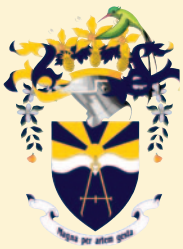

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ASSOCIATION OF CARIBBEAN HIGHER EDUCATION ADMINISTRATORS (ACHEA) 17TH ANNUAL CONFERENCE

Continues on inside front cover

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ASSOCIATION OF CARIBBEAN HIGHER EDUCATION ADMINISTRATORS (ACHEA) 17TH ANNUAL CONFERENCE

Hyatt Regency Hotel, Port of Spain, Trinidad and Tobago
July 12–14, 2018

Embracing the Future: Creative Approaches to Higher Education

Guest Editor:

Claire C. Craig
President, Association of Higher Education Administrators
Senior IT Officer, The University of the West Indies, St. Augustine
Email: Claire.Craig@sta.uwi.edu

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Editorial

Embracing the Future: Creative Approaches to Higher Education

The Association of Caribbean Higher Education Administrators (ACHEA) is an independent organization devoted to the promotion of professional and ethical standards for higher education administrators in the Caribbean region. ACHEA seeks to derive practical solutions to common concerns, issues and challenges faced by our education sectors.

ACHEA hosts an annual conference with the aim of promoting networking opportunities and mentoring support for administrators, researchers, and educators in the field of higher education by fostering links and exchanges with similar local, regional and international organizations. These fora highlight the need for an efficient educational environment supported by organizational structures, administrative policies and systems, by establishing and maintaining a code of conduct for its members regarding professional and development work.

In 2018, ACHEA hosted its 17th Annual Conference, themed "*Embracing the Future: Creative Approaches to Higher Education*" from July 12–14, at the *Hyatt Regency Hotel, Port of Spain, Trinidad and Tobago*. The theme evolved in light of today's globalized tertiary education environment, punctuated by technological and social changes, dwindling economic resources, and recognized that Higher Education Institutions (HEI) are faced with multifaceted challenges. As the region's response to the realities of the dynamic and constantly evolving role of tertiary education administrators, the conference addressed some major themes associated with repositioning educational institutions to achieve high levels of efficiency and effectiveness, while providing avenues for cross-sectional perspectives from professionals in HEI.

The Conference Programme Committee recognized that Caribbean communities are facing challenging and uncertain socio-economic and political

times and a future that will continue to evolve significantly within the next decade. Competition, rising tuition costs, diversity in student populations, workforce readiness, and government funding, are some of the issues confronting Higher Education. Organizational infrastructures and cultures that now exist for delivering Higher Education must therefore adapt to meet new realities. Now is the time to think outside the box, to be creative and resourceful as HEI embrace opportunities, while simultaneously making relevant adjustments to internal and external operations. At ACHEA 2018 new models, trends, and innovative strategies were explored in response to the socio-economic and political challenges that lay ahead.

Nine (9) revised papers from the conference were reviewed and selected from the thirty (30) conference presentations to be published as a special issue of the *Journal of Arts Science and Technology*. JAST is an international, multi-disciplined, peer-reviewed journal published by the University of Technology, Jamaica in both hard copy and online on EBSCOHost at http://bit.ly/2cc9STt and on the University's own website.

The papers are organized under the following four sub-themes:

1. Creativity and Innovation in Managing Teaching and Learning – New technologies present opportunities for partnerships in leading innovation in teaching, learning and workforce preparedness for all learners and to make learning spaces work. Three papers were selected:
    a. Meeting 21st Century Needs in Higher Education: Creating a Model Teaching and Learning Unit for Institutions
    b. Towards Innovative Strategies for Authentic Assessment: A Case Study with Advice for Administrators
    c. Technology and the Creative Process in Higher Education Practices: A Case Study for Surviving Lean Times
2. Governance and Leadership: Confronting Challenges in Uncertain Times – Leading change and innovation with accountability, autonomy and increased responsiveness while planning for a sustainable future. One paper was selected:
    a. Defining the Characteristics of Engagement and Capacity Building among Institutions of Learning
3. Quality Assurance: Fulfilling the Mandate – How can higher education institutions implement creative quality enhancement approaches for systemic change in Higher Education and meet international standards for Registration, Recognition and Accreditation? One paper was selected:
    a. Avoiding "Swiss Cheese Curricula": Enhancing Innovation-Literacy among University Graduates

4. The Student Experience: Removing the Barriers – How can higher education institutions meet the needs of current and future students in a highly competitive market? How can they promote social justice, diversity, inclusion and retention and collaborate for the achievement of all student populations? Three papers were selected:

    a. Tracing our Graduates' Footprint: Improving Graduate Employability through Tracer Studies
    b. Higher Education Empowered Me: Voices from Jamaican Nontraditional Female Students
    c. Teaching the 'SIMPLE' Strategy as a Proactive, Inclusive, Student Support Service Initiative in a Tertiary Setting
    d. Uncovering Factors of Retention: An Exploration of the Factors that Affect Student Experience at the UWI St Augustine Campus.

The ACHEA Executive and the Local Organizing Committee of the 2018 conference hope that these papers will provide a snippet of some pragmatic solutions to the unique concerns faced by Caribbean Higher Education Administrators.

Creativity and Innovation in Managing Teaching and Learning

THE JOURNAL OF ARTS SCIENCE AND TECHNOLOGY

Meeting 21st Century Needs in Higher Education:

Creating a Model Teaching and Learning Unit for Institutions

AUDREY THOMAS
Curriculum Specialist,
University of Technology, Jamaica

LA-CRESHA GORDON-BRYDSON
Co-operative Education Co-ordinator
University of Technology, Jamaica

Abstract

In higher education today, the quality of teaching and learning is being impacted by new and emerging technologies; increasing diversity among students (learning style, intelligence, cultural background and motivation); increasing emphasis on science, technology, engineering and mathematics (STEM) in the curriculum; the strengthened role of research; internationalization of curricula; increasing need for the development of transferable skills and changing employer expectations and work place needs. If student outcomes and student engagement are to be improved, higher education institutions (HEIs) must have a more creative and innovative teaching and learning environment which will help to move students from the situation of merely obtaining knowledge to one in which the student experience is broadened to include challenge, curiosity, a sense of community, a feeling of care and intrinsic motivation.

Considering disciplinary differences; available learning and technology support and instructor/teacher capability, the institution should make specific efforts to nurture creativity and innovation in teaching and learning. Such efforts could include student partnerships, case-based teaching and learning, problem-based learning, experiential learning, alternative forms of assessment for learning and ongoing research in teaching and learning practices.

Corresponding author: Audrey Thomas: authomasster@gmail.com

If creativity and innovation in teaching and learning are to be nurtured in regional HEIs, this paper recommends that each institution establishes a unit with responsibility for the management of teaching and learning. Where such a unit exists, a review of its operation may be required.

This paper reports on the findings of a desk review of teaching and learning units in four (4) well established HEIs with stable and successful teaching and learning units. Different data bases were used to locate information on their roles, functions, responsibilities and effectiveness. The review found centralized models that work on professional development of staff, graduate attributes, innovation and scholarship in teaching and ongoing assessment of the learning environment. Based on the analysis of these units, this paper suggests a framework for developing and implementing a teaching and learning unit which will guide instructional delivery as well as professional development of academic and administrative staff members as they contribute to the management of teaching and learning.

Keywords: Teaching and learning unit; instructional delivery; creative and innovative teaching and learning strategies; management of teaching and learning

Introduction

One recent trend in higher education is the centralization of the core mission of teaching and learning. This trend is being driven by factors that include:

1. the growing pressure for innovative pedagogy due to increasingly diverse student body (Christenson Hughes and Mighty 2010).
2. the need to match teaching with the changing student profile.
3. increasing emphasis on assessment and evaluation in higher education.
4. increasing emphasis on the scholarship of teaching and learning.
5. the need to promote international engagement in response to the demands of the globalized higher education environment.
6. the need to address the loss of senior faculty members' wisdom and the emerging needs of new faculty recruits (D'Avanzo 2009)

Varma-Nelson, Tarr and Hundley (2011) pointed out that many HEIs have a Centre for Teaching and Learning (CTL) whose mission is to advance teaching excellence, foster innovation and translate educational research into practice. Lieberman (2018) conducted interviews with directors of CTLs that included the Faculty Development and Instructional Design Centre, Northern Illinois

University; Sheridan CTL, Brown's University; Centre for Teaching Excellence, Boston College; Centre for Institutional Effectiveness, University of California; CTL, Dixie State University and CTL, University of Iowa. In his report on the interviews, Lieberman explained that these centres increasingly serve as hubs of pedagogical innovation, influenced but not dependent on flashy digital technology. He further pointed out that the directors remained optimistic and ambitious about the possibility for more significant developments in teaching innovation.

The value placed on the learning experience (by faculty, students and administrators) and the thrust for greater understanding of the mission of teaching and learning have resulted in an increased momentum for the establishment of teaching and learning centres particularly those operating in HEIs in developed countries. According to Trammell and Bruce (2008), the establishment of such units is grounded in the philosophy that teaching and learning do not happen in a vacuum and that college/university communities are self-reflective, dynamic and constantly evolving. For the HEI, such a unit will provide an academic service that supports the quality of teaching and learning and enhance the quality of the student; facilitate the internationalization of curriculum delivery in the globalized higher education environment; facilitate the orientation of staff who are new to university teaching; monitor infrastructure for programme delivery; promote the scholarship of teaching and learning and support academic policy development. The unit is found to be particularly helpful to HEIs that offer a variety of academic disciplines. The University of Technology, Jamaica, having recently conceptualized and established an Office of Teaching and Learning (OTL), will be seeking to customize a model that will be workable in its contextual situation.

Methodology

In the desk review carried out, approximately 20 centres/institutes for teaching and learning were targeted most of which were at colleges and universities in developed countries. Five (5) CTLs at HEIs from four (4) different countries were selected and examined in terms of their mission, structure, main areas of focus and success factors. The CTLs that were selected are as follows:

A. Bristol Institute for Learning and Teaching, United Kingdom
B. Teaching and Learning Laboratory, Massachusetts Institute of Technology, USA
C. Centre for Teaching and Learning, University of Windsor, Canada
D. Oxford Learning Institute, University of Oxford, United Kingdom

E. Centre for Higher Education, Learning and Teaching (CHELT), Australia National University, Australia

Selection of the CTLs was based on international reputation of the HEIs to which they belong and their stability and contribution to the institutions. In addition, the selected CTLs have updated websites which provided the main source of information. Contact was made with the relevant personnel at each CTL seeking permission to make reference to the information on the website.

A Review of the Operations of Selected Centres of Teaching and Learning

Trammel and Bruce (2018) posited that the trend towards implementing models of teaching and learning centres for academic support in higher education is gaining momentum and that furthermore, these centres have evolved in different ways. In some HEIs, the centre was created by merging existing units, in others by splitting or dividing an existing unit and in others by establishing a brand new unit. Scrimger and Watts (2005) added that some centres have emerged from instructional development departments which originally focused on integrating new technologies in the classroom, while others have grown out of faculty-driven initiatives of senate committees. Moreover, a common feature of modern CTLs has been the recruitment of full-time academic staff who are trained in instructional development or related fields and whose efforts may be enhanced by academic departments that wish to assist their members in improving teaching performance.

The CTLs selected in this review have had a proven track record of excellence and as such have been consistently rated amongst top universities in the world for teaching and learning and graduate employability (QS World University ranking 2018)

A. Bristol Institute for Learning and Teaching (BILT), University of Bristol, England

https://www.bristol.ac.uk/bilt/general-and-information
https://www.bristol.ac.uk/biltthemes/
http://www.bristol.ac.uk/bilt

Mission: This institute is designed to support the University in providing its students with an education that is evidenced-based, innovative and effective. It seeks to:

1. advance the production and use of educational research and scholarship so that students can benefit from a curriculum that is based on evidence.
2. articulate, champion and support educational excellence at the University.
3. enhance the University's reputation for teaching and learning both nationally and internationally.
4. provide academic and professional support to enable educational enhancement in the institution.

Structure: BILT is a single unit with a core team as follows:

- Academic Director
- Deputy Director
- Interim Executive Director
- BILT coordinator
- Digital resource Officer
- Visiting Professor

Main areas of focus: BILT's operational activities are organized in the following themes:

- Assessment
- Re-Thinking spaces
- Student Engagement
- Reflection
- Research

Key success factors

- Research that includes the sharing of the work of colleagues who are researching teaching and learning practices and disseminating this through the university.
- Reflections which involve colleagues' reflections and sharing of their own teaching and learning and their experience of trying something new.
- Two-way staff relationships that encourage collaboration and partnership.
- Teaching Innovation Grants and Fellowships.
- Staff-led and Student-led Teaching Awards.
- Digital innovations that impact the curriculum and teaching and learning spaces.
- Connections with discipline specific research-based centres within academic units.

B. Teaching and Learning Laboratory (TLL), Massachusetts Institute of Technology (MIT)

http://tll.mit.edu/about/who-we-are-and-what-we-do

Mission: The TLL is to jointly partner with MIT educators to create an educational environment where students are academically challenged, actively engaged, and personally supported. Our **teaching and learning** and **evaluation and assessment** experts do this by:

- sharing **research-based** strategies for lesson, subject, and program design and development.
- educating others about student-centered **pedagogies**.
- **collaborating and consulting** with MIT educators to brainstorm opportunities and solutions for their teaching context.
- collecting **data** through the **evaluation** of educational innovations and **assessment** of student outcomes to provide constructive, practical, and informative **feedback** to educators.

Structure: The TLL is a single unit with staff consisting of:

- Director, Teaching and Learning
- Director, Assessment and Evaluation
- Associate Directors for Teaching and Learning, and Assessment and Evaluation
- Administrative Assistant

Main areas of focus: These areas are as follows:

- Educational Innovation and Consultation which involves development of curricula materials on pivotal concepts in science and engineering and consultation on building curricula, implementing new pedagogy and maximizing technology
- Teaching about Teaching and Learning which involves the graduate support teaching certificate programme; orientations for new faculty and teaching assistants and workshops on curriculum development, pedagogy and assessment
- Applied Research and Assessment which involves assessment of new pedagogies, curricula and educational technologies and research into self-efficacy, international engineering education, interdisciplinary education, etc.

Some key success factors: These factors are as follows:

- Research-based teaching
- Customized assessment and evaluation workshops for staff
- Staff access to the latest development in STEM teaching and learning in HE

nationally and internationally as well as information (and teaching material) about new approaches to curriculum, innovative pedagogical strategies and techniques and novel methods of assessment
- Availability of funding opportunities in STEM education
- Collaboration with departments, faculty committees and individual faculty members and postdoctoral students in the provision of guidance for teaching
- Collaboration with faculty to disseminate the results of staff initiatives in academic journals, conference presentation and the popular press
- Creation of Guidelines (strategies) on learning that inform teaching at the university:
  - Embedded in institutional policies/practices
  - Referenced in the academic promotion instructions & instructions for preparing a teaching portfolio
  - Criteria for Teaching and Learning recognition
  - Part of foundation course on learning and teaching for new staff
  - Prominence on website
- Utilization of the OpenCourseWare Consortium

C. Centre for Teaching and Learning (CTL), University of Windsor, Canada

http://www1.uwindsor.ca/ctl/about-the-ctl
www.uwindsor.ca/ctlalan-wright

Mission: The CTL works in partnership with faculty, staff and students from across campus to create a culture of scholarly and effective teaching at the University of Windsor. A culture which values, recognizes, practices and rewards teaching that is well-grounded in research and reflective practice and thus likely to enhance and inspire student learning.

