liminal space where participants can confront the affordances and constraints of AI, encouraging a re-evaluation of pedagogical approaches. Reinvention also emerged as a theme, with educators rethinking their assessment practices and how students engage with core disciplinary knowledge in light of AI's disruptive potential. This shift includes an emphasis on valuing the learning process over the final product, as well as a critical examination of what constitutes authentic student work in an increasingly AI-influenced educational environment. The study also revealed shifts in educators' epistemologies, highlighting the growing prominence of the affective domain, a move toward more nuanced reasoning over rigid binary logic, and a reinforced focus on social constructivism as AI technologies reshape understandings of knowledge as socially influenced and contextually situated.

Research Question 1: How did educators engage in a cross-disciplinary workshop experience and what impact did it have on them?

Participant and Working Group Summary. We engaged educators with a call to participate in an AI & TC workshop across faculties at our primary institution and then broadly cast our call to local universities in our networks. As a result, the 38 attendees at the workshop represented a variety of disciplines: Writing Studies (12), Education (8), Language Studies (7), Information Literacy (4), Social Science (3), Computer Science (1), Design (1), and Business (1). This diversity mirrors the composition of our working group, which consists of 6 members: Linguistics (1), Writing Studies (2), Numeracy (1), and Computer Science (1) (Figure 1).

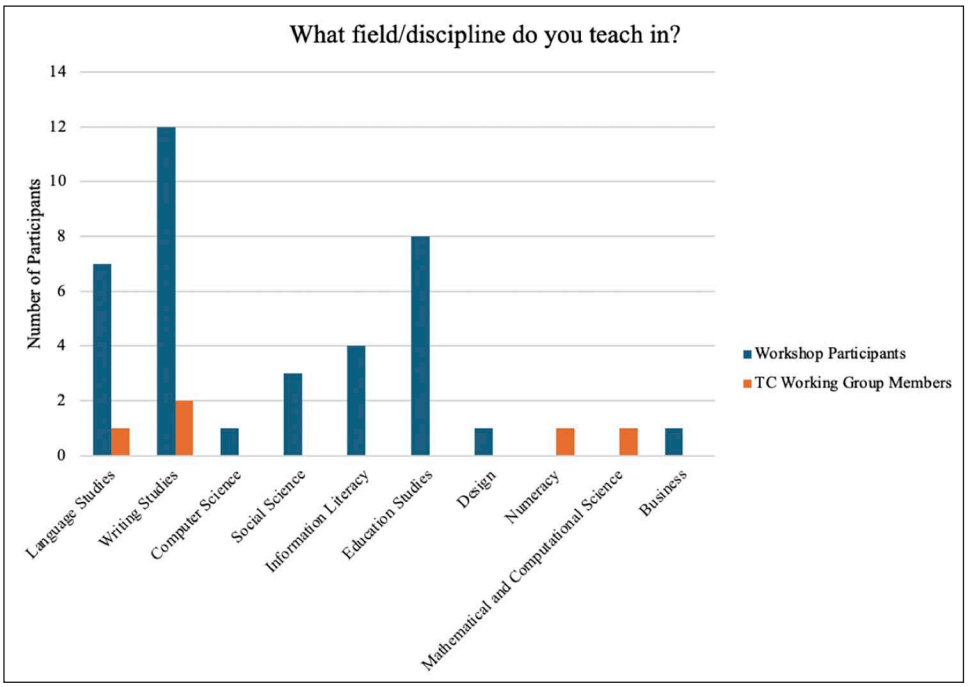

Figure 1: Comparison of disciplinary fields between attendees & working group members

The academic positions of the workshop attendees varied, including teaching stream (20), sessional lecturers (6), tenure track positions (4), graduate students (4), academic librarians (4), and educational developers (1). In comparison, the working group comprises 5 teaching stream professors and 1 graduate student. These results are presented in Figure 2.

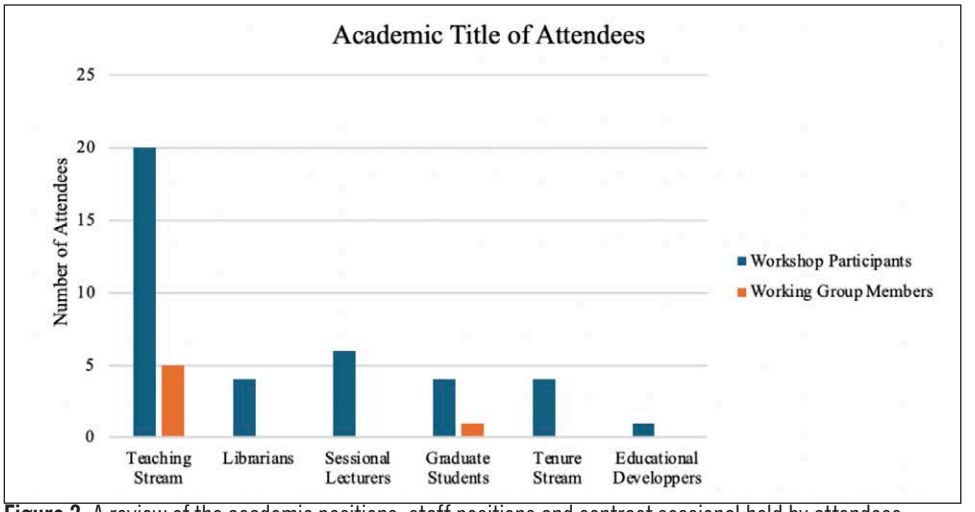

Figure 2: A review of the academic positions, staff positions and contract sessional held by attendees juxtaposed with working group members

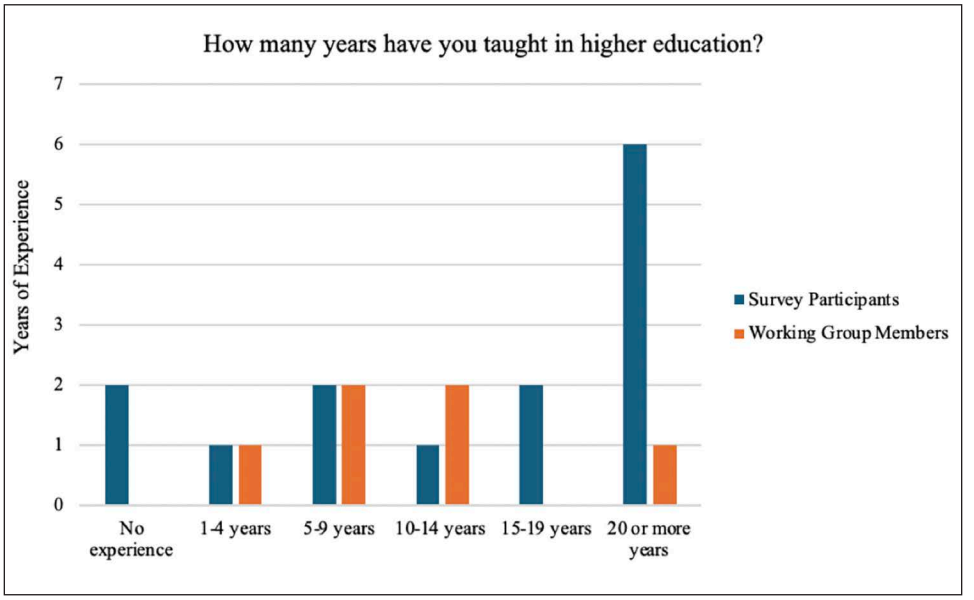

Figure 3: Numbers of years of experience teaching in higher education as indicated by fourteen of the workshop attendees and working group members

Of the 14 survey respondents, the majority had significant experience in higher education, with 6 having over 20 years and 2 with 15–19 years. There were also respondents with 10–14 years, 5–9 years, 1 year, and no experience. The working group members' experience ranged from 1 to over 20 years, as illustrated in Figure 3.

Among the total 38 attendees at the workshop, 14 completed the post-workshop surveys.

In the qualitative data captured in the short answer section of the surveys, participants described their experience working in cross-disciplinary groups as "insightful," "expansive," wonderful," and "brilliant." P8 described the workshop as "amazing and transformative," noting, "In our discussion, we touched on everything from objectivity to coming up with disciplinary threshold concepts in Language Studies. Some of the conversations moved my thinking, and possibly that of other participants, away from instructional stuck places."

Participants also reported feelings of discomfort in their interdisciplinary groups, finding themselves in "liminal spaces" as they confronted unfamiliar concepts and disciplines. P7 expressed, "The participants were from disciplines I knew nothing about, placing me in a 'liminal state.' This was helpful in making that evolution from ignorance to a liminal state to threshold competence visceral." The discussions surrounding threshold concepts appeared to promote liminal

thinking among participants, with many comments reflecting the ways faculty are engaging with these ideas in innovative and thought-provoking manners, encouraging a re-evaluation of current pedagogical approaches.

Research Question 2: How does generative AI impact the teaching and learning of core concepts in different disciplines?

Affordances and Constraints of AI. According to the data, the integration of generative AI in higher education presents both affordances and constraints that influence pedagogical approaches across various disciplines. P6 believes that AI "represents systems that have existed in education for a long time. As such, it has affordances and possibilities for reimagining our own pedagogy and perspective on our students." P2 described AI as "a tool for invention [that] might give students a foundation for an idea on which to build rather than something we should police."

Conversely, constraints associated with generative AI were highlighted, namely, the need for a deeper exploration of ethical usage. P12 noted the overwhelming number of available tools, many of which lack accessibility or effectiveness, and described that "a framework of intentional implementation or at least reflection of AI and its impact [should be] a priority." In line with this current work, they were also interested in how instructors can shift mental models for stakeholders when it comes to AI use and literacy. P12 went on to describe AI as "a general-purpose technology, rather than something specialied [and] thus its application is hard to define and perhaps harder to conceptualise."

Assessment Practices – Valuing Process over Product. Participants recognised the transformative potential of AI in reshaping assessment practices, leading to a shift from product-focused to process-focused evaluation. P8 shared that "after the group discussion, [they were] thinking more seriously about moving away from assessing AI-reproducible end products" and instead, "processes, decision-making, and reflective statements might be better formative assessment touchpoints, with non-essay assignments being used for summative assessments." P8 went on to describe that the "questions of what we are assessing (and why) are much more relevant to [them] now." P11 described the complexity of "shifting to valuing process over product [as this] requires a fundamental change in how we understand our students' voices beyond elementary school. We must teach voice and vocabulary as critical components of all communication and emphasise reading for critical information literacy at all educational levels."

Co-construction of Knowledge. The importance of AI in collaborative learning was also emphasised by participants, highlighting the importance of working synergistically with AI to co-construct knowledge. P4 explained that "since AI is here to stay and our students [already] use it, then it makes sense for [the] instructor to find constructive ways to co-learn/engage in a synergetic manner with their students. It's a challenging reality that will require regularly reinventing the way we think of and approach pedagogy." One of the major challenges identified was determining which pedagogies required a centaur versus a cyborg approach to integrating AI. Centaurs and cyborgs have become a popular metaphor in AI circles. Mollick (2024) highlighted that centaur tasks have clear divisions between human input and AI input, while cyborg tasks see humans working in conjunction with AI. Participants drew attention to the need to reinvent core concepts (perhaps repeatedly) and the pedagogies that discuss them.

Research Question 3: What epistemologies are shifting given the new pedagogical environment?

Affective Domain. According to the survey, the affective domain is gaining prominence in the emerging pedagogical environment. P8 emphasised that learning should encompass personal growth in self-knowledge, affective, and communication domains. Specifically, P8 noted that "these [domains] are harder to achieve and to cultivate than test scores, but the discomfort must be part of the process."

Embracing Nuance. Participants noted a movement towards more nuanced and flexible forms of reasoning, away from rigid, binary logic systems such as Boolean logic. P7 observed that creating prompts for AI and acknowledging its inherent ambiguity is akin to crafting structured searches in bibliographic databases. P7 said they "anticipate having discussions about prompts similar to discussions that [they] currently have regarding 'keywords' for database searching." They suspect that "'Boolean logic' will diminish as a focus [in education]."

Social Constructivism. Survey respondents suggested that the principles of social constructivism are being reinforced as educators and students engage with AI technologies. P13 highlighted that "authority is negotiated, contextual, and continuously evaluated." P13 emphasised the importance of understanding that AI is a socially constructed entity. They noted, "although AI pretends to objectify knowledge by obscuring the importance of methodology and authorship in knowledge production, it is shaped by social factors and relations of power."

This perspective challenges the Enlightenment view of absolute knowledge and reinforces the idea that knowledge is situated and influenced by social contexts.

Discussion

Cross-disciplinary spaces and embracing liminality: The advent of generative AI represents a pedagogical disruption that cuts across all university disciplines. While this disruption inspires many reactions – discomfort, excitement, wariness, hope, and more – we argue that it can be seen as an opportunity for cross-disciplinary conversations that, while broadly agreed upon as desirable, occur infrequently among university faculty. As generative AI continues to evolve, we are sure that it will continue to disrupt teaching and learning in unpredictable ways. Our workshop event created a space for faculty members to work across disciplines to understand and respond to these disruptions, and the data showed an interest in a cross-disciplinary approach. Specifically, we had a variety of faculty members from differing disciplines (see Figure 1 and Figure 2) who found value in meeting across disciplinary lines to engage with threshold concepts and AI (survey data).