Structure: The CTL is structured with sections/divisions of Teaching and Learning, Research and Learning Technologies. The staff consists of:

- Vice Provost, CTL
- Director, Teaching and Learning
- Learning Specialist (Technology)
- Teaching and Learning Specialist (Coordinator University Certificate in Teaching)
- Learning Specialist (Engineering Education)
- Online Learning Systems Administrator

- Media Artist
- Research and Communications Coordinator
- Learning Technologies Educational Consultant Administrative Assistant

Main areas of focus: These include the following:
- Student engagement
- Collaboration
- Innovation
- Support

The above are achieved through the following core activities:

- Teaching and learning workshops
- Individual teaching consultations
- Professional Development Workshops
- Research
- Teaching observation
- Dossier Consultation
- Curriculum Design and Support (course and consultation)
- Staff development and use of learning technologies

Some key success factors: These factors are listed as follows**:**

1. An international leader in educational development contributing through research and a scholarly approach to the design and development of enhanced pedagogical practices
2. Professional development in teaching and based on the understanding that all are works in progress
3. The use and promotion of effective and innovative technology used to support learning
4. Celebrated success in teaching and learning and promotion of its importance on campus and beyond
5. Critical reflection on and approaches to assessing and documenting instructional practices and student learning
6. Facilitation of learning communities (peer collaboration network)
7. The Teaching Dossier Academy to prepare Faculty for promotion
8. Teaching Innovation Grants and Fellowships

D. Oxford Learning Institute, University of Oxford, UK

http://www.learning.ox.ac.uk/about/professional-team

Mission: The Institute supports excellence in learning, teaching, research and professional services at Oxford by promoting and facilitating staff development including support for manager and teams.

Structure: The Institute has two (2) areas of operation as follows.

Teaching and Learning that includes teaching networks and hosting of events; teaching and learning consultancy upon request by departments and faculties and work with other groups across the university.

Professional Development that includes staff development consultancy and tailored support to divisions, departments, faculties and teams; leadership and management programmes and workshops; personal effectiveness workshops, online courses for staff and coaching and mentoring networks across the University.

Staffing for Teaching and Learning

- Head of Educational Development
- Educational Development Advisors
- Project Officer
- Learning Technologist
- Educational Development Coordinator
- Educational Development Administrator

Staffing for Professional Development

- Head of Professional Development
- Professional Development Advisors (4)
- Professional Development Administrator
- Course and Programme Administrator
- Apprentice Training Administrator

Main areas of focus: The Institute mainly focuses on areas as follows:

- Teaching and learning
- Coaching and mentoring
- Leadership and management
- Team development
- Self development
- Researchers and research support
- Interpersonal and written communication
- Compulsory course for staff involved in undergraduate admissions

Some key success factors

- The offering of over 50 courses for university staff in the areas of teaching and learning, leadership and management, research and research support, personal development and interpersonal and written communication.
- Special programme designed for staff involved in undergraduate admissions.
- Provision of consultancy services in teaching and learning across the university.

E. Centre for Higher Education, Learning and Teaching (CHELT), Australia National University (ANU), Australia

https://services.anu.edu.au>business-units

Mission: CHELT supports the mission of the university by providing ANU staff with professional development opportunities aimed at facilitating, promoting and recognizing excellence in university teaching and learning. CHELT also assists the ANU in building institutional capacity in academic work in areas such as flexible teaching and learning, curriculum development and academic leadership with particular focus on educational development.

Structure: CHELT is structured into the areas for:

- Academic Development
- Awards and Grants
  Network for Early Career Teachers, Academics and Researchers (NECTAR)

Staffing:

- Director for CHELT
- NECTAR Coordinator
- Education Administrator

Areas of focus: The main areas of focus are as follows:

- Teaching and Learning
- Curriculum development
- Academic Leadership with emphasis on educational development
- Awards and grants
- Mentorship

Some key success factors

- An intensive professional development programme designed to inform, engage

and inspire staff and hence students
- Educational fellowship schemes as well as other awards and grants for the most influential teachers
- An internationally-accredited professional recognition for educators with experience and expertise in university teaching
- An established mentorship programme, Network for Early Career Teachers, Academic and Researchers (NECTAR), that delivers career development mentoring and workshops for early career academics to enhance their success in teaching, research and outreach
- An established Educational Research Network

Summary of Findings and Discussion

The review highlighted that different models of teaching and learning units were implemented in the HEIs; such models range in structure from units with a single section focusing on teaching and learning to complex ones with divisions such as teaching and learning, professional development, research and consultancy. The activities highlighted in the models (both simple and complex) generally emphasized educational excellence through scholarly teaching and learning activities. These include educational innovation to meet the demands of student diversity and inclusion; promoting active teaching and learning approaches and increased student engagement; innovation in curriculum development and assessment and academic leadership; promoting interdisciplinary collaboration and orientation of new lecturers to university teaching. Lieberman (2018) concluded that the goal of any CTL is to get faculty to think about improving their teaching and to meet faculty's hunger for innovations that they may wish to start.

Research was identified as a key function of CTLs regardless of the structure adopted and much attention was focused on:

- research-based teaching
- sharing of research results
- research support
- established educational research network
- latest development in STEM teaching

The areas of focus by the CTLs and the success factors indicate the essentiality for strong relationships and collaboration with the academic and administrative units of the HEI. In addition, it is essential that the CTL has a solid connection to the institution's overall vision and mission. The areas of focus also indicate faculty

priorities to which the CTL must respond in terms of the provision of services.

Conclusion

A teaching and learning unit is helpful not only to academic staff but also to administrators in faculties and departments who experience some of the challenges emanating from the increasingly diverse learning population, financial constraints, pressure to improve retention rates and alignment to the overall institutional vision and mission. As highlighted in the review of HEIs, at least one of the universities has placed some amount of emphasis in ensuring that all staffs have access to training and in particular, those involved in undergraduate admissions were required to take a course in undergraduate admissions interviewing.

In setting up a teaching and learning unit, there are several challenges which may be faced. These include:

1. Having adequate staffing. Some CTLs have sought to address this by employing graduate students to help on a part-time basis.
2. Aligning of the unit's mission to the HEI's educational philosophy and mission and to its overall vision and mission.
3. Obtaining funding to maintain the CTL. Some CTLs have had to rely on external grants as the institution's budgetary allocations are usually inadequate.
4. Obtaining policy support from the administrators of the HEI.

Recommendations

In establishing a teaching and learning unit, as illustrated in Figure 1, the HEI should give consideration to matters as follows:

1. In consultation with the academic units, articulate a clear philosophy of teaching.
2. Through consultation and collaboration with academic and administrative staff and students, identify the services to be offered by the CTL to enhance the institution's educational output. Such functions/services should be linked to the institution's vision and mission.
3. Formulate the mission for the CTL; such mission should be linked to the institution's vision and mission.
4. Structure of the CTL in accordance with available budgetary allocation. Note that the successful establishment of the CTL requires qualified core staff

(academic, administrative and technical) to oversee its activities, relevant and reliable technologies, and a dedicated space(s) to facilitate some of the activities of the centre.

5. Select staff with the best fit. With respect to staff for the teaching and learning unit, Shumann, Peters and Olson (2013) advocated that the persons who staff the teaching and learning unit should be able to work in teams; believe in the growth of others; believe in group vision and be assertive in putting ideas forward.

In light of the factors impacting the quality of teaching and learning in higher education today, the institutions should strive to invest in the professional development of staff, teaching and learning innovations, systems to increase levels of excellence in teaching and learning and in their learning environments. To this end, the recommended template for a teaching and learning centre (as shown in Figure 1 below) that is transformational, enabling and enhancing institutional capacity is one which provides a framework for research, on-going professional

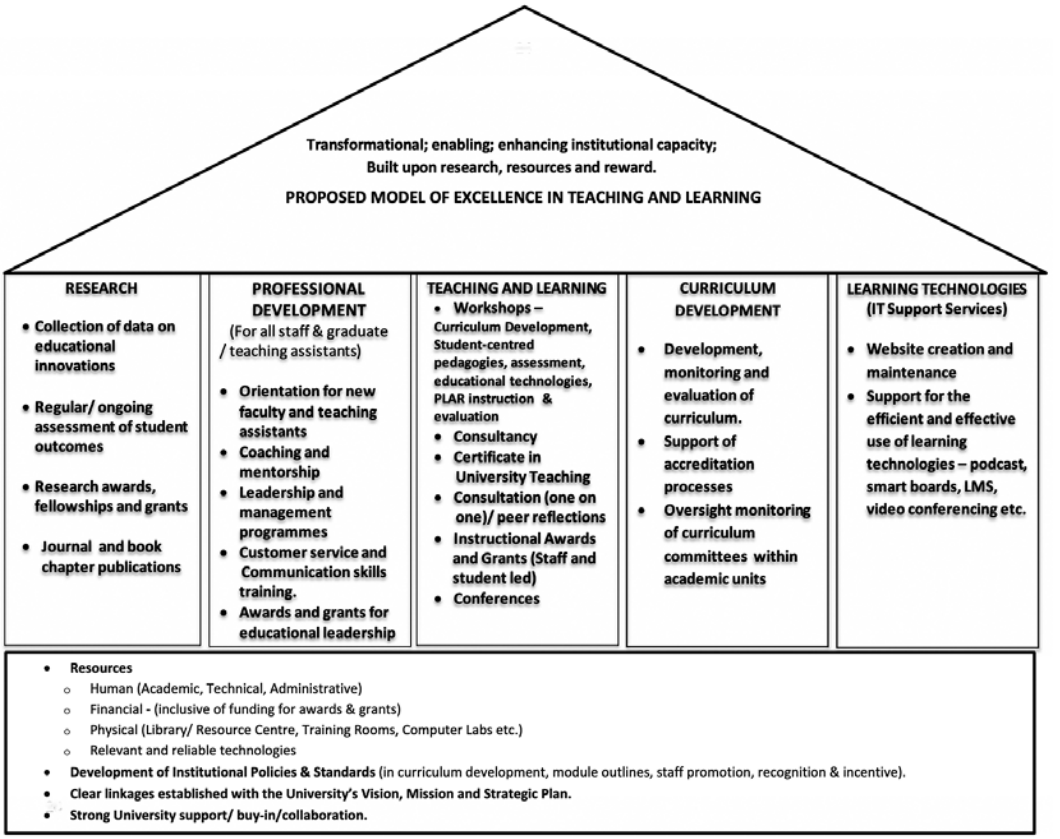

Figure 1. Proposed Model Teaching and Learning Unit

development, instructional excellence, curriculum development and the utilization of relevant learning technologies to support instructional delivery.

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THE JOURNAL OF ARTS SCIENCE AND TECHNOLOGY

New Approaches to Authentic Assessment:

A Case Study with Advice for Administrators

DIANNE THURAB-NKHOSI
The University of the West Indies, St Augustine

GWENDOLINE WILLIAMS
Arthur Lok Jack Global School of Business

MARIA MASON-ROBERTS
Arthur Lok Jack Global School of Business

Abstract

Graduate programmes in human resource management may be producing students without the relevant competencies partly because approaches to teaching and learning, and in particular design of assessments, may not be encouraging mastery of competencies. Traditionally, the main form of assessment used by the Arthur Lok Jack Global School of Business is a written examination. This form of assessment requires some level of critical thinking, once the examination is well designed, and it can allow for student-led application to the world of work. It was felt, however, that the relevant competencies would be better achieved if students were involved in more real-world type activities. Recognizing that students in the business school were all part-time and institutional resources were limited, a creative way of involving students in authentic learning had to be identified. Three lecturers in two capstone courses, namely HRNM 6404: Training Systems and Instructional Development and HRNM6516: Developing and Evaluating Training Policies and Plans teamed up to change the form of assessment in these courses to 100% course-work assessment, with the assessments designed as authentic assessments, without the administrative complexity of internships. The paper describes the process involved in the conversion to 100 percent coursework, the authentic assessments designed, and a summary of

Corresponding author: Dianne Thurab-Nkhosi: dianne.thurab-nkhosi@sta.uwi.edu

the findings of research conducted and published in Thurab-Nkhosi, Williams and Mason-Roberts (2018). The paper then focuses on the implications of the findings for administrators. The findings of this study can provide support for more creative ways of applying authentic assessments in professional business education programmes, making a case for academic rigour alongside professional competency development.

Keywords: authentic assessments, competency-based learning, academic programme management

Introduction

The University of the West Indies Arthur Lok Jack Global School of Business (ALJGSB) encourages the use of *Authentic Assessments*, which are "forms of assessment in which students are asked to perform real-world tasks that demonstrate meaningful application of essential knowledge and skills" (Mueller 2016). Students are required to demonstrate that they can think creatively and apply what they have been taught to a real-world situation through assessments that require them "to apply, integrate, and synthesize knowledge and skill in a manner that reflects the real world and transcends the classroom" (McAlister, n.d.). Traditionally, the main form of assessment used by the Business School is a written examination. However, in pursuit of authenticity, the School has been consistently seeking to make the shift to more authentic assessment. In 2015, three lecturers in two capstone courses in the Master in Human Resource Management Programme (MHRM), teamed up to change the form of assessment in these courses to 100% course-work assessment, with the assessments designed as authentic assessments. It was felt that the engagement of students in activities that demonstrated that they constructed their own knowledge and synthesized information could better demonstrate the ability to apply competencies in an authentic context. The lecturers in both courses were of the view that a written examination did not add value to the assessment toolkit for these courses. Notably, feedback from both students and employers suggested the urgent need to improve practitioner competence among HR professionals. This was necessary in order to respond to the rapidly evolving demands of the business environment, characterized by low levels of productivity and employee engagement, a complex industrial relations climate; and rapidly changing patterns of work and organizational behaviour driven by the vagaries of the economic, social and technological environments. Therefore, a case was made for authentic, in-course assessments to replace the summative. It took two years

and the support of the Programme Administrator to obtain the academic and administrative approval, which allowed for the implementation of the revised approach. The initial roll out took place in Semester 3 of the 2016/17 academic year.

This paper describes the process involved in the conversion to 100% coursework, the authentic assessments designed, the findings of research conducted with the first cohort and the implications for administrators. This was in pursuit of the ALJGSB's expressed vision for 'authentic learning' as the pathway for developing the exit competencies of its graduates. The presentation is intended to highlight the factors that need to be considered by administrators to facilitate innovative practices in teaching and learning such as authentic assessments, making a case for academic rigour alongside professional competency development.

Moving from Traditional Exam to 100 Percent Coursework

The two courses HRNM 6404: *Training Systems and Instructional Development* and HRNM6516: *Developing and Evaluating Training Policies* two components of the Training and Development elective, and are 'capstone' courses for the Masters in Human Resource Management (MHRM) programme. Assessments for both courses require students to integrate the subject matter content around an instructional design model (Analysis, Design, Development, Implementation and Evaluation (ARDDIE)), drawing on the knowledge gained throughout the MHRM programme, and conduct coursework activities that are relevant, and in most cases, essential to achieving these stated aims. The goal of the course *Developing and Evaluating Training Policies and Plans* is for students to be able to develop and evaluate training and development policy and plans in the context of the national and organizational training policy and strategy, while *Training Systems and Instructional Development* is intended to develop skills in crafting various types of training designs that enable sound implemented of training policies and plans in organizations in the private, public and non-government sectors.

Enabling the role of the administrator in the process

To obtain approval for the change, the Programme Coordinator worked with the three lecturers to prepare a proposal identifying the rational for the change, and including detailed course descriptions, making a case for 100 percent coursework and for the application of authentic assessment. This proposal, along with revised course outlines were submitted to the various University bodies responsible for quality assurance. This included making submissions to Faculty Board, the Centre

for Excellence in Teaching and Learning, The Bursary, The Library, Academic Board and the Board for Graduate Studies and Research. The Programme Coordinator felt that an understanding of authentic assessments was critical, stating "in order to advocate you need to be au courant with what you are talking about, what are the merits and demerits and how it is different to what you were doing". (Interview with Programme Coordinator of the MHRM). It should be noted that the Programme Coordinator in this instance was personally invested in this process and had taken steps to keep on the pulse of the HR sector through memberships in professional organizations and the academic environment. She was therefore able to convincingly argue the case at the University.