As our data demonstrates, threshold concepts provide a useful framework to push faculty members toward productive dialogue because they centre conversations on high-level disciplinary knowledge, a perfect vantage point to then ask how generative AI might affect the ways we not only think about our disciplines but also how we help students enter those disciplines and learn to contribute. When we work with faculty members from disciplines that are far removed from our own, we are forced to distill and describe the most central concepts of our discipline or sub-discipline, perhaps for the first time or perhaps for the first time to "outsiders" or the non-initiated. When we must explain a threshold concept to faculty members from other disciplines, it spurs us to explain it in more detail and connect it to other key disciplinary concepts. This is an immensely productive exercise that strengthens our own understanding of what it is we aim to teach and can only improve our pedagogy. Participants' awareness of the affordances of collective dialogue to shift their thinking, transform, or move from instructional "stuck spaces" is telling, and our plans to bring together faculty and staff were warranted. One participant noted the value of *exploring together* and identifying what *scholarly communities value,* stating, "It was cool to see how much synergy there was both in my group and across groups about the threshold concept that knowledge is constructed through the models each disciplinary community values. In terms of using AI to explore threshold concepts, what I

appreciated most was the opportunity to talk and explore together." Despite the evidence of cross-disciplinary benefits, one participant felt "cross-disciplinary group discussions were surface level," which requires workshop facilitation to be conscious of how they might lead discussions so that deeper insights and transformation are afforded.

Liminality is an overarching thread in the data. The participants, regardless of discipline, communicated a state of liminality around how they teach threshold concepts in their disciplines, and this was amplified when generative AI was brought to bear on it. Often the literature focuses on commonalities across disciplines and organises pedagogical discussions so that similar disciplines are in conversation with each other (White et al., 2016; Timmermans, 2017), but intentionally bringing vastly disparate disciplines together to discuss pedagogy is rarely, if ever, documented in scholarship. Bringing various disciplinary practitioners together helped us recognise commonalities in disciplinary threshold concepts and how AI affects pedagogical decisions. Working through this together places all workshop attendees in a common state of liminality as all worked through the troublesome discussion of thinking about how their disciplinary threshold concepts could be reimagined with the use of generative AI.

In this sense, a cross-disciplinary working-group model is well placed for dealing with major disruptions such as generative AI (and we believe that generative AI will not be the last such disruption), and we suggest that threshold concepts are a productive theoretical lens for faculty to employ when they interrogate how such pedagogical disruptions affect disciplinary knowledge, teaching, and learning. Because threshold concepts are fundamental to disciplines, they serve to direct thinking and conversation to big-picture concerns and bypass the sometimes-alarming details of the disruption.

Reinvention: To respond to our question on how generative AI impacts the teaching and learning of core concepts in different disciplines, we noted several recurrent themes that emerged independently among breakout groups and in the larger discussions: Affordances and Constraints of AI, Assessment Practices – Valuing Process over Product, and Co-construction of Knowledge. In this vein, reinvention or a rethinking emerged as a prominent theme. AI's use as we approach teaching threshold knowledge can be unsettling in that we are simultaneously producing resistance but also interested in how we can get learners to interact with and process core concepts in our fields using this innovation. For example, thinking about how 'authority' in writing is taught, an instructor raised the concern that "AI pretends to objectify knowledge by obscuring the importance of methodology

and authorship and knowledge production." AI blurs who or what is authoring the writing piece it generates. Teaching students in an age of AI about concepts of authority in writing are challenging and these realisations open possibilities for helping instructors dwell in the liminality of confronting new knowledges, determining the affordances of AI (and constraints), and reimagining how we assess learning. While documenting concrete reinventions is beyond the scope of this study, we plan to continue research to examine the pedagogical changes that instructors are now undertaking to teach threshold concepts in their disciplines as GenAI now plays a critical role in education. As educators, a keen sense of awareness requires us to critically decipher what learners i) produce as their own, ii) produce that is completely AI-generated, or iii) produce/submit as an iterative product that is AI-generated and heavily designed as a result of their own prompts engineered (Miller, 2023) refinements. This *cyborg* production gives rise to a new way of assessing student work and a new way of seeing/identifying authentic or original student work that is subjective to the creator and the assessor. Assessing if our students grasp core disciplinary knowledge will require us to reinvent some of the practices that worked before but will no longer serve as reliable tools to assess comprehension and learning.

Shifting epistemologies: In our analysis of the shifts in epistemologies given the new pedagogical environment, we noted the impacts on the affective domain, nuance, and social construction of knowledge. It was evident that discomfort in this new age world meant that educators needed to embrace nuance in their approaches to pedagogy and that rigid practices would not thrive with the advent of AI tools in use by their students. *Change was imperative***.** The harsh reality, as cited by one participant, was that perhaps core concepts or essential ideas, as they know it, could eventually "diminish" into the future as core disciplinary knowledge molds to the era of this new world. Threshold concepts become a useful approach to exploring AI in education (or any major player that disorders education). An example is the use of large language models (LLMs) like ChatGPT. ChatGPT can do a reasonably good job crafting grammatical sentences. Some writing-studies faculty have reacted with alarm and might be tempted to ban LLMs because they are concerned that they will no longer be able to accurately assess students' fluency with the grammatical norms of academic writing. However, a threshold-concepts approach pushes us to consider what concepts and practices are crucial to the writing-studies discipline and to recognise that grammatical fluency is not important. Instead, we want students to learn that "writing speaks to situations through recognisable forms" (Bazerman, 2015), that "writing is a

way of enacting disciplinarity" (Lerner, 2015), that "writing involves making ethical choices" (Duffy, 2015), and that "disciplinary and professional identities are constructed through writing" (Estrem, 2015a). All these examples are drawn from one of writing studies' key texts, *Naming What We Know* (Adler-Kassner & Wardle, 2015), which gathered leading writing-studies scholars together to articulate important threshold concepts in the discipline. Grammatical fluency, then, should be seen as related to the above threshold concepts, but not an end in and of itself. Once we understand this, we can recognise that while LLMs inspire us to rethink how we teach students these concepts (and assess their learning), the ability of LLMs to produce grammatical prose does not really undermine the discipline. However, that ability does necessitate pedagogical change.

Examples abound in other disciplines. LLMs can write lines of computer code relatively well; they can suggest workout routines for stroke victims; they can calculate math problems. And it is almost certain that generative AI will continue to grow its capabilities, leading to more anxiety (and excitement) among faculty members. It is important that the (re-)centering we discuss above be an ongoing process. Interdisciplinary working groups that interrogate threshold concepts are one productive way to deal with an educational landscape that will continue to change and possibly shift epistemologies as these disciplinary knowledges react to AI influences.