The Authentic Assessments

It has been argued that assessments should not only be used to evaluate learning but also to facilitate learning. Zessouks and Gardner (1991, 51) summed this up in the following way "assessment is to be a moment in an educational process rather than simply an evaluative vehicle". Zessouks and Gardner (1991) emphasized that changes in classroom culture are required for authentic assessment. There is need for a "reevaluation of classroom activities along many dimensions," but foremost among this is "altering the responsibilities of students and teachers and transforming the static, mechanical and disengaging moments when learning stops and testing begins into a continuum of moments that combine assessment, instruction, and learning" (63). Key points to note are that 1) any form of assessment should not be seen as a weapon to root out and combat students' weaknesses but rather as a learning tool, 2) teachers need to be reflective practitioners and 3) administrators need to be key advocates for the authentic assessment. In the case of the two capstone courses, the Programme Coordinator was a key advocate for authentic assessment and agreed to support the move to 100 % coursework, playing a key strategic role in developing and enabling the institutional context for the approach to be successful.

Coetzer et al. (2017, 456) pointed out that while a lot has been done to identify competencies that HRM professionals need, there is little research on how the competency expectations of the HRM profession can be met in tertiary level courses. Coetzer et al. argued that while a generic competence Model of Excellence (MoE) as proposed by Ulrich et al. (2013) is useful, research on HRM competencies should adopt a situationalist perspective. Coetzer et al. (2017) also talked about a need for a cultural change that facilitated a situationalist perspective.

There has been support for the idea of authentic assessment by the Arthur Lok Jack Global School of Business (ALJGSB) through their provision of a range of

authentic tools and strategies for both assessment and learning, which are evaluated after each course, led by the Programme Coordinator. These tools and strategies include case studies, problem-based learning, project-based learning, simulations and role-play. The connection between authentic assessments and mastery of competencies however, is perhaps not always explicit. At the basis of the concept of competency is a theory of performance. The ALJGSB has also been promoting a competency-based approach in alignment with the Strategic Plan of The University of the West Indies (2012–2017), the University with which the Graduate School is affiliated. The Business School has been in existence for more than two decades and has documented the profile of the graduate as

- A forward-thinking, global, transformational leader
- Possessing the ability to positively impact organisations and global stakeholder society
- Honest, ethical and empathetic in his/her personal and professional relationships
- Developing and executing innovative and creative solutions
- Possessing an entrepreneurial mindset
- Taking ownership and readily accepting responsibility and accountability for performance and impact. (Harewood 2016).

With regard to the graduate of the Master in Human Resource Management (MHRM) programme in particular, the specific competencies are presented in Figure 1.

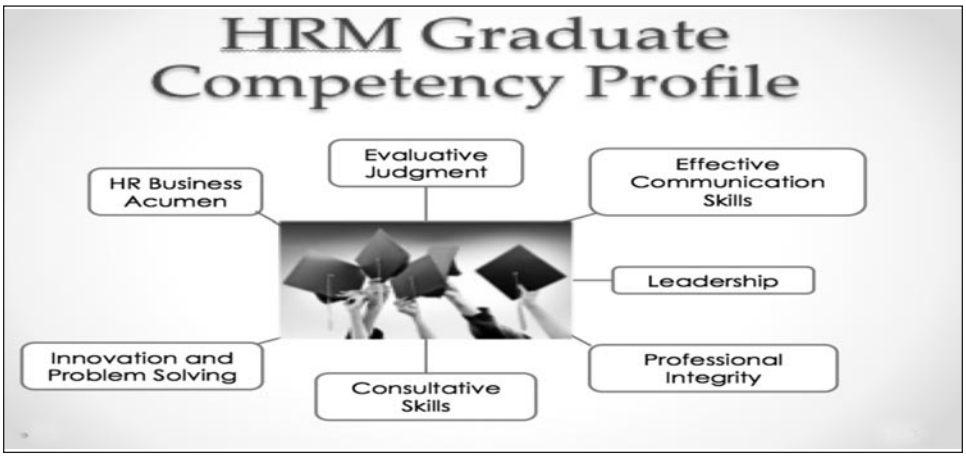

Figure 1: HRNM Graduate Competency Profile
Mason-Roberts and Thurab-Nkhosi (2015)

One of the key goals of the Human Resource Management programme and the two capstone courses reported on therefore is to provide students with the knowledge and skills to function as practitioners. The approach taken reflects the use of strategies suggested by Caruana and Hanstock (2003), which include experiential and problem-based learning, with assessments that are authentic. The assessments are offered in an integrated fashion across the two courses with one leading into the other as indicated in Table 1.

Table 1: Assessments and Outcomes

Assessments	**Outcomes & Competencies addressed**
Individual Project(both courses): Accept an External Consultancy involving the application of the ADDIE model to the development of a Webinar (or Video Tutorial) as a proof of concept, based on Terms of Reference of a Client	To demonstrate: earning acquired in the course; HR Business Acumen; effective communication skills; consultative skills; innovation and problem solving; Professional integrity
Team Project HRNM6516: Conduct of a Training analysis and development of a Training plan for an organization. Team Project HRNM 6404: Development of a case addressing a training issue identified in the training analysis	To demonstrate learning acquired in the course effective communication skills; consultative skills; innovation and problem solving; Professional integrity.
Individual Activity HRNM6516 Preparation of a written critical analysis of training and development policy in an organization of choice	To demonstrate analytical and evaluative skills in relation to the development, structure, content and implementation of the selected policy.[HR Business Acumen; Evaluative Judgment; Effective Communication Skills;]
Individual Activity HRNM 6516 Two quizzes to test knowledge of key concepts throughout the courses	To demonstrate learning acquired in the course
Individual Activity HRNM 6516 Preparation of a personal log of the learnings in the course- Including a journal on the case development experienceIndividual Activity HRNM 6404 Preparation of a Thought piece (1,000 words) based on selected course readings	To test knowledge and demonstrate application of theory and skills learnt during the HRM Programme to resolve is common in daily work life

The assignments in the courses require students to have a sound knowledge of the theories and be able to apply them in actual contexts either using their own organisations or other existing organisations. This approach is different from the traditional approach in the following ways:

- It removed the requirement for course work weighted at 60% and a terminal examination weighted at 40% and instead required 100% coursework.
- It provided more time in teaching and learning engagement
- It allowed for greater attention to activities that could hone the skills of the students, and
- It required integration across the courses and across the entire HRM programme.

Perceptions on the authentic assessments – Clients, Students and Teachers

A mixed methods approach was taken to evaluate the perception of lecturers, clients and students regarding the authenticity of assessments and the competencies achieved.

1. A 20-item Likert Scale Survey for students, with four open-ended questions was developed, based on the five-dimensional framework for authentic assessment (Gulikers et al. 2004). The framework presented by the authors is that authentic assessment can be conceived in terms of five dimensions. These dimensions are 1) assessment task 2) physical context 3) social context 4) assessment result or form and 5) assessment criteria. These dimensions should be considered as existing on a continuum or scale, so in other words there are varying levels of authenticity.
2. The survey was administered online using Google Forms. The open-ended questions sought responses on the students' perceptions on competencies achieved.
3. A focus group session was conducted and students were asked to comment on their perceived level of confidence with regard to each of the baseline competencies.
4. Student reflections in reflective journals submitted for each of the courses were analysed. Themes based on the baseline competencies identified earlier were used to categorize the student reflections.
5. Reflection on and self-reporting review of the assessment process by the lecturers and reflection on the external consultancy by a representative of the

client for the external consultancy, using the five-dimensional framework for authentic assessment (Gulikers et al. 2004) was also done.

Summary of Findings

It was found that the assessments in the two courses were aligned with the five criteria of the framework for defining authentic assessments developed by Gulikers et al. (2004). However, there were challenges noted by the students and clients (Thurab-Nkhosi et al. 2018). Students reported attaining some of the competencies identified in the HRM Graduate Competency profile but needing reinforcement for more confidence. While the students felt that they benefitted, one major challenge of the authentic assessments was the heavy workload. Students recognized the importance of:

- application of theory to practice;
- the value of case construction analysis to problem identification and problem solving;
- the importance of supporting evidence to bring depth and validity in a professional context.

Lecturers found it time-consuming and a disadvantage was that students came into the programme without practical experience and as such needed a lot of coaching.

While the client found that aspects of the webinar could be integrated, they could not be used in their entirety. It was felt that client's objectives would be attained where the work produced can be used to make it even more practical.

It is encouraging that in addition to the competencies, students also felt that they learned how to determine the strengths and weaknesses in teams, and work effectively as a team. Equally important was the recognition of the application of theory to practice and the value of case construction and analysis to problem identification and problem solving. The importance of providing supporting evidence to bring depth and validity in a professional context was also recognized.

Implications for administrators

The Programme Coordinator for the Master in Human Resource Management is an academic coordinator or administrator, appointed by the institution and who has oversight for the academic operations and integrity of the programme. With

regard to the change to 100% coursework for the two courses, the Programme Coordinator functioned as an advocate but pointed out that: "in order to advocate you need to be *au courant* with what you are talking about, what are the merits and demerits and how it is different to what you were doing."

Following an interview with the programme coordinator and based on the findings of the study there are several implications for academic administrators who may be considering a move from traditional to authentic assessment and a move to 100% course work.

At the level of recruitment of staff and students, academic programme coordinators/administrators need to see to what extent there is a fit between the philosophies, experience and available time of the lecturers and the requirements for authentic assessment. Implementation requires commitment on the part of lecturers to the process, the skill and will to undertake the process and see it through to completion. As stated by the Programme Coordinator of the MHRM "you need faculty who understand the business of higher education and creating value."

With regard to the students, there is a need for groundwork to be done when students without relevant work and life experience are accepted into the programme. Where possible, administrators need to strategize regarding how gaps in knowledge and experience can be filled or whether intake will be more stringent with regard to prior experience.

Academic Programme Administrators need to work with lecturers and external stakeholders, who are willing and able to conduct authentic assessments, to identify possible locations or situations where an authentic environment can be created.

Programme Coordinators as administrators have a role to play in trying to convince or assure the university administration that any new or innovative strategy being developed is valid and reliable. They need to be assured that what is replacing traditional ways of assessing is just as good or perhaps better. The onus is on academic programme administrators to act as a sponsor for the change agents and build his/her own knowledge and awareness of innovative practices that are taking place.

Generally, the role of programme administrators in continuous improvement of courses and programmes involves working with lecturers on authenticity strategies. Academic Programme coordinators/administrators are accountable for the 'big picture' outcomes and impacts. Vilkinas and Cartan (2015) describe the programme coordinator's environment as complex and paradoxical, having to deal with multiple stakeholders often pursuing competing agendas. Administrators have a key role in creating and protecting the institutional infrastructure for success. This includes the standards, templates, integration across programmes and courses,

faculty engagement, innovation and problem solving. Vilkinas and Cartan (2015) refer to this as cognitive complexity, i.e., knowledge of the environment in which they are operating and behavioural complexity, understanding of the leadership behaviours required. There are uncertainties and complexities regarding the role of the programme administrator in particular, but with the right balance between an understanding of the professional and academic contexts and a commitment to achievement of common goals a synergistic relationship can be developed between these administrators and those involved in teaching and learning.

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Technology and the Creative Process in HE Practices:

A Case Study for Surviving Lean Times

JUSTIN ZEPHYRINE
eLearning Support Specialist
Centre for Excellence in Teaching and Learning (CETL)
The University of the West Indies, St. Augustine Campus, Trinidad and Tobago

Abstract

The need for innovation/creativity in Higher Education has become highly sought after, particularly in light of the turbulent economic climate that has affected many countries and Higher Education institutions. Professionals are frequently asked to find innovative ways of becoming more effective in their job tasks, while minimizing costs. Combined with technology, creativity, though difficult to define, has become more easily facilitated in the 21st century. This is particularly true in Higher Education, as technologies such as Google Applications and social media have allowed for creative teaching and learning practices, and more efficient administrative processes. Part of embracing the future and being creative in higher education is embracing technology and its impact on higher education practices/procedures. This case study presentation will illustrate this phenomenon in a local context; focusing on three (3) innovative technology-mediated projects in three (3) departments at The University of the West Indies (UWI). It illustrates the use of animations to foster innovation in formative (in-course) assessments in the Faculty of Social Sciences which improved students' performance by 30%, the incorporation of cloud-based applications to enhance the efficiency and impact of administrative processes at The UWI's Centre for Excellence in Teaching and Learning by 50%, and the integration of social media to enhance The UWI's library services, digital footprint and reach. This case study will emphasize the unfavourable financial context, the technology-mediated innovations this brought about, and the impact of these creative initiatives on The UWI's St. Augustine campus. It will thereafter identify technology as a means of fostering innovation in the 21st century, while cutting costs and garnering other

Corresponding author: Justin Zephyrine: justin.zephyrine@sta.uwi.edu

benefits in the midst of such economic turbulence. This paper is therefore targeted to all stakeholders in higher education (educators, administrators, managers and librarians) interested in the incorporation of technology and creativity in their professional contexts. It will emphasize issues of practicality, and thereby encourage such professionals to explore similar creative technology-meditated initiatives, and think outside the box, toward beneficial ends despite economic turbulence.

Keywords: Economic Turbulence, Technology-Mediated Innovations, Cutting Costs, Higher Education practices.

Introduction

Creativity/innovation has emerged as an increasingly important fixture in Higher Education (HE) and other professional arenas. This may be due to the increasingly recognized benefits of creativity particularly in an age of prevalent Information and Communication Technologies (ICTs). The importance of creativity/innovation has also been recognized in light of the unfavourable economic climate that may have impacted several global territories and professional environments. Professionals are frequently asked to find innovative ways of becoming more efficient, thrifty and effective in their job tasks, ensuring that minimal time, capital and human resources are expended to complete tasks which must maintain a high level of quality and impact. But while economic times have become more difficult in many local contexts, creativity has become more easily facilitated in the 21st century as a result of the emergence of ICTs such as mobile and wearable technologies, social media, and various freeware which have become more accessible. According to the *Horizon Report* (Adams Becker et al. 2017), these technologies have helped to revolutionize Higher Education, influencing teaching and learning and administrative processes.

Technological advances within recent years, such as social media platforms, cloud computing, learning management systems (LMSs) and mobile technologies (mLearning), have taken HE teaching, learning and research into the virtual environment, beyond spatial and temporal boundaries (Adams Becker et al. 2017). The past five years have seen a significant move from closed learning environments such as LMSs to cloud computing. Watson and Watson (2007) outlines that LMSs such as MOODLE, Blackboard, and Canvas allow faculty and students to access their courses beyond physical or geographical and temporal boundaries. But while LMSs have provided increased course access for students and faculty in HE, they were soon considered to be very restrictive or insufficient, and with the increasingly

restrictive economic climate during this time, they were seen as expensive to purchase and operate (Dwyer and Dwyer 2003; Dralle 2007; Waters 2014). HE stakeholders therefore resorted to more unconventional and creative ways to facilitate their services and operations via more modern technologies. With the emergence of cloud computing for example, social media came more into prominence in HE (Adams Becker et al. 2017). Within the past five years, social media platforms such as Facebook, Twitter, Instagram and YouTube are more frequently used to engage students beyond the physical classroom (Joosten 2010). These platforms have also influenced other administrative procedures in HE. Not only are these platforms less costly (or free) but they are more far-reaching or accessible than the closed LMS.

This essay will explore creativity and the inter-relationship between technology and creative processes. It will then describe the HE context at The University of the West Indies (UWI), St. Augustine campus. Thereafter it will present three case studies that illustrate innovative technology-mediated projects in three departments at the university campus. It will illustrate the creative use of animations to foster innovation in formative (in-course) assessments in the Faculty of Social Sciences, the incorporation of cloud-based applications to enhance the efficiency of administrative processes at The UWI's Centre for Excellence in Teaching and Learning, and the integration of social media to enhance The UWI's library services.

Creativity

Hennessey and Amabile (2010) state that researchers in the field of creativity have not come to a consensus on a definition of it. However, creativity is generally defined as the generation of ideas and the establishment of connections across different contexts or domains, in both big (eminent discover) and small (everyday problem solving) ways. Sir Ken Robinson (2006) defines creativity in his Ted talk as the "process of having original ideas that have value." He also stated and that if an individual is not prepared to be wrong, then that individual will never come up with anything new and creative. Hennessey and Amabile (2010) call for a systemic and interdisciplinary view of creativity and suggest that the US school system, for example, needs to be restructured around creativity and collaboration. Creativity should not be relegated to elementary school levels but should be a staple at all levels of schooling, including HE (Hennessey and Amabile 2010).