Conclusion

This paper outlines our efforts as an interdisciplinary working group to engage educators from various disciplines to rethink their pedagogies by asking them to collectively reflect on the impact of AI on teaching and learning core disciplinary concepts and by probing their appetite for using AI as an effective tool for teaching them. Our findings, based on various types of participant reactions to our workshop, show that instructors, librarians, and educational developers are indeed very concerned about the impact of AI on teaching and learning and were enthusiastic about leaning into their concerns from a different angle: how AI might facilitate teaching core concepts. Our workshop discussion produced the key observation that just as we, as educators, were experiencing an acute sense of being in a liminal state, pedagogy itself is also moving into such a phase with the rapid development of artificial intelligence. The metaphor of liminality, applied to broader trends in education and AI, may have a very positive influence on future pedagogical practices if taken seriously. On the one hand, reflective teaching

practice recognises the discomfort of such states as the necessary first step in deep learning. Clearly articulated, it naturally situates AI as a tool to accompany learners in their liminal state and, crucially not as a device to help them avoid it.

By measuring workshop participants' reactions to an interdisciplinary workshop of this nature, our study highlights the value of interdisciplinary collaboration, especially as we all navigate the evolving impact of AI on education. Our findings show that the participants found this aspect of the discussion and interaction to be a value-added feature of the event.

The advantage of having a structured working group approach with which to tackle big-picture questions like AI and threshold concepts is that we can have a long-term vision and plan events that build on the outcomes of the last. Our initial workshop was a successful means of generating interest in threshold concepts both in colleagues who are well-versed in theory and in those who are new to it. On this basis, we are planning a follow-up workshop facilitated by an educational developer and leading thinker in integrating threshold concept knowledge in classrooms. Our hope is that the opportunity to learn from distinguished leadership in the field will not only stimulate new perspectives and practical outcomes but that, in a hybrid format, it will also attract participants broadly at a time when core disciplinary concepts and practices are being influenced by AI.

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COMMENTARIES

From Colonisation to Decolonising the Jamaican Education System

HOPE MAYNE
University of Technology, Jamaica
Email: hmayne@utech.edu.jm

Mayne (2012) cites Cesaire (1972) definition of colonisation as being equal to "thingification," where the colonising man is depicted as a classroom monitor, an army sergeant, a prison guard, a slave driver (superior), and the indigenous man (colonised) is an instrument of production. He stated, "I am talking about societies drained of their essence, cultures trampled underfoot, institutions undermined, lands confiscated, religions smashed, magnificent artistic creations destroyed, extraordinary possibilities wiped out." (Cesaire, 1972, p. 21). Mayne (2012) also cited Kenyan writer Ngugi, who echoed a similar argument to Cesaire, stating that colonialism controls the mental universe of the colonised, their culture, and identity in relation to the world. He saw culture as the site of colonial control and asserted that an attempt should be made to decolonise this concept.

Jamaica is an island situated in the West Indies and categorised as a Third World/ Developing Nation. Despite gaining its independence from British colonialism in 1962, Jamaica still struggles with the impact of a colonial past. The education system is predominantly affected, as the colonisers' objective was to establish institutions that would assimilate individuals into their framework, resulting in a disconnection from their culture and heritage while reinforcing European traditions (Altbach & Kelly, 1978).

In light of how the country has evolved from slavery and colonialism, power and dominance are still the major determinants driving an education system fashioned after the British model, which is teacher-centred and fosters inequity and a division of class. How do teacher educators understand the impact of colonial power on education and their teacher preparation practice? Their experiences of being educated and a teacher in the postcolonial context are important to the

preparation of pre-service teachers who will practice in this context (Mayne, 2012).

As cited in Mayne (2012), the education system in Jamaica and other Caribbean islands today is centred on a British model, which is a technical rational model. Presently, there is an influence from the U.S. on the education sector, and education has become increasingly centralised due to policies that seek to improve access, quality, productivity, and equity (Middlehurst & Woodfield, 2003). Miller (n.d.) agreed and reported that various approaches to teacher development in Jamaica and the Caribbean in the 1960s were framed on a scientific management model, which is rational, mechanistic, bureaucratic, and hierarchical. The teacher's role is to implement a teacher-proof curriculum from textbooks and curriculum guides and adhere to the rules formulated by the education authority. Historically, Caribbean education has adopted Western approaches for over 350 years; thus, original approaches to teacher education are sparse. Teacher training in Jamaica had changed little prior to the reforms of the 1960s, which focused on expanding the supply of teachers. In the 1980s, the focus was on quality, where the goal was to redefine teacher education and improve teacher quality. Improving teacher quality was the key to improving the general quality of schooling. Thus, the focus was on improving academic preparation, which would be accomplished through higher academic requirements for five CSEC subjects for entry into teacher education programmes, continuing academic education over 3 years, and upgrading academic content. With an emphasis on academics, there was less emphasis on pedagogic competence; it was felt that, over time, this could be gained through classroom experience (Miller, n.d.).

The vision for education for 2030 is "world-class education and training" for all Jamaicans (https://www.vision2030.gov.jm/). To achieve this vision, it is proposed that developing teacher standards will guide the process to fruition. Professional standards will be used as a benchmark for evaluating teacher competency with the objective of attaining a teacher license. The initiative is based on the educational shift globally where the focus is on issues of accountability and client service in education, recognising that the quality of persons produced by the education system is as important as academic attainment. It is also felt that adopting this route will assist in alleviating illiteracy at the primary school level.

Mayne (2012) draws on the concepts of (Freire, 2009; Sleeter, 2005; Viruru, 2005) to demonstrate an understanding of the colonised mindset. Freire's (2009) banking education is a theory of education where knowledge is seen as a gift bestowed by those who consider themselves knowledgeable, upon those who are considered as knowing nothing. This type of education mirrors an oppressive society, as

it positions the teacher at the centre of learning and students as empty vessels waiting to be filled. It is grounded in the type of education that regards men as adaptable, manageable beings. "The interests of the oppressors lie in changing the consciousness of the oppressed, not the situation which oppresses them" (Freire, 2009, p. 74). Sleeter (2005) described the approach as delivering other people's mail and teachers seeing to it that it is opened and read. It also embraces the idea of the politics of "stupidification," a term coined by Viruru (2005), which I interpret as the inability to think critically, thus fostering intellectual amputation.

Mayne (2012) further highlights Gayatri Spivak's subaltern theory to deconstruct how a colonised person is viewed. The subaltern is a person with low ranking in a social, political or economic chain of command. . The subalterns are individuals who have experienced marginalisation or oppression. Gayatri Spivak in her work, writes "Can the Subaltern Speak?" (1988) Thus she scrutinises the subaltern concept. She argues that a core problem for the poorest and most marginalised in society (the subalterns) is that they have no platform to express their concerns and no voice to affect policy debates or demand a fairer share of society's goods.