Ken Robinson (2006) identified creativity as a process. This process comprises three tenets. Firstly, social validation is necessary for an idea to be deemed creative. Creativity, therefore, does not occur within a vacuum, nor is it myopic. But it is in

correlated with the input of others in the form of collaborations, consultation or advice, feedback or validation. Secondly, possessing the right mindset is essential to the creative process. This requires one to be open and unafraid of being wrong. Failure is a part of the creative process. Thirdly, engagement in discovery activities is key to creativity development.

Creativity has several different dimensions, or is influenced by several connecting/inter-related forces and levels which include culture and society, the social environment, and the individual personality. At the core of these levels of creativity is the neurological level, this is the "most microscopic level [that includes the] neurological activity in the brain" (Hennessey and Amabile 2010, 572). In essence, creativity is caused by an interaction between the external environment such as the socio-cultural climate as well as the physical environment, and the internal environment which includes cognition, thought-processes and emotions. The interaction between the external and the internal condition is quite intriguing or reminiscent of the learning theories put forward by von Glasserfeld (2005) and other learning theorists. Bandura and Jourden (1991) for example, emphasized a similar interaction between these two environments in the teaching and learning process. The interaction between the internal and external environment/conditions and the impact of this on creativity is perhaps most fundamentally explored by Di Resta (2014), who bridges the gap between innovation and neuroscience. Di Resta (2014) elaborates on the creative approach taken by individuals to address or overcome a challenge, stating that creative problem-solving is not so much about the end/goal as much as it is about understanding the problem/challenge and developing a creative idea relative to it

Di Resta (2014) expands on the idea of creativity/innovation, explaining that there is a difference between innovation and product development. Innovation may be understood as the impetus that drives the product development stage. When faced with a challenge, one cannot start with the end product in mind. Instead one has to know the challenge thoroughly (via research or a needs assessment for example) and start with a creative idea to resolve or mitigate the challenge. Di Resta (2014) expounds that when solving a problem in a creative way, people may use strategic intuition. Strategic intuition may best be described as a process whereby the brain slowly makes connections between a new challenge or problem of practice, and eventually finds an appropriate solution. The creative process for Di Resta (2014) therefore requires individuals overcome barriers associated with their perception, social intelligence, and fear of failure or others' responses. Similar to Robinson (2006), Di Resta (2014) reiterates that such persons must be open to new possibilities and see things from a different perspective.

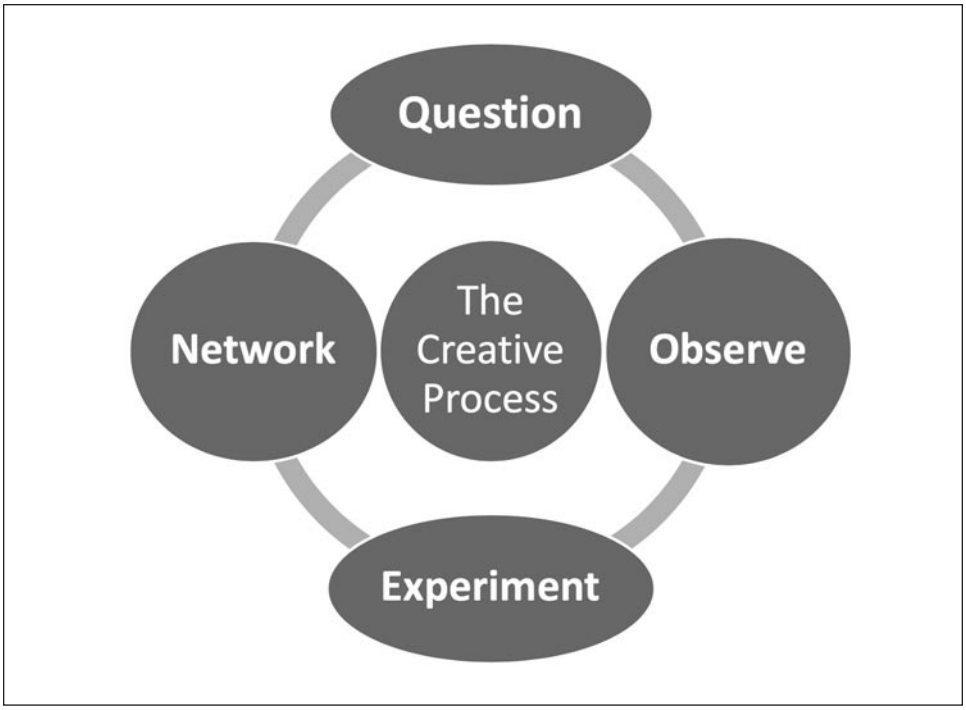

Figure 1. The Iterative Creative Process

Resnick's (2007) view of creativity being an iterative process may also be applicable in this regard. Resnick (2007) postulates that creativity may be seen as a process comprising different steps. These include imagine, create, play, share, reflect and then repeat the process again (with imagine). Di Resta (2014) proposes a similar process, alluding to Christensen's observation of the five discovery skills of successful innovators, which include questioning, observing, experimenting and networking (Figure 1). Depending on the context, Resnick's (2007) or Di Resta's (2014) iterative processes (Figure 1) can be used in understanding and addressing various problems in HE and other professional circles.

The Context

The University of the West Indies (UWI) has been a leading institution for higher education in the Caribbean for seventy (70) years. It comprises four (4) campuses, and has become the largest university offering undergraduate and graduate programmes in the region. In addition to three (3) physical campuses, in Jamaica, Barbados, and Trinidad and Tobago, the university also has a virtual campus which

offers programmes that are solely online. The physical campuses offer face-to-face and more recently, blended programmes. The St. Augustine campus has become the largest of all four (4) campuses with over 17,969 students and an estimated 500 faculties (The UWI Annual Report 2016).

In recent years however, this university campus has experienced tremendous economic challenges which have been correlated with the unfavourable economic climate in the country (Trinidad and Tobago). With the substantive decline in oil trades/exports, the country's primary revenue generating resource, the government has been forced to make several cut-backs in its expenditure. The dissolution of its many HE school sponsorships is one example of such cut-backs. Many HE institutions in the country have been severely affected. Some campuses of other universities have been closed down as a result of insufficient profits, expensive daily operations, and insufficient capital to pay staff salaries. The senior management of The UWI's St. Augustine campus became creative in its own right as a means of cutting costs by reviewing its employment protocol, freezing vacant positions, revising contractual benefits, and reducing its employment rate. Additionally, they halted several of the various projects that were underway – perhaps another creative step in cutting costs.

The UWI's senior management also engaged its staff, by encouraging department heads, deans and directors to revise their departmental budgets. The Campus Principal also addressed all staff members to suggest or at least think of innovative yet practical ways in which costs/expenditure could be cut, revenue could be generated, and the quality of work maintained or improved. Stemming from the economic turbulence and the directive from the principal for innovative, cost-cutting operational practices, the following case studies emerged. Faculty and campus administrators sought technology as a primary innovative means through which their daily professional practices could be more cost-effective and impactful despite the unfavourable economic climate.

The Three Case Studies

Adapting the aforementioned principles and processes by Robinson (2006), Di Resta (2014) and Resnick (2007), the following case studies illustrate ways in which innovative technology-mediated projects were successfully implemented as means of surviving through lean economic conditions. These projects are contextualized within three (3) units or departments at The UWI, the campus's Centre for Excellence in Teaching and Learning, the Faculty of Social Sciences, and the Alma Jordan Library, in their educational, administrative and professional operations.

Animations in Formative Assessments at the Faculty of Social Sciences

Technology can be an effective means to creatively revamp a course without incurring additional costs. Management courses have been taught for years at The UWI, and the management programme is one of the largest and is most frequently applied by prospective students. One course on the management of disasters exists within the Management Degree Programme. Like the majority of courses at The UWI, this course has been traditionally structured into a 40/60 weighting, where formative (in-course) assessments account for 40% of the course, and the summative (final examination) assessment account for 60% of the course total. The formative assessments have typically comprised an oral and written presentation (a ten-minute tutorial presentation and an essay respectively), and a multiple choice examination. This has been the format and common practice in the course for many years, to the extent that the course coordinator noticed that students were re-using old assignments, and regurgitated or used the same information from the course textbook without any meaningful understanding, critical thinking and analysis. In addition to students' lack of motivation and meaningful engagement with the course material, the course coordinator also faced challenges in reviewing and grading students' essays. This was a direct result of the economic restrictions placed upon the campus, where staff such as teaching assistants were no longer being frequently hired, and many of the existing teaching assistants were migrating in search of secure jobs and economic stability. The course coordinator therefore faced a situation of grading the students' submissions by herself, in addition to being the sole lecturer and coordinator of this particular course, and several other courses on the campus.

Using Di Resta's (2014) process of creativity, the innovative and technology-mediated resolution to this situation will be illustrated. As previously mentioned, Di Resta's (2014) iterative and flexible process of creativity includes four (4) elements, questioning, observing, experimenting and networking. One of the first things the course coordinator did was observe and question (Di Resta 2014). She observed the poor quality of assignments submitted by students as evidenced by the re-used or similar submissions from previous years (plagiarism), and the lack of motivation and engagement students had in critically analyzing the course content and doing the traditional oral and written presentations. She also observed the economic climate on the campus as evidenced by the lack of support staff to grade students' submissions – thereby using her external environment to influence her internal/cognitive processes in understanding and possibly solving the problem (Hennessey and Amabile 2010).

In light of her observations, the coordinator questioned the underlying causes of the aforementioned challenges/problems she was encountering (Di Resta 2014). During this brainstorming phase, she also questioned or thought about ways to avert these problems based on the limited human, technical and financial resources available. To this end, she also networked (Di Resta 2014), seeking the assistance of the campus's elearning Support Specialist at the CETL following a training workshop she attended (Figure 2).

> I am writing to request wheth er a workshop c:an be acilitated for a class of 6 students on using Powtoon so that they can prepare an informative video on recycling on the St. Augustine campus for an Environmental Eoonomics Course. The expected day would be on a Tuesday from 9–12 based on your availability. Our last engagement left the students very excited and I think this new cohort are also very eager to have this opportunity.
>
> We can discuss further if you need any more information.
>
> Regards,

Figure 2. The Course facilitator networks with the CETL for Assistance

With this network, the brainstorming process continued and eventually a possible solution was agreed upon. The coordinator agreed to make the traditional formative assessments more contemporary and engaging yet cost-effective by instructing students to work in groups and create animated presentations using a particular video/animation software which they must formally present to their peers in the form of a seminar (Figure 3).

This path sought to use a technology tool to revamp her formative assignment and instruction while staying within the aforementioned economic confines. This software was not entirely free and was never used on such a large and formal scale, but the coordinator was open to suggestions or new possibilities (Di Resta 2014), and was not afraid of the possibility of failure in this regard (Robinson 2006). Perhaps more than the possibility of failure, she considered the possibility of this approach in engaging students with the course materials, developing their soft and critical thinking skills which will be further needed when they are employed, motivating them to collaborate, establishing an efficient grading process, and using the students' animated presentations as informative and exemplary artifacts.

The coordinator's openness (Di Resta 2014) and resolve despite possible failure (Robinson, 2006) naturally led to the next phase in Di Resta's (2007) process of

ECOX 3071: The Economic.s of Natural Diasters and Climate Change.
Coursework Assignment.
Date of Distribution: February 21, 2017
Due Date: March 28, 2017

Weighting: 30%

Objective of Assignment: To prepare an informative video on Climate Change and Natural Diasters in the CARIBBEAN to UWI students.

Background: This assignment is intended to provide illustrative and informative videos that discuss issues relevant to the course AND can be used as an eduational tool for a specified audience. The videos should reflect that the threats of Natural Diasters and Climate Change, unless fully assessed and managed, could severely affect the sustainable delopment of the region.

Three broad thematic areas will be assigned to the class: Disaster Risk Management; Climate Change ADAPTATION and Climate Change MITIGATION. Each thematic area will be assigned to a group of three students.

The course outline can be used as a reference background document.

Coursework Assignment:
Based on the assigned thematic area, defining all relevant terms, discuss the importance of understanding Natural Diasters and Climate Change in the Caribbean Context.

Specific: Guidelines for Assignment:

1) Discuss the critical elements of the imparts of Natural Diasters and Climate Change in the Caribbean (socio economic impacts).

2) Identify and discuss the principles and practice of diaster risk management; climate change adaptation; climate change mitigllion (based on group assignment), and economic policies relevant to each (i.e. what is DRM, CC adaption, CC mitigation and what do they invoke).

3) Emphasize that the threats of Natural Diasters and Climate Change, unless fully assessed and managed, could severely affect the sustainable development of the region (raise awareness!).

4) Highlight Caribbean case studies and best practices and make recommendations (what can you do).

Figure 3. The Assignment Instruction and Details the Course Facilitator Gave to Students

creativity, experimentation. Students were given the instructions to collaboratively create innovative animated presentations. The course coordinator used the available human and technical resources to train the students in the software. Students created high-quality presentations and expressed their preference for this approach citing that it was more challenging but much more worthwhile or meaningful for them. Meaningful learning such as this, should be the goal of all instruction (von Glasserfeld 2005; Ertmer and Newby 1993; Bandura and Jourden 1991). Inadvertently using the principles and processes of creativity, the coordinator was able to solve her problems regarding student engagement and motivation, and function effectively through unfavourable economic climate while enhancing (not just maintaining) the quality of her and her students' work. There was also a notable improvement in the students' performance in the course, as all of the students (100%) passed the assignment passed the entire course. This was a significant improvement regarding the course failure rate in previous years where at least 30% of the students failed. Additionally, the students' learning experience went beyond the four walls of the traditional classroom and the course context toward best practices in authentic learning (Iuca and Marin 2014), as their animated presentations were saved and used throughout the campus's media platforms sensitizing other students (peers) and staff to disaster preparedness and management.

The integration of social media to enhance The UWI's library services

The diverse types of ICTs provide a wide array of alternatives to daily administrative and professional practices. Technologies can be classified based on their nature and use. Social media is an umbrella of platforms that allow creating, collating and sharing of information, and networking with various people, groups and organizations. The Alma Jordan Library, the campus's main library, sought the use of social media as a means to meet various needs including an increased digital footprint, updating its services and networking with its customers and service-providers across spatial-temporal barriers, without incurring significant expenses. The Alma Jordan Library is not only the largest, but one of the oldest libraries at The UWI. It is heavily grounded in a tradition of library services, and within recent years, it has sought to increase its online presence or digital footprint by acquiring various hardware and software such as additional servers and databases, new in-house computers, search engines and licenses, as well as increased staff.

But this progress has been significantly impacted by the recent adverse economic climate at the university campus, leading to outdated webpages, and a decreasing online presence. This has further affected the lack of awareness and use of the library's services by students who are now millennials and are used to acquiring an abundance of information by a simple click on other platforms (Oblinger and Oblinger 2005). The library faced the problem of possibly becoming antiquated in light of the challenges to keep up with the changing tech-savvy population that is now prevalent on the campus. These digital natives spend more time on social media platforms than previous generations (Rajesh and Michael 2015; Williams et al. 2012; Roblyer et al. 2010; Oblinger and Oblinger, 2005), platforms on which the library was not very present. With the economic restrictions, it became difficult for the library to improve or increase its services and reach.

Using Kilgour's (2007) process of creativity, and Robinson's (2006) principles of creativity, the innovative and technology-mediated resolution to this situation will be illustrated. Similar to the aforementioned case study, questioning and observing were the two (2) initial steps taken to understand the problem. Representatives at the library observed a growing trend where students were no longer making frequent and meaningful use of their online library services. Further examination into this problem via surveys or questions (Di Resta 2014) revealed that students were either unaware of the library's online services or resorted to other more easily accessible platforms to meet their research needs. Further observations were made of the external environment of economic constraints and these impacted any ideas on a possible resolution (Hennessey and Amabile 2010). For example, new staff were not being readily hired, so the existing staff needed to find ways in which they can resolve the problem without incurring costs or substantially adding to their workload.

Following a training workshop on social media, a lead from the library networked with the human resources that were readily available by the university at no extra cost (Di Resta 2014). The lead networked with staff from the other libraries on the campus and its Centre for Excellence in Teaching and Learning (CETL) who were familiar with various technologies. This aided in brainstorming and the entire creative problem-solving process. The lead agreed that creating and/or updating the library's social media presence was perhaps the most effective and economic way to mitigate the problem, but was open enough to admit the lack of expertise in technology or social media among some of the staff at the library. This openness and the willingness to try despite the likelihood of failure (Robinson 2006) made the creative-problem solving process even more effective, as training clinics were provided for library staff who indicated a willingness to

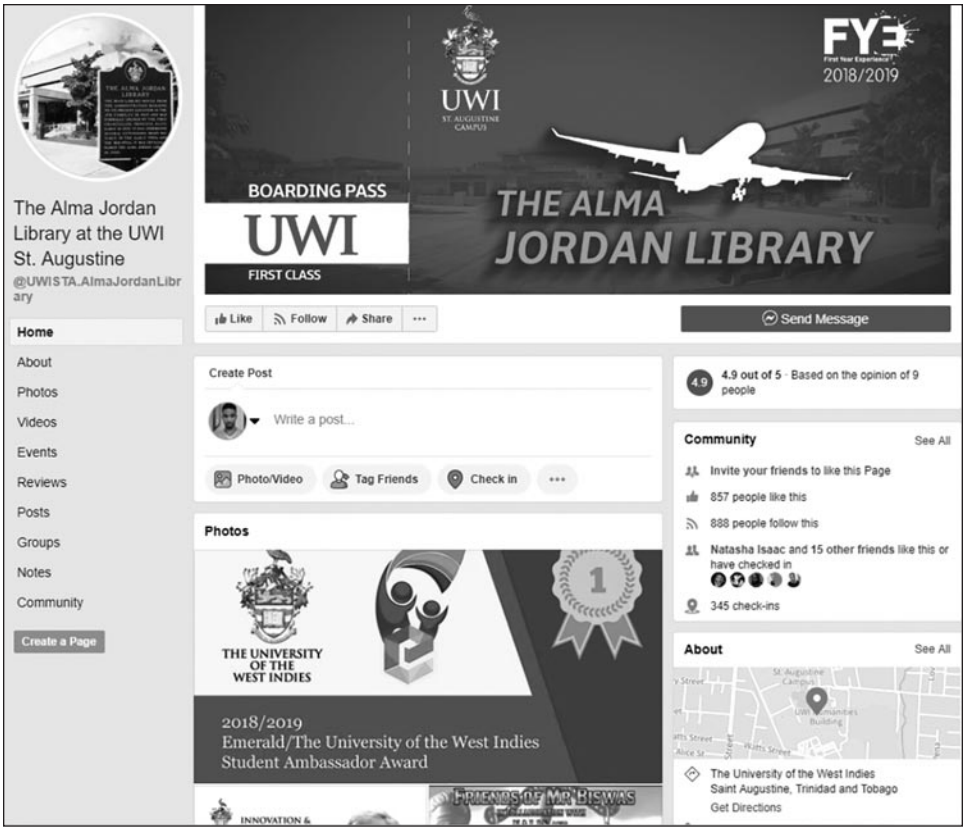

Figure 4. The Alma Jordan Library Facebook Page

work on the project. In these clinics, these staff members were given individual attention to meet their technology learning needs. These personalized training sessions were free of charge as they were also provided by the university's CETL. Following these training sessions, the lead and her team were open and comfortable and sought further clarity on the technology at the CETL (Robinson 2006).

This soon gave way to the next phase of creativity – experimentation (Di Resta 2014). This resulted in the first official Alma Jordan Library's Facebook page (Figure 4).

Following weeks of experimentation that page was officially launched late in the 2017/18 academic year (Appendix D). Not only has this solved the primary problems regarding cognizance and access to the library's online services, but it has done so in a cost-effective way. The Facebook page currently has a 5-star rating and has over a thousand likes and followers comprising students, faculty and other individuals across the world. Figure 5 illustrates the statistical data and reach or impact of this page.

Community Impact of Page	Numbers
Likes	850
Followers	882
Reviews/Ratings	4.9/5

Figure 5. Statistical Impact of The Alma Jordan Library's Facebook Page

The page is highly active with weekly/daily posts. The library has since then expanded its social media presence and synchronized other social media platforms with the Facebook page with real-time or pre-scheduled posts. Initially, the Facebook page was supposed to be temporary until the website has been updated. The update of the website was halted due to economic constraints. The Facebook page however, surpasses the use of a webpage or LMS because it is free, easily accessible for customers and/or followers (Alvarez and Olivera-Smith 2013) and is not a significant workload on any staff member managing the page/account. The library may also use it for its informal learning initiatives (Seely and Adler 2008). The technology, along with the process of creativity has led to successful innovations that have overcome economic challenges while improving the quality of service offered by the library.

Cloud-based Applications at the CETL

The Centre for Excellence in Teaching and Learning (CETL) is the university's hub for staff training and professional development pertaining to educational instruction, technology, educational assessment and research. Initially, these training ventures were primarily all-day workshops and certificate programmes. Within recent years, however, the CETL has expanded its training initiatives and services which are in high demand. This high demand may have been due to departments who cannot afford external service providers as a result of the economic constraints. Additionally, the high demand may have been a result of the more expansive and diverse training ventures such as face-to-face, virtual or mobile one-hour clinics, which may be more convenient to staff members as opposed to lengthy workshops. But with this increasing demand for the CETL's services, there was an increasing challenge in creating a database of the Centre's activities for subsequent reviewing and reporting purposes.

Staff at the CETL used a combination of Resnick's (2007) process of creativity with Kilgour's (2007) which informed how technology could be sought to manage

the Centre's administrative and professional activities in a more efficient and cost-effective way. The Centre observed the emerging problem of the growing demand for its services and the accompanying difficulty to account for or collate these services. As previously mentioned, observation is a component of the creative process according to Kilgour (2007). Following a brainstorming phase, it was decided to create an online service request form and an electronic database of the services requested and provided. Given the economic constraints, different free technology tools were researched to aid in resolving this growing problem in a cost-effective way. Accounts were created for selected software. This allowed for playing (Resnick 2007) or experimenting (Kilgour 2007) with the various software to determine which tool would be best suited for the CETL given the aforementioned problem and the economic context.

Following the experimentation, a reflection or review Kilgour (2007) was performed on each software/tool based on accessibility, ease of use, aesthetics and privileges/features, and economic fit. Some tools were tested and were not quite effective. Some tools for example, imposed an impractical limit to the database, while others either conflicted with the campus's network or were not accessible to the Centre's customers. For example, *Google Forms* were used to create the initial service request form. This was one of the few platforms at the time, that also created an automatic database of the requests made via an excel spreadsheet, which would subsequently aid statistical analyses for reporting and service improvement. But when *Google* temporarily changed its terms of use, persons were unable to access the form to send in their requests. This was particularly true for persons without a Google account. Using Robinson's (2006) principle, this indicated the CETL team was open to new possibilities and were not afraid to fail at some points in this creative problem-solving process. Robinson (2006), like Resnick (2007), believes that it is important to take a chance of possible failure because this is where one's raw, unhindered creativity comes. They both point out that creators of some of this world's greatest inventions took chances/risks. Following various trials and errors during the play or experimental stage, the reflective process revealed various successes and failures of various technology tools.

The creative process was therefore repeated and resulted in the team using another technology tool it initially overlooked. As previously mentioned, the creative process is iterative (Resnick 2007), and repeating the creative process in this instance proved worthwhile. The CETL stumbled upon a new tool, *Cognito Forms*, which not only allowed the team to customize its service request form (Appendix A, and Appendix B), but it was also free, easy to use and accessible to all of the Centre's customers (The UWI's staff). Additionally, the form automatically

created a synchronous database of the request which was easy to download in various formats for subsequent analyses. This database is cloud-based and is accessible from anywhere and at any time, so the CETL team can review the data from remote locations. The database also made it easier for the CETL to report on some of its services at any particular time. Appendix C illustrates the statistical information and analysis of the CETL's clinic requests based on the *Cognito Form*. Additionally, the service request form is also cloud-based, and so customers (The UWI's staff) do not have to depend on the campus's network to access the form. *Cognito Forms* also provided features that other platforms did not have, such as automatic notifications to administrators when a request was made by customers (The UWI's staff), had an adaptive mode where the items on the form adjusted based on the user's responses, and it also did basic mathematical or statistical analyses using built-in formulae. This form provided all of these features at no cost. Currently, the form is still being used by the Centre with hundreds of entries on its database of clinics (Appendix C). Figures 6 and 7 further illustrate the CETL's analysis of the data on some of their services based on their *Cognito Forms*.

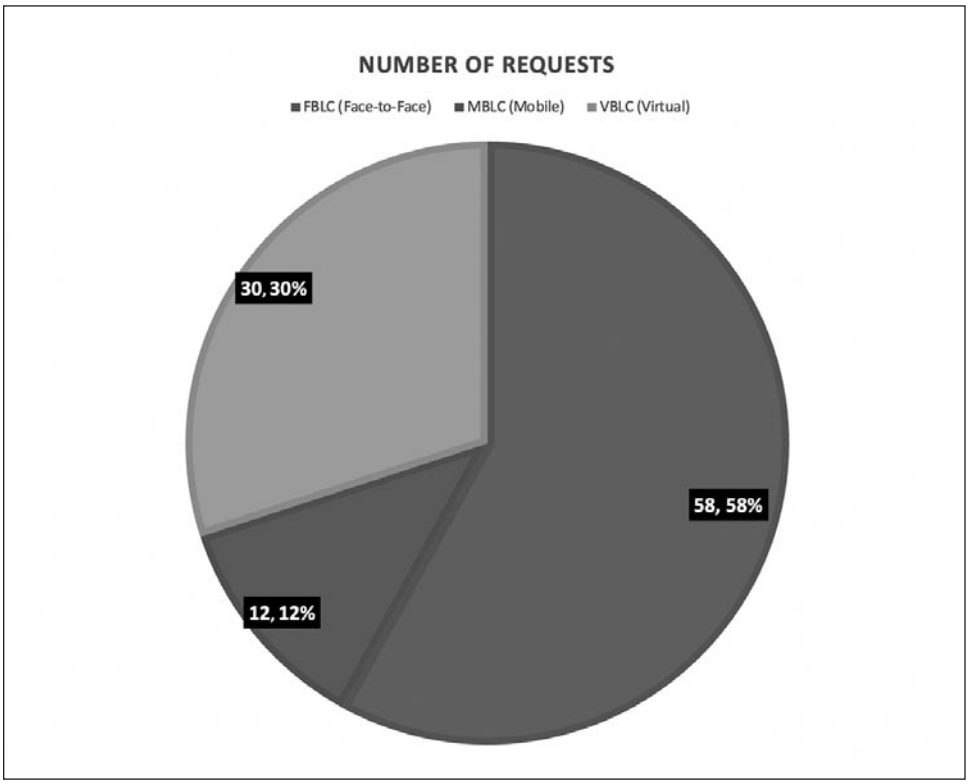

Figure 6. Chart Illustrating Data on Type/Mode of Delivery & Prevalence of Clinics

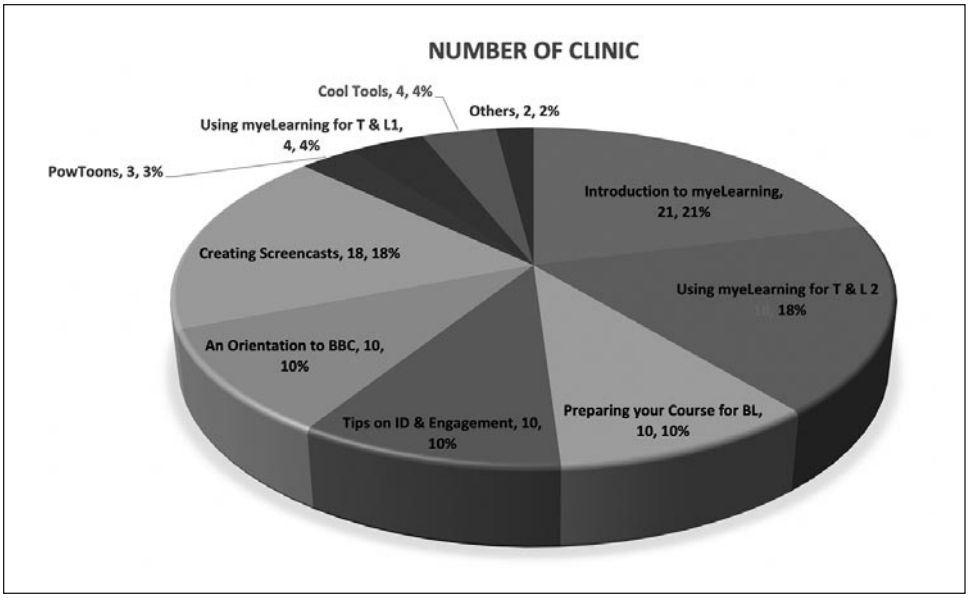

Figure 7. Chart Showing Data on Clinic Request Content & Prevalence

This success has prompted the CETL to train staff in other departments in similar situations and can use free cloud-based technologies or applications to meet their needs despite the economic restrictions on the campus.

Conclusion

It may be said that difficult times can sometimes force people to become creative. The difficult economic times in Trinidad and Tobago has forced The UWI campus's senior management to become more creative in maintaining its operations by halting projects and reviewing its employment practices. The unfavourable economic conditions on the campus also forced various departments to become innovative in their daily practices, services and operations. The aforementioned case studies illustrate the importance of technologies such as animation, social media and cloud-based applications in assisting these innovations toward more efficient and cost-cutting ends. In all cases, technology provided the means through which departments and operations were improved even in the midst of the economic turbulence. For example, The Alma Jordan Library garnered an increased reach and readership (followers and site visits) via its Facebook page (Figure 4) despite having its severe budget cuts. The incorporation of animated presentations to change traditional coursework essays led to an improvement in students' performance in the course and allowed them to have a more campus-wide impact.

Likewise, the CETL used ICTs to improve its services and extend its reach by 50% through *Cognito Forms* despite having similar financial restrictions (Appendix A, B and C). It is important to note, however, that the creative use of technology in the aforementioned instances came to fruition via a creative process. According to Di Resta (2014) and Resnick (2007), this creative problem-solving process comprised various iterative and dynamic steps such as experimentation or play, review or reflection, and sharing or networking. Accompanying this process were the principles for creativity advocated by Robinson (2006) regarding openness to new possibilities, and taking risks or accepting the possibility of failure in the process. All of the aforementioned instances demonstrated these creative processes and principles, and were therefore able to survive even through economic hard times via technology.

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Appendix A: The Customizable Service Request Form from *Cognito Forms* Used by the CETL

Blended Learning Clinic (Request Form)

Please complete the six (6) items below to make an appointment for a one-on-one consultation with the CETL's Blended Learning team.