Most concerning is: what strategies can be used to decolonise the education system? Decolonising education in Jamaica requires an approach that challenges the *status quo*. Also, an approach that challenges the effect of colonialism where identities, culture, history, and moral were destroyed. Key strategies must include curriculum reform; this is observed in Jamaica's National Standards Curriculum, where the pedagogy has changed from teacher-centeredness to student-centeredness. This shift removes the power dynamic between the teacher and the student in the classroom.

There is now a demand for 21st-century education, which dictates that students should be at the center of their learning. Albeit this pedagogical transformation, there are still remnants of the colonial past as seen in schools. It is in our policies; the way we discipline and teach.

To decolonise our education system means we need to empower teachers and students, create culturally responsive curriculum, value the Jamaican language, move beyond standardised testing, value diverse learning styles and make institutional change.

Decolonising education requires commitment and collaboration from policymakers and educators. It is not about replacing knowledge; rather, it is embracing new knowledge. It is about challenging power structures, illuminating marginalised voices, and creating an education system that is relevant and equitable for all Jamaicans.

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Positioning to be a Player in Emerging Media Geographies

NIKESIA GORDON
Rochester Institute of Technology
Email: nsggpt@rit.edu

Introduction

The meteoric rise of digital media technology over the past decade has had transformative influence on the ways in which media content is not only consumed but created. Information spaces have been restructured, producing new communication geographies. They have also potentially reshaped the political economy of global media cultures in interesting ways, giving rise to new questions regarding how emerging communication technology and platforms such as Netflix and YouTube prompt a re-articulation of ideas about media flows, identity and cultural consumption. As Morley & Robins (2002) point out, we are now witnessing, a "deterritorialization of audiovisual production and the elaboration of transnational systems of delivery (p. 2), i.e. the emergence of other media geographies. What do these spaces look like? In what ways do they reimagine the industrial paradigm of media production, dissemination and consumption? Do these spaces represent a new source of creative empowerment for traditionally marginalised global actors in the media economy? In sum, how do these alternative media geographies differ from, fit into or re/shape the traditional political economy of media?

I explore these questions in the context of the growing presence of Jamaican film entertainment media content on digital platforms such as YouTube and Netflix. A cursory search on YouTube, for example, reveals a plethora of content, ranging from documentaries about Jamaican music and culture, to what seems to be endless digital reimaginations (or imitations) of classic Ralph Holness Jamaican roots plays such as *Unda Mi Nose*. Several of these channels have thousands of viewers or subscribers. Other films made by, or which are about Jamaica, such as *Sprinter*, are also available on Netflix, giving them access to millions globally. Is the Jamaican entertainment content industry then poised to become a player

in, or even help shape, a new media geography? I argue that certainly, there is that potential for us to participate robustly in the re-imagination of ideas about cultural production and consumption. This is especially so, given the influence of an ever-expanding Diasporic community as consumers in the global digital media market.

The Promise of Nollywood as a Blueprint

Nollywood has given us a blueprint of sorts, through its steady march to become a major player in the entertainment content industry over the past three decades. In 2023, Nollywood was the second-largest film industry in the world in terms of output, turning out over 2,500 movies each year. This output topped Hollywood and was surpassed only by Bollywood, India, in that same year. In 2022, Nollywood was estimated to be worth over five billion dollars. Its global cultural influence was befittingly immortalised via Ike Ude's more than yearlong photographic exhibition in the National Museum of African Art, *Iké Udé: Nolly Wood Portraits* (Smithsonian, 2022) in 2022 as well.

I am quite mindful of the limitations of a potential Nollywood blueprint being applied to Jamaica. Nigeria is a much larger country, which, according to National Geographic (n.d.) is considered the most important country politically and economically in West Africa. However, there are useful parallels and takeaways that make sense. First, the historical beginnings of the film industry are not dissimilar to Jamaica's i.e. it began soon after independence from colonial rule in the 1960s, with signature films that became hallmarks of that era (think *The Harder they Come*, for example). One sharp departure from this similarity is Nigeria's pivot to wholesale production of movies on video during the 1980s well in the early 2000s, which created the foundation for what was to become Nollywood today.

While Jamaica did not experience a similar era, the rise of digital technology has made that absence potentially irrelevant, making it possible for the industry here to bypass that period of development. Lower production costs afforded by cheaper equipment, smartphones with high resolution video, and easily accessible digital distribution platforms, can allow content creators to churn out a litany of content in short periods of time, not unlike what happened in Nigeria in the 80s, 90s and early 2000s. Additionally, the explosion of AI technologies that are capable of aiding in the creation of visual media proposes a whole new avenue of possibilities for content creators.

Given this scenario, I believe that some of the lessons that the Jamaican cultural content creation industry can learn from Nollywood are:

1. An investment in professional production values and aesthetics
2. The use of talented actors
3. The development of more nuanced plotlines.

Degree programmes at the University of Technology, such as the Bachelor of Arts in Communication Arts and Technology (BA CAT) are therefore well positioned to be at the forefront of this growing frontier. Innovative teaching approaches that incorporate appropriate AI tools, savvy scriptwriting/screenwriting skills and professional production techniques can be leveraged to produce a well-trained generation of content creators and entrepreneurs. Additionally, potential partnerships with institutions such as the Edna Manley College of the Visual and Performing Arts that produce creative talents broaden the scope of possibilities.

Directions for Scholarship

Reshaping the Political Economy of Media

In terms of research, exploring the concept of emerging media geographies offers opportunities for theoretical expansion or even new directions in the area political economy scholarship. According to Boyd-Barrett (2016), in recent times, transnational media transcends beyond the traditional models of cross-national corporations by highlighting the process of media delivery to specific audiences using production exporting, importing, sponsoring and localizing in different nations. I argue that this process has been accelerated by digital platforms such as Netflix, thus reshaping the traditional political economy of media, especially in terms of media flows. Scholars observe that "globalization influences the content and style of media, the pace of media, and the flow of culture among different geographical areas" (https://medium.com/@ruiqianz/transnational-media-in-globalized-and-hybridized-environment-212d9fca5b68). In this regard, the process of media globalization influences audiences' habits of media consumption and thus demand, thereby allowing for the emergence of new media geographies that challenge Western economic and ideological hegemony (Boyd-Barret, 2016).