Name *

Title | First | Last

Faculty and Department *

Email Address *

Contact Number (Optional)

Please select a time that is most convenient to you. *

- Tuesday 5th December, 2017 (10:00 - 11:00 AM)
- Tuesday 5th December, 2017 (1:30 - 2:30 PM)
- Thursday 7th December, 2017 (11:00 AM - 12:00 PM)
- Thursday 7th December, 2017 (2:00 - 3:00 PM)
- Monday 8th January, 2018 (10:30 AM - 11:30 AM)

In which area/tool do you require assistance? *

- An Introduction to myeLearning 3.0 (updating user-profile, uploading course content such as videos, word documents & powerpoint presentations, communicating through myeLearning)
- Using myeLearning for Teaching and Learning 1 (Creating Assignments, Discussion Fora, Questionnaires and Journals)
- Using myeLearning for Teaching and Learning 2 (Gradebook, Quizzes, Glossaries and Polls)
- Podcasting: Creating Audiocasts or Screencasts
- Cool Tools in Education (Voki, Wordle, Bubbl.us, Twiddla)
- Google Applications (Calendar, Forms, Sites)
- Social Networks in Education (Pinterest, Youtube, Slideshare, Facebook)
- Preparing Your Course for Blended Learning
- Using Turnitin
- Engaging Your Students Online
- Preparing a Programme Proposal for Review
- Preparing a Course Outline
- Using myeLearning 3.0 for In-Course Assessments (assessment principles in using myeLearning activities e.g. assignments, quizzes, discussion fora, polls etc)
- Creating an ePortfolio
- Animations in Education: PowToons
- Tips on Instructional Design & Engagement - Designing an Engaging Teaching & Learning Experience
- Screencasting: Using Screencast-o-matic
- Educational Research
- An Orientation to Blackboard Collaborate (BBC)

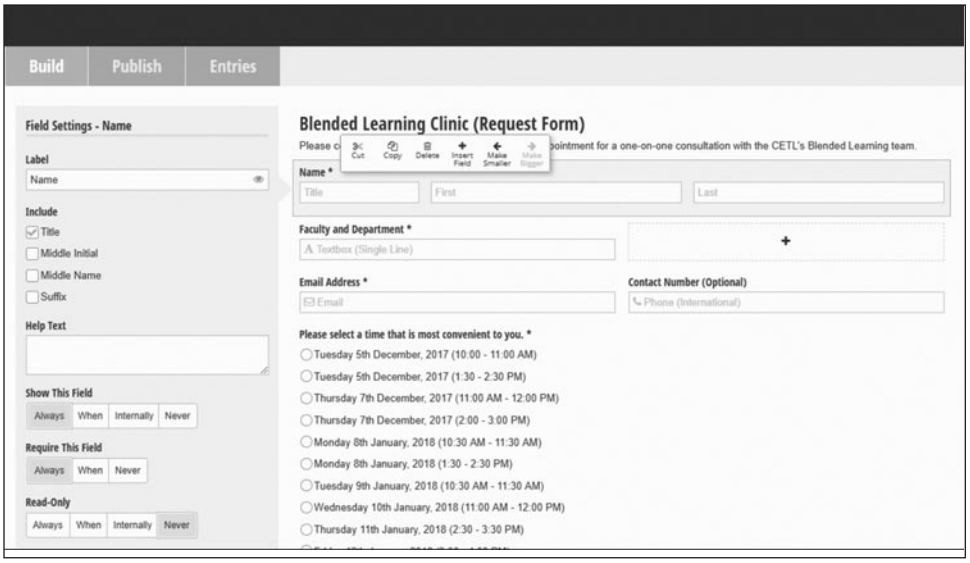
Please select the mode of delivery for the requested session:

- (•) Face-to-Face Clinic (BLC)
- Mobile/Phone-call Clinic (MBLC)
- Virtual/Online Clinic (VBLC)

Submit

Report Abuse Terms of Service

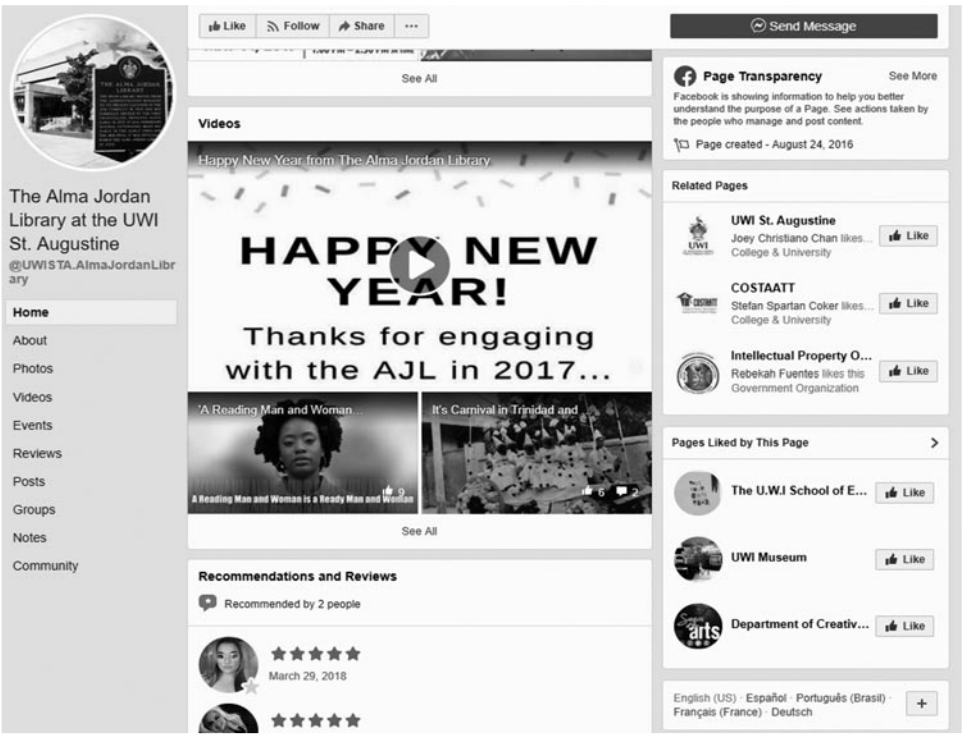
Appendix B: Customizing the Service Request Form from *Cognito Forms* Used by the CETL



Appendix C: Statistical Data Generated for the CETL by *Cognito Forms*

Type of Clinic Request	Number of Clinic Requests	Comments
Pow Toons	3	
Introduction to myeLearning	21	
Using myeLearning for Teaching and learning 1	4	
Using myeLearning for Teaching and learning 2	18	
Creating Screencasts	18	
Cool Tools	4	
Preparing Your Course for Blended Learning	10	
Tips on ID & Engagement: Designing Engaging T & L Sessions	10	
An Orientation to Blackboard	10	
Others	2	
Total	**100**	A 50% increase from the previous academic year
Type/Mode of Delivery		
Face-to-Face (BLC)	58	Once again most clinic requests were made for BLCs and 97% occurred in the CETL Technology Space
Mobile/Phone-call Clinic (MBLC)	12	
Virtual/Online Clinic (VBLC)	30	
Total	**100**	
Some Faculty/Department Stats		
FSS	19	
FHE (LCCS, CLL etc)	11	
SOE	37	SOE may have had the largest number of requests due to the special training provided for them.
FSA	3	
FMS	3	
IIR	8	
CITS	11	
Total	**92**	

Appendix D: The Alma Jordan Library Facebook Page



Governance and Leadership

The Journal of Arts Science and Technology

Defining the Characteristics of Engagement and Capacity Building Among Institutions of Learning

HALIMA-SA'ADIA KASSIM, PH.D.
Senior Planning Officer
The University of the West Indies Regional Headquarters
St. Augustine, Trinidad and Tobago

Abstract

Tertiary education institutions (TLIs) are seen as essential to knowledge creation, information, and idea generation, thereby contributing to sustainable economic growth, societal development, and individual success. Yet, TLIs are faced with 'wicked', 'stubborn', multiple and interlocking economic, social, and technological challenges and pressures that test their resilience and adaptability. To understand those challenges comprehensive robust regional data and analysis is required. This paper provides the context for institutional developments by examining the findings of a survey undertaken in 2017/2018 on the functions, resources, knowledge, and skills of public TLIs to support capacity building and reform. Moreover, TLIs are functioning in a highly competitive and complex space impacted by economic, political, and social changes that increasingly drive the knowledge economy. This suggests that institutions identify and implement a set of strategies to support their mission. There will thus be an exploration of the characteristics of regional TLIs and the relevance of trends in the sector based on the findings of another 2017/2018 survey of reginal institutions. Finally, the paper will make a case for how institutions can better respond to their mandate and to support national and regional development priorities. Building on the results, recommendations will be made in support of the higher education modernisation project on institutional issues related to governance, funding, research and knowledge transfer, internationalisation and public engagement.

Keywords: engagement, capacity building, cooperation, tertiary education institutions, UWI, CARICOM.

Corresponding author: Halima-Sa'adia Kassim: Halima-Sa'adia.Kassim@sta.uwi.edu

Introduction

The tertiary education sector is characterized by efficiency, effectiveness, accountability, performance, outputs and outcomes. In this neo-liberal and managerialism model, tertiary education institutions (TEIs) (i.e., universities, colleges, and research and training institutes) have focussed on the development and implementation of strategic plans, performance indicators, and partnerships or collaboration with other TEIs and/or the private sector in conjunction with delivery on their tri-mission of teaching, research and service. This ethos has implications for organizational structures, administrative policies and systems, and how TEIs, in turn, structure and effect their teaching and learning, research and knowledge transfer and public engagement agenda. This has led institutions to (re)align their priorities and foci to drive their knowledge creation, information and idea generation activities to impact regional sustainable economic and social development. Yet, they are faced with 'wicked', 'stubborn', multiple and interlocking economic, social, and technological challenges and pressures that test their resilience and adaptability and thus, their effectiveness and relevance.

However, TEIs are not divorced from associating with other social, educational, or economic entities based on previously shared experiences, interactions, influences, capacities, and collaborations. This is especially so, in the CARICOM region where The University of the West Indies (UWI) is a regional university and is an Associate Institution of CARICOM (Caribbean Community, an inter-governmental organisation – with a presence on 17 of 20 Full and Associate Member States). In this context, the regional and associated CARICOM regional institutions (RIs) determine their relationships and associations based on coordinated actions and resources thereby creating a complex network of relationships.

The paper acknowledges there is a plurality of actors who are functioning in a highly competitive and complex space impacted by economic, political, and social changes that increasingly drive the knowledge economy and forms of engagement. To understand the environment within which these actors are operating and the opportunities available for collaborative relationships and associations, it is useful to understand institutional and inter-institutional roles, functions, practices, and characteristics. However, within the region there is a dearth of comprehensive robust regional data and analysis on the short-to-medium term future of institutions, their characteristics and institutional capabilities and capacities, and capacity building needs and stakeholder engagement processes and features. This deficit hampers institutions from responding effectively to those with 'wicked' and

'stubborn' challenges or maximizing opportunities to enable further social change and inclusion and drive economic growth, competitiveness, and innovation. This offers opportunities for multi-stakeholder collaboration to identify the most appropriate solutions to catalyse development in the region. It is this transactional context that TEIs have with their peers and that The UWI has with other RIs that this article investigates.

In this paper, selected scholarly literature on the scope of engagement and synergies related to TEIs and inter-governmental organisations are considered. The regional and international frameworks that foster cooperation for social and economic development are also discussed. This is followed by the selected findings from the small pilot survey of TEIs and the full survey with the RIs that identifies the issues related to collaboration and capacity building and to a lesser extent, institutional efficiency, and effectiveness, to enable institutions to respond better to their mandate and to support national and regional development priorities. It concludes on the practical implications for engagement and partnerships, and capacity building among TEIs and the intergovernmental organizations.

Literature review

The following section examines selected scholarly work on engagement and synergies particularly, within the context of public policy and administration within two sectors – tertiary education institutions and inter-governmental organizations – and its relationship in contributing to achieving their institutional mission and/or developmental mandates.

Globalization has led to a fundamental restructuring and reorganization of the world economy in a complex flow of technology, knowledge, people, values, and ideas (Lam 2010, 73). More specifically, globalization has impacted the tertiary education sector in the areas of quality assurance and accreditation, recognition of qualifications, and imposed rules and priorities for international collaboration (Lam 2010, 74). The scope of globalization suggests that it will affect TEIs and the variety of actors in the higher education environment as they pursue a modernization agenda. Elken and Røsdal (2017, 377) noted TEIs are "susceptible to the spread of global models and engagement" and in a process they define as "organizational actorhood". TLIs become "integrated, goal-oriented and competitive institutions in which management and leadership play an ever more important role" (377). Duernecker and Vega-Redondo (2018, 1716–17) argued that the phenomenon of globalization provides the space for institutions that are geographically close or far to come together to exploit opportunities through cohesion and bridging within a network.

TEIs, which are producers of human capital and knowledge and expertise (know-how) production, function in a globalized world defined by a web of actors and flow of resources. They operate among a broad set of actors and in complex relationships (internal – students, academics, administrators and external – parents, alumni, government, private sector, accreditation agencies, professional higher education networks, accreditation authorises, international development partners, etc.). This defines, determines, affects, and structures interactions for TEIs among themselves and other state and non-state actors. For the UWI, that relationship with state and non-state actors is more complex as its relationship is also defined by being the regional university and being an associate regional institution of CARICOM. It engages in social and economic exchanges (services - expertise) with governments, CARICOM (the administrative arm) and RIs in a complex network of relationships bonded by a shared history, vision and purpose including contributions to economic growth and commitment to the realization of developmental priorities. Before discussing the selected findings of the small pilot survey of TEIs and the full survey with RIs, it might be useful to draw on the understanding of organizational actors, institutions, and collaborative governance.

An institution, according to Lachmann (1971), "provides a means of orientation to a large number of actors. It enables them to co-ordinate their actions by means of orientation to a common signpost" (cited by Langlois 1986). In this context, social institutions are understood as providing knowledge capital that allow for coordination, alignment, or orientation of actions, expectations or plans (Foss and Garzarelli 2007, 5). This is possible because as Foss and Garzarelli (2007, 13, 14) argued institutions have "prescribe certain forms of conduct and discourage others. It is clear that those persons who conduct themselves in conformity with them must attribute some meaning to them." Moreover, "institutions over time adopt similar solutions in an unintentional meaner" (Elken and Røsdal 2017, 379). In other words, institutions can plan and adjust in a relatively coordinated way as institutional forms and plans have become relatively standardized suggesting that there is a prescribed way of operating within a neo-liberal and managerial model. This reminds us that institutions develop, reflect, and disperse their own logic reflective of the sectoral and broader environment. Consequently, compliance (external agencies) and/or imitation models are not uncommon (379).

Given that the TEI sector engages in social and economic exchanges with multiple stakeholders it might be useful to consider what constitutes inter-organizational cooperation. Gulati et al (2012) defined the term as "joint pursuit of agreed-on goal(s) in a manner corresponding to a shared understanding about contributions and payoff." They argued that organizations negotiate what they are

willing to contribute vis à vis time, resources, access, etc. to get what they want – new intellectual property, more efficiency, enhanced legitimacy, etc., from the alliance. In other words, it is a quid pro quo arrangement. Moreover, the authors noted that coordination among partners is integral to collaborative efforts, which is best for alignment of interests. Coordination is therefore "the deliberate and orderly alignment or adjustment of partners' actions to achieve jointly determined goals" (Gulati et al 2012) which leads to efficiency. In this view, coordination is seen as producing cooperation as partners are more vested and likely to make investments into the alliance.

Engagement in inter-institutional relations takes many forms and for many different purposes and have different dimensions. O'FLynn (2008, 185-86) makes the distinction between the various modes of engagement:

- *Cooperation* is described as an informal relationship without a common mission in which information is shared on an as-needed basis, authority remains with each organization, there is little (or no) risk and resources and rewards are kept separate.
- *Coordination* is seen as more formal and there are compatible missions that require some common planning and more formal communication channels. While each organization retains authority, risk enters the equation.
- *Collaboration* includes pooling and jointly acquiring resources, sharing rewards, but also increased risk. It is a more 'durable and pervasive relationship', which involves creating new structures within which to embed authority, developing a common mission, engaging in comprehensive and shared planning, and in which formal communication across multiple levels occurs.

Wanna (2008, 3) as does Shergold (2008, 20) and O'Flynn (2008, 185) tend to view coordination, cooperation and collaboration as part of typology of working together. Howe et al (2016, 6) also identified a typology for mutli-stakeholder partnerships within the tertiary education sector that supports multi-stakeholder and inter-sectoral initiatives. The authors referencing Peterson et al (2014) model showed that these partnerships and engagement can move from joint projects to joint programmes to strategic alliances and finally, collective impact. Regardless, TEIs or RIs are 'facilitators' engaged in 'value chains' working to realise the institutional mission, stated outcomes and/or development goals.

Attention can now shift to the relevance of collaborative governance to public policy, which is reflective of public sector reform aimed at realising greater effectiveness. Drawing on the work of Emerson, Nabatchi, and Balogh (2012, 3-4), collaborative governance is defined as the:

> . . . processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished.

It embraces state and non-state actors, spans inter-governmental and inter-institutional boundaries and relations, and involves the partners in decision-making processes, policymaking and implementation, and management of public programmes. Collaborative governance operates within a host of political, legal, socioeconomic, environmental, and other influences that affect its functioning. Within the collaborative governance regime, it is presumed that cross-boundary collaboration represents the prevailing pattern of behaviour and activity and that there will be a "set of implicit and explicit principles, rules, norms, and decision-making procedures around which actors' expectations converge in a given area" (Emerson, Nabatchi, and Balogh 2012, 6). For the framework to be effective, it is influenced over time by collaborative dynamics (principled engagement, shared motivation, and capacity for joint action) that work together in an interactive and iterative way to produce collaborative actions, i.e., steps taken to implement collaborative governance. Factors such as leadership, consequential incentives, interdependence, and uncertainty are important drivers for collaborative governance to work optimally. Collaborative governance can lead to intended and/or unintended outcomes both within and external to the regime, add value to a new social good or technological innovation, and facilitate potential adaptation (the transformation of a complex situation or issue).

International and regional support systems for collaborative action

The central tenet of this paper is cooperation, coordination and collaboration within the higher education sector and with other external actors can drive and facilitate economic and social development. The Sustainable Development Goals or SDGs, the *CARICOM Strategic Plan 2015-2019* and the *Human Resource Development (HRD) 2030 Strategy* are tools to achieve that 'shared motivation' for 'principled engagement' to spur the 'capacity for joint action' as identified by Emerson, Nabatchi, and Balogh (2012).

The SDGs provide a broad-based framework that takes into consideration the dimensions of sustainable development: social, economic and environmental, as well as important aspects related to peace, justice and effective institutions. Goal 17 lays out the importance of a strong commitment to partnership and cooperation

is needed to achieve the *SDGs* – "[s]trengthen the means of implementation and revitalize the global partnership for sustainable development." Within the list of targets, the following are identified for the Goal, which impinges (directly and indirectly) on the network of actors and their relationships and associations:

- "enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, . . ." (17.6);
- "enhance policy coherence for sustainable development" (17.14);
- "enhance the global partnership for sustainable development complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technologies and financial resources to support the achievement of sustainable development goals in all countries, particularly developing countries" (17.16); and
- "encourage and promote effective public, public-private, and civil society partnerships, building on the experience and resourcing strategies of partnerships" (17.7).

Different approaches, visions, models, and tools are required to enable engagement. Through mutual exchanges of experiences and discussions on what works and what does not, there are opportunities to improve the content of institutional strategies, strengthen institutional mechanisms, and address inter-institutional impacts and ultimately enhance collaboration in the higher education sector with and among the RIs.

Moving from the internationally agreed agenda for 2030 to the CARICOM region, a strategic plan for the community was adopted for the period 2015–2019. It set out eight strategic priorities for the community of which 'strengthening community governance' is one. It is in the context of recognition that emerging policy responsibility would require a diverse competence residing across the Community, particularly Member States, RIs, private sector, regional labour representatives, and subject matter specialists among others. The relevant coordination and collaboration strategies for 'strengthening community governance' includes developing arrangements for participatory governance; developing governance arrangements for community institutions; and strengthening relationships with international development partners (IDPs). These actors and processes are relevant to the higher education sector and its partner or potential partner RIs.

Expanding on the social resilience priority, CARICOM developed a Human

Resource Development 2030 Strategy in 2017 (successor to the CARICOM *Investing in Human Resources with Equity* 2001 framework). This Strategy aims to mobilize CARICOM Member States, Associate Members, RIs, private sector, civil society and IDPs to prioritize, harmonize and converge national and regional planning processes to address and advance education and training and deliver effective sustainable strategies for people development (CARICOM 2017, 2). The strategy acknowledges that for it to be successfully implemented it requires "unprecedented levels of institutional convergence, programmatic coherence, and multi-stakeholder partnerships and commitment" (39).

The SDGs and relevant CARICOM strategies underscore the importance of cooperation, collaboration, coherence, and alignment to accelerate sustainable social and economic revitalization and growth. For that to obtain, it requires an understanding of the environment in which the actors operate and their priorities and orientations, and engagement and collaboration. The next section of the paper presents some preliminary data from the findings of the small pilot survey of TEIs and identifies the issues related to institutional efficiency and effectiveness, and collaboration to enable institutions to better respond to their mandate and to support national and regional development priorities.

The design process for the TEI survey

In July 2015, the Vice-Chancellor of The UWI, Sir Hilary Beckles, made a presentation to the CARICOM Conference of the Heads of Government that highlighted the importance of tertiary education to national and regional development. The Heads requested The UWI collaborate with other TEIs in the CARICOM region to convene a conference with regional and international development partners to address the development agenda in CARICOM. Based on the mandate of the Heads, The UWI subsequently convened the Consultations between representatives of the tertiary education institutions, CARICOM Secretariat, representatives of CARICOM Governments and the IDPs in November 2016. The Consultation recommended the conduct survey of TLIs to determine: (i) strengths, weaknesses and areas of particular interest, (ii) the institutions that have capacity to lead programmes/projects.

A data gathering exercise is intended to fill or reduce the gap in information, data, and analysis. The objectives of this exercise were to:

- define the organizational structure of TEIs and examine how as TEIs they involve stakeholders into their leadership and governance and nurture synergies

between teaching, research and their societal engagement as well as knowledge exchange;
- assess the capabilities and capacities, available resources, knowledge and skills within the institution across a wide range of categories and identify promising practices; and
- contribute to system development by highlighting structural and other deficits in specific categories (e.g., project implementation and project monitoring capacity, research areas, etc.) or areas (e.g., data capacity) and provide recommendations that could inform decision-making and interventions to support development in those areas.

Part of the data gathering process involves scanning for relevant primary or secondary studies. Over the last decade or so, there have been studies and/or surveys on the tertiary education sector undertaken by the World Bank, UNESCO (IESALC and OBIRET), and the Caribbean Regional Negotiating Machinery (CRNM). The International Association of Universities (IAU) surveys institutions at five-year intervals, generally to assess internationalization of higher education. Ranking surveys/benchmarking studies such as those by U-Multirank (UMR) and the Association of Commonwealth Universities (ACU) examines aspects of performance. While these various reports and studies provided useful insights into the tertiary education sector or individual institutions, there was a limited focus on the strengths and weaknesses of the sector or areas of interest or priority and the capacity of institutions to lead programmes/projects. This was the premise for the recommendation from the aforementioned Consultation.

For the questionnaire design, an internet search was undertaken using the key phrase - 'survey- higher education capacity assessment', 'survey- higher education capacity building', 'survey- tertiary education capacity assessment', and 'survey- tertiary education capacity development' – to identify similar instruments. The Google search yielded several examples of similar assessments undertaken in European Union and OECD countries and by higher education bodies (e.g., International Association of Universities) or ranking agencies (e.g., U-Multirank). These were examined and items adopted or adapted for the purposes of the TEI survey. The instrument comprised a mix of open and close-ended items and spans the following dimensions: (i) features of the tertiary level institution; (ii) financial management; (iii) teaching and learning; (iv) research and knowledge transfer; (v) internationalization; (vi) public engagement; (vii) institutional trends; and (viii) system coherence and the tertiary education council.

The tertiary education sector comprises a mix of public, private, and offshore universities, colleges, and research and training institutes offering post-secondary

programmes from the certificate level. Tewarie, writing in 2010 (3), noted that "[t]here are over 150 institutions of which 60% are public, 30% private and the remaining 10% exist with some government support." Given time lapse and the possible changes that may have occurred based on regulatory mechanisms, the list was updated.

Based on a membership list provided by Association of Caribbean Tertiary Institutions (ACTI), information discerned from policy/issues papers, and internet searches a list of TEIs in the CARICOM region was compiled. It was subsequently classified using information available from the official websites of the institution. Over 200 public and private institutions were identified in the CARICOM region not including Haiti offering post-secondary programmes from the certificate level (see Appendix 1). TEIs were classified based on elements of the U-Map and Carnegie classification. As such, the list captured information for the following fields:

- Geography – Location, National, Regional, International
- Status – Registered, Accredited
- Type – Public, Private, Offshore
- Classification – Technical-Vocational, Community college, Teacher Training College, State College, University, Specialized College/School, Exclusively Graduate School/College
- Type of degree – Certificate, Diploma, Associate, Bachelors, Masters, Ph.D./Doctorate
- Activity – Basic Research, Applied Research, Knowledge Transfer, Research Intensive, Teaching Intensive, Continuing Education
- Engagement – National, Regional, International.

Using the macro-list, 40 registered or accredited public institutions offering Bachelors' degrees or higher were selected for participation in the full data collection exercise. Before that could be done, the instrument had to be piloted.

A pilot study was undertaken to pre-test the survey instrument to determine if the proposed instrument was appropriate, relevant, and easy to complete, and to consider the wording and the ordering of the questions, and the range of answers provided for multiple-choice and rating questions. In addition, the research process, i.e., the different ways of distributing and collecting the questionnaires, was considered. The pilot was further used to assess the feasibility of a (full-scale) study/survey and convincing other stakeholders that the main study is worth supporting.

Eight institutions (20 per cent of the target) were invited to participate in the

survey with the option of completing said questionnaire either online (Survey Monkey) or paper. Several email reminders were sent. Seven questionnaires were returned with four institutions completing the survey online and three returning paper-based questionnaires via email. The following completed the survey: regional university (1), national universities (2), and community colleges (4).

While pilot studies are likely to be "underdiscussed, underused and underreported" (Van Teijlingen and Hundley 2001), it is still important to identify the processes and outcomes of the study and, identify and document the actual improvements made to the study design and the research process. Based on the experience of conducting the pilot study, evaluation of the completed questionnaires and discussion with respondents, the following issues were noted in relation to the instrument *(see Table 1)*.

Table 1: Findings from the Pilot Survey

Positive	**Negative**
Confirmed the instructions, language and technical jargon was generally clear for native English-speakers	Some difficulty with language and technical jargon for non-English speakers
Confirmed that the response choices and scales were appropriate to the items	
Respondents demonstrated a high preference for Likert scale response or multiple-choice items	Responses demonstrated a low preference for data-driven items (e.g. student/staff data)
	Too many options in the multiple-choice items
	Some responses can be sourced from other items (e.g. *the geographical location of the institution, number of campuses located throughout the region in the region)*
	Survey too lengthy and time-consuming
	Requires data/information at-hand to respond

Based on the feedback and experiences, it is suggested that the survey:

- discard all unnecessary, difficult or ambiguous questions;
- be revised and shortened (and piloted again) or be dimension-driven and where, the various survey dimensions could be administered at intervals;

- the survey should be administered by a professional higher education network which can reduce the bias associated with a TEI administering the survey; and
- develop an indicator/jargon booklet to accompany the instrument.

In their view: how does TEIs support institutional effectiveness and engagement?

Selected items from the pilot survey have been extracted to provide insight into the perspectives of TEIs on issues related to institutional effectiveness and engagement. Nevertheless, the findings from the pilot survey should be viewed with caution, as there is the possibility of making inaccurate predictions or assumptions based on pilot data (Van Teijlingen and Hundley 2001).

Overview of selected findings

All TEIs reported having a Strategic Plan focussing on: (i) teaching and learning; (ii) student development/engagement/student academic success; (iii) Internationalization; (iv) organizational and operational efficiency; (v) building partnerships and collaborations; (vi) diversifying the institution's financial resources; (vii) improving infrastructure and operations; (viii) community or civic engagement; (ix) improving institutional branding; (x) research and innovation; and (xi) public engagement/service.

Higher education is affected and influenced by occurrences or shifts outside of the sector leading TEIs to refocus or reorient their approaches to address both demands, threats and opportunities. The sector has also been influenced and impacted by a mix of managerialism, neo-liberalism, and new public management (NPM) that emphasizes efficiency, effectiveness, excellence, accountability, autonomy, and competition. In this setting, collaboration with other TEIs, the public and private sector becomes important.

The survey asked TEIs to identify national-level strategies included for the sector in the development plans/strategies of their country, which would contribute to human capital formation. It drew on the proposition by Jules and Williams (2015, 285, 288) that from 2002 to the present day, the education system has been based on developing a competitive and mobile labour force. As such, the country policy agenda, which served national interests, also adopted regional and international commitments. It functioned to address the inability of citizens to develop new digital literacies to master new technologies, the decline of low skilled jobs, deficiency of multilingual literacies, the changing nature of employability, failure

Table 2: Most Identified Areas in National Development Related to TEIs Mission

Areas	Past five years	Next five years
Collaboration with neighbouring countries	✓	✓
Curricular reform/structure	✓	
Demographic changes and higher demand of higher education	✓	✓
Evaluation and quality assurance	✓	✓
Internationalisation		✓
Student life	✓	✓
Support from international donors to academic programmes or academic cooperation	✓	
University-academic partnerships	✓	✓

to continuously upgrade professional, technical and managerial competence in the public and private sectors, shortage of new private public partnerships, and scarcity of an entrepreneurial and innovative culture (285). Education plans, policies, or strategies were developed to address these deficits. Table 2 shows the most common areas identified in national development plans for the last five years (2012–2017) and the next five years according to the responding TEIs. Corporation and collaboration featured in the plans through elements such as collaboration with neighbouring countries, university-academic partnerships and funding in the last five years and similarly, the next five years.

The pilot survey asked institutions to indicate the importance of certain developments in the sector to their institution. Using a 75 per cent and above threshold, (i) internationalization; (ii) university-civil society corporation; (iii) collaboration with other TLIs internationally; (iv) enhanced cooperation with other TEIs; (v) university-business cooperation; (vi) university-public sector cooperation; and (vii) use of information and communication technologies in teaching, research, management, etc., were rated as extremely/moderately important. Again, collaboration seems to be key for TEIs.

Moving from national focus and developments in the sector, the TEIs were asked to identify the challenges that would affect their mission in the next five years. Table 3 shows the possible areas of challenge, which relates mainly to broad issues of access, equity, quality, efficiency and accountability, reflective of managerialism and neo-liberalism.

Table 3: Challenges for Sector in the Next Five Years

Academic human resources	Student recruitment	Teaching and learning generally
Graduate employability	Student success	Widening access, equity and participation
Institutional funding	Data privacy and security	Research funding
Knowledge transfer	Governance and autonomy	Internationalization
Links with the labour market	Teaching and learning	Tuition fees
Quality assurance	Competition from other TLIs	University-business cooperation
Robust data	Research relevance and impact	

As noted, the region is inhabited by several TEIs that vary in type, size, and mission. Kassim and Harris (2015, 37–38) discussed the effects of that variety and diversity on resources, quality, and efficiency. They along with Howe (2011, 2003), Tewarie (2010), Roberts (2009), and Ali (2007) recommended that a policy framework be developed and implemented to address governance, management, funding and regulatory issues. Further, the small size of the region and the commonalities of issues in the higher education sector make it prudent to pursue avenues for collaboration, partnerships and the creation of an integrated system rather than engaging in any excessive and unproductive competition for students, staff or financial resources (Kassim and Harris 2015, 38). A coherent tertiary education system is an example of functional cooperation, which is the pursuit of synergies and specific actions derived from combining resources for realizing the benefits of economic development. The *Revised Treaty of Chaguaramas* also stressed the cooperation among educational and training institutions (1997, 48). While there has been much discussion on improving the coherence in the sector in scholarly or policy papers or in strategic documents (e.g., UWI Strategic Plan, 1997–2002, CARICOM Strategic Plan 2015–2019, HRD 2030 Strategy), no consultation has been pursued with TEIs or via the professional higher education networks to the author's knowledge. As such, the TEI survey was an opportunity to garner the opinion of a few stakeholders. Acknowledged as a positive development, TEIs saw a tertiary council as important for its:

- advisory powers throughout the entire higher education sector;
- ability to monitor trends and developments in higher education;

- ability to allocate public funds to TEIs;
- contribution to strategic planning and policy development;
- ability to enforce separation of functions, ensuring that governments focus on setting broad policy frameworks while institutions deliver on such policies; and
- ability to initiate the amending of higher education legislation.