Cultural Proximity Revisited

The study of new media geographies also invites a revisitation of popular theories such as the cultural proximity argument (Straubhaar, 1991; 1996), reevaluating its key assumptions within the framework of a digitally evolved global media ecosystem. Cultural proximity refers to the idea that local audiences tend to prefer local cultural products when available over imported ones (Straubhaar, 1996: 1997). Audiences are therefore inclined to favor media that are illustrative of their own culture nationally as well as regionally (Burch, 2002) as they "want to see people and styles they recognise, jokes that are funny without explanation" (Straubhaar, Fuentes & Giraud, 2002, p. 5). To use another framework, people acquire cultural capital based on their experience, family background and education which enables them to understand things (Bourdieu, 1984).

Similarly, Lee (2003) observes that audiences usually prefer local to foreign media products and will support local programmes if they are of good production quality. Scholars such as Burch (2002), Ferguson (1992), and Straubhaar (1996; 1997) surmise that cultural proximity may act as a defense against the onslaught of imported programming, especially in certain regions such as Latin America and Africa, by driving an increase in national production based on demand. The rise of digital platforms like Netflix requires us to reconsider the concept of cultural proximity, not just as a phenomenon driven by regionalism or populations defined by similar language, shared history and other cultural characteristics, but new modes of recipient behaviour and recipients' expectancy driven by how geographies are communicated through an almost borderless digital media sphere.

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Writing, Language and Technology:

The Contemporary Language Educator's Conundrum

R. ANTHONY LEWIS
University of Technology, Jamaica
email: rlewis@utech.edu.jm

The rise of AI-based language models has introduced a new and, for some language professionals, perplexing dimension to human communication (Geng et al., 2024). Sophisticated AI tools, such as chatbots and automatic translators, now generate human-like text that is, in a perfect communication loop, also influencing speech (Hadi et al., 2024). Harnessing the power of automation to assist in text production has long been a goal of language theorists and professionals interested in the benefits especially of machine translation (Hutchins, 1995 & 2005). However, discussions often centred on limitations rather than possibilities. With today's AI models circumventing conventional text production and editing methods, we have moved way beyond those early debates. This shift has sparked concerns over the impact AI will have on text production and creativity (Goodland & Stone, 2024), leaving those who teach the use and fundamentals of standardised language in a quandary. Indeed, AI use in text generation has left many language educators adrift in an ocean of uncertainty, no longer having secure points of reference regarding language, its use or teaching (Zimotti et al., 2024). Yet, if educators examined the historical record, they might find guidance on how to navigate these challenging waters.

It is an often overlooked fact that technological advances in communication, primarily ones based on writing, significantly influence and shape what we call language. Like most, language educators are unfortunately prone to forgetting that what they teach is the product of a specific period in the evolution of language and communication. The emergence of writing in Mesopotamia nearly six millennia ago, originally for tracking food storage and export, marked the start of a transformational process in human communication (Powell, 2012). From early rudimentary implements and surfaces used to graphically represent speech to movable type, mechanical typewriters, and today's sophisticated digital systems, text production technologies have enabled communication beyond the

constraints of time and space. This has given language relative permanence, allowing readers to interact with information repeatedly without the need for new instances of communication (Fischer & Fischer, 2003). However, as writing technologies traditionally established standardised mappings between ideas and their textual representations, they created and reinforced a tendency of associating language with its technology-derived outputs. This has led to the (mis)perception that language resides in these outputs: graphemes (e.g. letters representing speech sounds), word forms on pages, and so on. As a result, language is often viewed through the prescriptive lenses of grammar books, dictionaries, and the views of purists on 'correct' usage (Curzan et al., 2023). Oxford emeritus professor Roy Harris has long decried approaches to the study of language that treat it as a fixed system subsisting in its written form, and advocated for a view that accounts more for the history behind the transformation of speech into writing (1980, 1981, 1986). He has also criticised the lack of a comprehensive theory of writing and its relationship to conceptions of language (Harris, 1981, 1987, 1996).

Harris' work highlights the fact that linguistic purism, with its focus on 'correct' language, often stems from ignorance of how language norms evolved. While the tradition of linguistic 'correctness' serves useful documentation functions, it is the product of language normalisation, which in turn is primarily the result of print-based writing (Harris, 1981; Baggioni, 1997). Normalisation involves creating an ostensibly neutral language variety as the model for educated discourse by suppressing variation. This process progressed gradually through the manuscript and print stages of writing development (Ong, 1982; Fischer & Fischer, 2003). Manuscript writing which was the province of a minority class of scribes, mainly Christian monks, who copy-translated the Bible and other church documents, played a vital role in early language normalisation, despite its limitations, such as variations in orthography (Baggioni, 1997; Havelock, 1963).

The Gutenberg press, invented in the mid 15th century CE, proved to be the technological innovation with the greatest impact on language through standardisation, which is the imposition of a normalised language variety on a population with the support of language reinforcing institutions (Baggioni, 1997; Haugen, 1966a). Over time, language norms were imposed through nationalised schooling and, in some cases, language academies such as the Académie française and the Real Academia Española (Paffey, 2007; Tröhler & Maricic, 2023). This led to a growing reliance on writing, especially printed texts, as the point of reference for the language (Haugen, 1966b; Dudley, 2021), where supporting technology, in the form of grammar books and dictionaries, made printed language pre-eminent

over speech. Thus print technology and associated institutions facilitated the spread of standardised languages and reinforced the idea that the written form was the language (Westphal, 2021); standard-maintaining practices, such as those used by publishers, language institutions, schools and the media further entrenched this view (Offord & Offord, 1990).

By shifting writing from manuscripts to printed text, the press had fixed the spelling of words, revolutionised literacy, created a demand for written material, and enabled the production of multiple copies of documents in commercially viable quantities. This spurred the spread of printing across Europe, initially reinforcing Latin's dominance but soon thereafter triggering the demand for publications in vernacular languages (Hellinga, 2019; Kojali, 2023). The impact of the press on solidifying these languages was so profound that, between 1500 and 1600 CE, the number of printed documents in them doubled (Binzel et al., 2023). By standardising grammar, the press also played a key role in consolidating grapholects – writing-based language normsm – which contributed to the rise of European nationalism, with an emphasis on linking national languages to national states (for example, French with France, Spanish with Spain, and so on).

The rise of information and communication technologies (ICT), particularly the internet, introduced a new dynamic in the evolution of language. These technologies combine elements of speech and traditional writing, offering advantages of speed, simultaneous participation of interlocutors and global reach (Herring & Androutsopoulos, 2015). As digital technologies have evolved, they have reshaped communication and language in various ways, potentially affecting education policy, literacy, and social interaction (Kenning, 2007). Because they facilitate open systems of communication with few guard rails, they have influenced social relationships (Van den Berg, 2012) and challenged traditional conceptions of grammaticality (Herring & Androutsopoulos, 2015) thereby creating a new paradigm for understanding language. While print-based textuality adhered to conventional grammar, computer-mediated texts often defied these norms and enabled more fluid and creative language use (Burke, 2004). This has raised concerns that digital communication, especially text messaging, may have a deleterious impact on the younger generations capacity to produce written text in standard language (Aziz, 2013).

The new technologies, particularly AI language models, challenge old prescriptive grammatical teaching paradigms and require that language educators rethink their approaches. Indeed, the grammar and orthography of Shakespeare are not those of Chaucer because they were produced at different points in the

evolution of English as a written norm. If we use this as a point of reference, it will lead us to the conclusion that what we are experiencing with AI-technology in language education is an epochal moment, a revolution to which we must adjust our expectations like the scribes of the early modern period coming to terms with what the printing press represented for their manuscript craft. Looking back to the now passing print paradigm, defined as it was by the standardising technology of the Gutenberg press, will not serve our interest or that of our students.

Given what is possible with AI-language models, the question is not even whether or how quickly language educators can shift their sights and adapt to a changing or changed technological reality: it is whether they are able to first recognise the patterns of language evolution across time and appreciate that language and its use are never givens but defined by and largely the products of prevailing technological configurations. Consequently, an understanding that contemporary societies have been operating on printing press technology and institutions since the fifteenth century would go a far way in preparing us to deal with what our new reality is. The presumed natural order of things in relation to language that has existed till now has been definitively and comprehensively challenged by generative AI, which has intervened to disrupt not only our conceptions of how language works but perhaps even our very conceptions of language itself.

In sum, the evolution of language – its normalisation, standardisation, dissemination and the institutions supporting these – has been profoundly shaped by technological advances, especially in the digital realm, where new forms of communication are constantly emerging. While the digital age offers advantages such as speed, accessibility, and global reach, it also shifts the foundations of traditional language concepts, introducing new dynamics whose full impact remains to be seen. The rise of AI-powered language models exemplifies how technological change can radically alter language use, submerging it into a technological mix different from all previous forms. In this regard, they will continue to significantly shape language production and possibly redefine written discourse. As AI language models evolve, understanding the historical context of language evolution is crucial for assessing their potential impact. The communication revolution represented by the printing press provides valuable insights into how the impact of technological change on language can be approached. However, given the scope of new technologies, fresh strategies and perspectives on their social and cultural repercussions are needed. The new paradigm presents challenges and opportunities, many still emerging. To prepare

for the profound changes they bring, however, we must use our knowledge of the history of communication technology and social and cultural change to chart a new course.

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Notes on Contributors

KAMLA S. ANDERSON obtained her PhD in Education with a specialisation in Curriculum Development from the University of the West Indies, Mona. She is currently the Instructional Design Specialist at the University of Technology, Jamaica. Her research interests include instructional design, emerging educational technologies, gender in online education, and the integration of digital tools in higher education.

KAI BARRATT is a lecturer in the School of Humanities and Social Sciences at the University of Technology, Jamaica. She completed her PhD in Cultural Studies at The University of the West Indies. Her interests include exploring social media platforms as a space for carnival representations, especially for women. She is also curious about the extension of the Trinidad-style carnival to other sites in the Caribbean, specifically in Jamaica.

MARK BLAAUW-HARA is an Assistant Professor, Teaching Stream, at the University of Toronto Mississauga. He earned his PhD in writing pedagogy and writing-programme administration from Old Dominion University, USA. His research interests include Scholarship of Teaching & Learning, pedagogy, transfer theory, and threshold concepts.

NICOLE OLA CAMERON holds a PhD in communication from Washington State University, USA. She is a Fulbright Scholar and the current Graduate Studies, Research and Entrepreneurship Coordinator in the Faculty of Education and Liberal Studies at the University of Technology, Jamaica. Her research interests include health literacy promotion, health-related interventions for vulnerable populations, media effects within a social justice framework, and the use and efficacy of digital media in education.

CLAUDINE CAMPBELL holds a PhD in Educational Administration from Northern Caribbean University. She is a lecturer in the Education division in the School of Technical and Vocational Education at the Faculty of Education and Liberal

Studies - University of Technology, Jamaica. She also teaches the M.Ed. and PhD in Educational Leadership and Management programme(s) at the Faculty of Education and Liberal Studies. Dr. Campbell is the Academic Advisement Coordinator for the Faculty. Her research interests include advisement, leadership, administration, human resources management, ethics, adolescent and adult psychology, and adult education.

TRESECKA CAMPBELL-DAWES holds a Master's in English from La Sierra University, Riverside California, USA, with a specialisation in composition and rhetoric. She is a lecturer in Academic Literacies at the University of Technology, Jamaica, where she also serves as the director of the Language, Teaching and Research Center She is a longstanding educator and her research interests include investigating the impact of linguistic knowledge on language performance.

CHRISTOPHER EATON is an Assistant Professor, Teaching Stream at the Institute for the Study of University Pedagogy (University of Toronto Mississauga). Broadly, he focuses on how students can inform writing, literacy pedagogies, and curriculum development. His recent work has examined the intersection of artificial intelligence, multimodal literacy, and assessment.

KARNETTE BATCHELOR EVERING obtained her master's degree in leadership in Technical and Vocational Education and Training (TVET) and Workforce Development (WFD) from the University of the West Indies, Mona. She is currently a lecturer and teaching practice coordinator in the Faculty of Education and Liberal Studies, University of Technology, Jamaica. Her research interests include teacher preparation and technology integration.

CLAIRE GOUVEIA is a doctoral student in the Language and Literacies Education Program at OISE, University of Toronto. Her research interests include second language confidence and proficiency in Ontario's French-as-a-second language programmes.

SHELIZA IBRAHIM completed her PhD in Science Education from York University, Canada. She is an Assistant Professor of Numeracy at the University of Toronto, Canada. Her research focuses on metacognition, higher education, university pedagogy, and social justice education in the fields of science, mathematics, and STEM.

KAMINI JAIPAL-JAMANI obtained her PhD in Science Education from the University of British Columbia, Canada. She is currently a full Professor at Brock University, Canada. Her research interests include teacher professional development and science education.

R. ANTHONY LEWIS is an associate professor of language, culture and society in the School of Humanities and Social Sciences, UTech, Jamaica. He teaches courses in speech, writing, media, culture and society. He also researches linguistic and cultural creolisation, translation and nationalism, and sexuality in Afro-American communities.

JUNIOR MARTIN is an associate professor and the current head of the School of Technical and Vocational Education at UTech, Jamaica. He holds a doctoral degree in higher education leadership and his research interests include educational leadership, the integration of technology in curricula and investigating STEMbased pedagogy.

HOPE MAYNE holds a PhD in Curriculum and is an Associate Professor of Curriculum and Instruction, and the Acting Associate Vice President for Teaching and Learning at the University of Technology, Jamaica. Her scholarly work focuses on STEM TVET integration, curriculum implementation and reform, curriculum as lived experiences, curriculum as social reconstruction, decolonizing the curriculum and the integration of Artificial Intelligence in the teaching and learning environment.

ELAINE McLEAN obtained her MSc in Career and Technical Education from the University of Technology, Jamaica. She is currently a Lecturer and the programme leader for the Apparel Design and Production Management (ADPM) and Entertainment Design Production Technology (EDPT) programmes at the University of Technology, Jamaica. Her research interests include inclusive and sustainable education.

KENISHA NELSON is a Commonwealth Scholar with a PhD in Psychology with an emphasis in Occupational Health Psychology from Cardiff University, Wales. She is a lecturer in the Social Science Division in the Faculty of Education and Liberal Studies at the University of Technology, Jamaica. Her research interests include work-related stress and well-being and gender-based violence, specifically child sexual abuse in Jamaica.

CYNTHIA ONYEFULU is a Professor of Educational Assessment with a specialisation in Psychometrics. She is a Visiting Fellow in Educational Development at the University of Windsor in Canada. She has served as an Editor-in-Chief for the Journal of Arts, Science and Technology and a reviewer for the American Educational Research Association, the Continental Journal of Education Research, the Caribbean Education Research Journal, the Collected Essays on Learning and Teaching, and the World Education Research Association, among others. Her research interests include educational assessment, programme evaluation, and ethical issues in educational research.

MICKALIA PECK-AIKENS obtained her MEd in Teaching & Learning with Emerging Technologies (Instructional Technology) from the University of the West Indies, Open Campus. She is currently a Distance Learning and Training Officer at the University of Technology, Jamaica. Her research interests include online learning strategies, instructional design, emerging educational technologies, eLearning pedagogy, and the integration of digital tools in higher education.

AUDREY PORTER DACOSTA holds a doctorate in Transformational Leadership from Bakke Graduate University. She currently serves as a Senior Lecturer and Programme Director in Workforce Education and Training at the School of Graduate Studies in the Faculty of Education and Liberal Studies UTech, Ja. Her academic work focuses on the intersection of family life, teacher education, social justice, HIV/AIDS, appreciative inquiry, and transformational leadership.

DEAN REID obtained his PhD in Civil Engineering from Atlantic International University, USA. He is currently an Associate Professor at the University of Technology, Jamaica. His research interests include climate change management and engineering, sustainable building, road management, resilient infrastructure design, and TVET.

LEONIE SIMMS holds a Master of Arts (M.A.) in Education. She is a lecturer in the Education division in the School of Technical and Vocational Education at the Faculty of Education and Liberal Studies University of Technology, Jamaica. She serves as a member of the Faculty Academic Advisement Committee. Her research interests include psychology, counselling and Spanish.

HEATHER THOMAS-FINLAY earned a BSc. in Human Resource Management. She serves as Administrative Support in the School of Humanities and Social Sciences at

the Faculty of Education and Liberal Studies, University of Technology, Jamaica. Her research interests include advisement, counselling, and psychology.

MICHELLE TROBERG obtained her PhD in French Linguistics from the University of Toronto, Canada. She is currently an Associate Professor at the University of Toronto Mississauga, Canada. Her research interests include syntactic variation and change from Latin to Romance.

ALICIA WILLIAMS holds a Master of Arts in English Language and a Master of Business Administration in Information Systems. She is a lecturer in the School of Humanities and Social Sciences at the Faculty of Education and Liberal Studies – University of Technology, Jamaica. She is the Coordinator for the second-year students completing the B.A. in Communication Arts and Technology (BACAT), as well as a member of the Faculty Academic Advisement committee. Her research interests include: ethics, educational psychology, leadership and advisement, and cognitive psychology with a focus on written communication.

NICOLE WILLIAMS is a graduate student in the Faculty of Education and Liberal Studies at the University of Technology, Jamaica. She currently serves as the Quality Assurance Officer and lecturer in the Aesthetics Department at St. Joseph's Teachers' College. Her research interests include crisis leadership, quality assurance in higher education and teacher training.

ERALDINE WILLIAMS-SHAKESPEARE obtained her PhD in Curriculum and Instruction: Instructional Technology from the University of South Florida, Tampa, USA. Her research interests include interactions in the online learning environment, technologies in teacher education, curriculum development and planning, teacher education, online curricula and women in doctoral studies.

Journal of Arts Science and Technology

Submission Guidelines

About the Journal of Arts Science and Technology

The Journal of Arts Science and Technology (JAST) is the flagship, international, multidisciplinary, peer-reviewed journal of the University of Technology, Jamaica. Its publication is in keeping with one of the Objects of the University of Technology, Jamaica Act, to "preserve, advance, and disseminate knowledge through teaching, scholarship and research . . . and to make available the results of such . . . to promote wisdom and understanding."

Aims and Scope

JAST aims to promote and enhance research and technology in diverse fields of knowledge, including engineering, computing, business management, finance, marketing, health, sports, pharmacy, arts, hospitality, architecture, urban planning, education, liberal studies, and law.

Responsible Office

The School of Graduate Studies, Research & Entrepreneurship [SGSRE] is responsible for the academic publications of the University of Technology, Jamaica. The school is directly in charge of the publication of *JAST*.

Frequency of Publication

JAST is published twice per year.

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The Editorial Board of the *Journal of Arts, Science and Technology (JAST)* considers the submission of a manuscript to be a representation by authors that it is not copyrighted by another party, not currently under consideration for publication elsewhere, and was not previously published.

The *JAST* considers the following types of articles for publication:

- **Research Article:** A written account of original research results; should not exceed 6,000 words, excluding references and appendices).
- **Concept Paper:** Should outline a proposed idea, project, or research study by providing a clear and concise overview of the concept, including its rationale, objectives, methodology, and potential outcomes; 1000–3000 words).
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Font, line-spacing, alignment: Calibri, double-spaced lines in MS Word, 12-point font, margins 2.5 cm, and left align.

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- Title page (The front page should include the title only).
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- Conclusion (State conclusions clearly based on the results; summarize the evidence for each conclusion)
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Title page (The front page of the Concept Paper should include the title only).
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Industry Perspective

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Calls for Papers are made twice per year. All submissions should be made electronically through *Scholastica*. Authors will need to login using an existing Scholastica account or create a new one to submit their manuscripts.

Please submit a separate page with all the names and affiliations of each author.

The title, abstract, and keywords should be the only material on the first page (title page) of the manuscript. There should be no acknowledgements, footnotes, or other information that could be used to identify the authors.

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Each author should include a brief bio on a separate page that lists their highest degree, affiliation with the institution, current position(s), and areas of interest in research.

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Submissions will be peer-reviewed. Possible outcomes of this process are: Accept, Revise and Resubmit, or Reject.

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