Note should be taken of the recommendation proposed for a new vision for the tertiary education sector namely, "region-wide coherence among TLIs within CARICOM and the wider Americas region" (Howe, Kassim, and Rampersad 2016, 9). Cooperation is seen as one of the principals of the Human Resource Development (HRD) system where "all actors (governing bodies, regulatory agencies, institutions and employers operating within the three sectors) have established collaborative partnerships that facilitate effective co-operation towards effectiveness and efficiency" (CARICOM 2017, 3). Also, the same HRD 2030 Strategy document identifies "establish[ment of] a CARICOM governance mechanism that supports coordinated TE sector planning & development" as an output under the quality imperative (2017, 72). It may be argued that while regional plans espouse coordination and capacity building it is reflective of the ethos of neo-liberalism and managerialism, it emphasizes cooperation within the context of regional and sub-regional integrative programmes (Jules and Williams 2008, 288).

The design process for the regional institutions consider capacity building and engagement survey

The *CARICOM Strategic Plan, 2015–2019* is in direct response to the need to target "… a narrow range of specified outcomes within specified timeframes, focusing on a few practical and achievable goals" in relation to the regional development agenda (CARICOM Website). It is supported by a two-year implementation plan based on submissions from the RIs in support of the stated outcomes and identifies the activities and responsibilities of the three implementing partners (Member States, Regional and Associate Institutions, and the Caribbean Community Secretariat). This is consistent with the ethos of the *Revised Treaty of Chaguaramas*, which noted that the regional and associate regional institutions contribute to the objectives of the Community.

The UWI, as an associate CARICOM regional institution, participates in the ongoing discussions with other RIs and CARICOM in the implementation of the said *Strategic Plan.* Given that the RIs have, sector-specific mandates, which define

their work programme including project activities, it is therefore reasonable to assume that they would contribute directly to specific goals and strategies. However, the scope of activities required to achieve the stated outcomes and to ensure uptake, facilitate implementation and ensure sustainability and improvement at the national level require engagement, resources, and capacities. In the Operational Plan (particularly in its early iterations), little thought was given to the cross-functionality of the goals and strategies and how it relates it to the specialities and unique expertise of the multiple RIs. As such, the Operational Plan captured the activities, owners/implementers as defined by one RI, and no scoping analysis was undertaken either by the respective RI or by the unit in the CARICOM Secretariat with responsibility for compiling the Operational Plan to determine complementarity or synergies in work activities. It was thus left to another RI with competencies and skills who can contribute to the related strategies and goals to indicate their availability and capability to contribute to the stated outcome. It suggests there were/are some inefficiencies in the system. Although the 2018–2019 Operational Plan attempted to address the gap and now captures lead and supporting owners for the work activity, there is still room to build synergies to deliver on the stated outcomes.

It is with the above stated context in mind that the UWI proposed at the *De-Briefing of the Fourth High Level Forum on Donor Coordination* (March 2016 via video conference) that CARICOM should consider the development of a Stakeholder Engagement Strategy and Capacity Building Plan. This Plan, it was envisaged will address the under-utilization of existing expertise by and among regional partners and thus, build better synergies among regional institutions and complementarity in project development and implementation to support the achievement of overarching regional goals. A presentation was subsequently made to Virtual (Pillar) Group Meeting (October 2016) that outlined the value and steps in developing a Stakeholder Engagement Strategy and Capacity Building Plan, which was accepted. A Working Group for Capacity Building and Stakeholder Engagement (CBSE) was established comprising representatives from CARICOM Secretariat (CCS), The UWI, Caribbean Examination Council (CXC), Caribbean Development Fund (CDF), Caribbean Center for Development Administration (CARICAD), and the Caribbean Court of Justice (CCJ). The Working Group agreed that the best approach was an audit of the RIs on the dimensions of capacity building and stakeholder engagement. It will be recalled that the *CARICOM Strategic Plan* identified the importance of relevant coordination and collaboration strategies for 'strengthening community governance' pillar. Similarly, the SDGs spoke to the importance of a strong commitment to partnership and cooperation

to achieve the SDGs. Additionally, the 2030 Agenda deals with the means required for implementation of the Goals and targets.

The survey sought to collect data on the capacity building needs and stakeholder engagement of RIs to achieve mutually beneficial relationships and/or contribute to the overarching regional goals. It will also provide relevant baseline data for the next iteration of the CARICOM Strategic Plan. The survey objectives were to:

- identify and assess the capabilities and capacities in RIs and identify innovative ways to address those needs;
- identify the practices, drivers and obstacles to stakeholder engagement; and
- assess the current and future state of stakeholder engagement among RIs.

The survey was designed and reviewed by the Working Group and piloted in early 2018. A few modifications were made:

- wording of the questions refined (e.g., changing level of cooperation to extent of cooperation);
- change to the wording of the question and change in scales ('which obstacles does your institution face when taking part in or promoting stakeholder engagement?' that used a five-point Likert response scale of Very Important to Not at all important from to 'how would you rate the following obstacles that your institution face when taking part in or promoting stakeholder engagement?' using a five-point Likert response scale of Very Challenging to Not at all challenging);
- options added to multiple-choice questions (e.g., partner with other RIs as a means to build capacity); and

for rating questions, the category of 'Unsure/Do not know' added.

The survey was administered over a five-week period in April and May 2018 using Survey Monkey, an online survey tool. Signed letters of invitation from the CARICOM Secretariat were sent to the Heads of the 26 RIs asking for their participation in an online survey to inform the development of a 'CARICOM Capacity Building and Stakeholder Engagement Strategy' for the next iteration of the Community Strategic Plan. The letter was also copied to representatives from the Virtual (Pillar) Group. Initially, the survey was open for two weeks, but to improve response rate it was extended for a further three weeks. Periodic email reminders were sent to representatives from the Virtual (Pillar) Group to follow-up with the relevant institutional person on the completion of the survey. At the close of the survey, there was a response rate of 65 per cent (or 17 RIs responded), which is seen as very good for online surveys.

In their view: how do regional institutions consider engagement?

This section provides preliminary results of the survey focussing elements relating to capacity and collaboration. It is based on the notion that RIs engage in social and economic exchanges within the context of multi-stakeholder partnerships to achieve accepted outcomes tailored to the needs of the policy/programme/project. In this view, collaboration also provides the opportunity to build the capacity of institutions to perform functions, solve problems, and set and achieve objectives in a sustainable manner. Engagement exists in many forms ranging from corporation to in inter-organizational domains. O'Flynn (2008, 181) however makes the distinction between collaboration and other engagement strategies such as cooperation and coordination. He noted that collaboration could be a mutual engagement strategy in which parties participate voluntarily, while cooperation could be purchased (for example, from a supplier) or demanded via some form of legitimate authority (for example, by a government organization (186). As such, this requires either increasing knowledge and upgrading skills or targeted training programmes to build capabilities, skills, and competencies needed to carry out the job specifications or meet their key responsibilities.

Overview of selected findings

Given the importance of understanding and addressing a broader set of social, economic and environmental interests when planning and implementing policy/programme/project(s), it is useful to understand the primary sectoral interest of the RIs. The RIs were asked to identify their primary sectoral interest as part of the mapping exercise. The prevalent areas were health; environment/energy/climate change; agriculture and fisheries; and science, academia and research while unique areas were financial services and regulatory – economic/financial *(see Appendix 2 – Figure 1).* RIs work with several types of organisations in pursuit of the stated outcomes and to that end, RIs are most likely to collaborate with other RIs, universities and IDPs *(see Appendix 2 – Figure 2).* RIs indicated that in the last five years they tended to partner with CARICOM Regional Organization for Standards and Quality (CROSQ), The UWI, CARICOM Secretariat, Caribbean Development Bank (CDB), and Implementing Agency for Crime and Security (IMPACS).

Cooperation can be of variable quality related to both resources and capacities. Nevertheless, RIs hold that stakeholder engagement is very important to the achievement of their institutional objectives and the stated outcomes in the

CARICOM *Strategic Plan* – 88.2% indicate stakeholder engagement with RIs is currently very important and 82.3% believe it would be important in five years. As such, RIs were asked to indicate the quality of cooperation with partners. Generally, relationships with stakeholders are very good/good except for the private sector and third states *(see Appendix 2 – Figure 3).*

Gulati, Wohlgezogen and Zhelyazkov (2012) noted, "inter-organizational collaboration can be extraordinarily complex and risky. Some studies report extremely high failure rates for collaborative endeavours, such as strategic alliances and joint ventures, often well in excess of 50 percent." Kooiman et al. (2008, 3) noted that "societies are made up of large numbers of governance actors, who are constrained or enabled in their actions by structures." It is with that view in mind that RIs were asked to identify the benefits, obstacles, and risks associated with engagement. RIs indicated that the cost savings; finding a solution to a complex/pressing problem; promoting the sharing of data, information; and seeking external funding for joint projects were very important/important benefits (94% each) associated with stakeholder engagement *(see Appendix 2 – Figure 4).* However, stakeholder engagement has its drawbacks, which for the RIs include competing priorities (94%) and lack of funding to support stakeholder engagement (71%) *(see Appendix 2 – Figure 5).* As with all engagement activities there are risks. Although an important resource, stakeholders are also potential sources of risks. *Interestingly, RIs identified 'slowing down the progress of a project/activity' as the highest risk associated with stakeholders and the ability of stakeholders to increase tension in the organisation and loss of institutional credibility as low (see Appendix 2 – Figure 6).*

As noted, engagement and collaboration provide an opportunity for building capacity. To achieve the stated outcomes in the CARICOM *Strategic Plan,* it may be necessary to build institutional capacity. It is with this premise in mind that the CARICOM survey included questions on the human resource capacity of the institution and its needs. RIs report not having inadequate skills and capacity in risk management and standards (development, setting, monitoring/verification) across the board *(see Appendix 2 – Figure 7).* As such, a targeted approach to training could be used to supplement weaknesses in specific RIs. Although previously reporting having the skills in some areas, RIs identified the following areas as high priority for capacity building: risk management; project monitoring; project evaluation; qualitative analytical skills; and research knowledge and management/ research ethics (using a threshold of 80% and above) *(see Appendix 2 – Figure 8).*

Although important to recognize institutional skills-deficit or need to upskill, informal and formal activities take place to buttress skills and capacities. For instance, RIs indicated that in the last five years there was either participation in conference on focussed issues (88%) or distribution of (regular/ad hoc) information

among staff (82%). They also partnered with other RIs (76%) or contacted them for assistance (71%) to build their capacity *(see Appendix 2 – Figure 9).* Does RIs therefore have sufficient capacity and skills to assist others? Sixteen RIs noted that while they have the capacity to assist other RIs, but not in the areas of advocacy; development/management of knowledge portals; project implementation; project monitoring; or risk management. What additional activities can RIs pursue build the capacity? Using a threshold of 75% and over access to technical advisor(s) or/and subject matter expert(s) was identified as the most preferred method followed by online courses; and coaching and mentoring programmes at 71% each (*see Appendix 2 – Figure 10).*

It is reasonable to assume that TEIs will be the most likely partner for education and training. As such, it is useful to consider their interest. In the pilot survey done with TEIs, they were asked to indicate if they were engaged in activities to support knowledge transfer. They noted that training was provided to public and private sectors and to community groups and they provided subject-matter expertise via consultancies. It might be useful for TEIs to examine their professional offerings and target institutions as a market for their expertise. As the CARICOM survey showed, the UWI is one of the key partners.

Conclusion

The article drew on the understanding of the elements of the spectrum of working together (Gullati, Wohlgezogen, and Zhelyakov 2012; Wanna 2008; O'Flynn 2008) and collaborative governance by Emerson et al. (2011). In addition, it provided a glimpse into the selected findings from the small pilot survey of TEIs and the full survey with the RIs and, identifies the issues related to institutional efficiency and effectiveness, capacity building, and collaboration to enable institutions to respond better to their mandate and to support national and regional development priorities. The findings confirm the importance of working together in an inter or multi-partnership structure to achieve institutional mission, stated outcomes and address and solve developmental challenges. Further, it shows that there are opportunities for further collaboration building networks and mechanisms for capacity building. The latter provides opportunities for TEIs to demonstrate their relevance.

The findings and experience of the TEI surveys present opportunities for the professional higher education networks (e.g. ACTI, ACHEA, and Caribbean Area Network for Quality Assurance in Tertiary Education (CANQATE) to collaborate on the development, administration, and analysis of the survey, and to develop

supporting policy briefs based on the results. The RI survey presents opportunities for RIs to develop/enhance their work/operational plans but more importantly, it allows them to use this information for the 2019 strategic planning activities.

Based on the actors in the tertiary education environment and among the RIs, collaborative governance is seen as conceptually relevant as it could support "institutional structures and cultures conducive to effective deliberation and decision-making" (Leach 2008, 4–5) which is crucial for "enacting new management practice" (Emerson, Nabatchi, and Balogh 2012, 7). For instance, within the sector, engagement can be facilitated either through existing mechanisms (e.g., a strengthened ACTI) or a new mechanism (e.g., a regional council). Opportunities also exist to develop/strengthen relationships between and TEIs through joint projects, consortia, etc. Engagement already exists between the RIs and The UWI via representation at regional meetings, research clusters, and through the provision of knowledge expertise. Engagement, regardless of form, require harmonizing of needs for social and economic transformation and imbuing stakeholders with a sense of 'principled engagement', 'shared motivations' and a 'capacity for joint action'.

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Appendix 1: TEIs in the CARICOM Region

Table 1: Count of TEIs by Country, by Type and Programme Level

Country	Total TLI's	Private TLI's	Public TLI's	Registered TLI's	Accredited TLI's	Certificate	Diploma	Associate	Bachelors	Masters	Ph.D/ Doctorate
CARICOM Member States											
Antigua and Barbuda	5	2	3	2	3	2	2	3	2	2	2
Bahamas	11	5	6	2	5	7	5	9	6	3	2
Barbados	5	1	4	2	3	4	4	2	3	2	2
Belize	14	1	13	8	1	5	3	11	3	3	2
Dominica	8	6	2	0	6	4	3	4	7	5	5
Grenada	3	2	1	2	1	2	0	1	1	1	1
Guyana	11	7	4	4	7	6	7	3	6	5	4
Jamaica	42	16	9	24	8	21	18	24	34	14	9
Montserrat	3	1	2	0	2	1	1	2	1	2	2
St Kitts and Nevis	6	4	2	1	5	1	2	2	4	5	5
St Vincent and the Grenadines	4	2	2	1	3	2	1	1	3	3	3
St. Lucia	9	7	1	0	8	2	1	1	5	8	4
Suriname	3	2	1	1	1	1	1	1	2	1	0
Trinidad and Tobago	75	46	9	52	15	44	29	14	25	14	3
CARICOM Associate States											
Anguilla	2	1	1	0	2	1	1	1	1	2	2
Bermuda	1	0	1	0	1	1	1	0	0	0	0
British Virgin Islands	1	0	1	1	0	0	0	0	1	1	1
Cayman Islands	4	4	0	0	3	0	0	2	3	4	1
Turks and Caicos	4	3	0	1	3	2	1	2	4	3	3
Grand Total	**211**	**110**	**62**	**101**	77	**106**	**80**	**83**	**111**	**78**	**51**

Note: The University of the West Indies (UWI) was counted for each location.

Appendix 2: Figures from the CARICOM Capacity Building and Stakeholder Survey

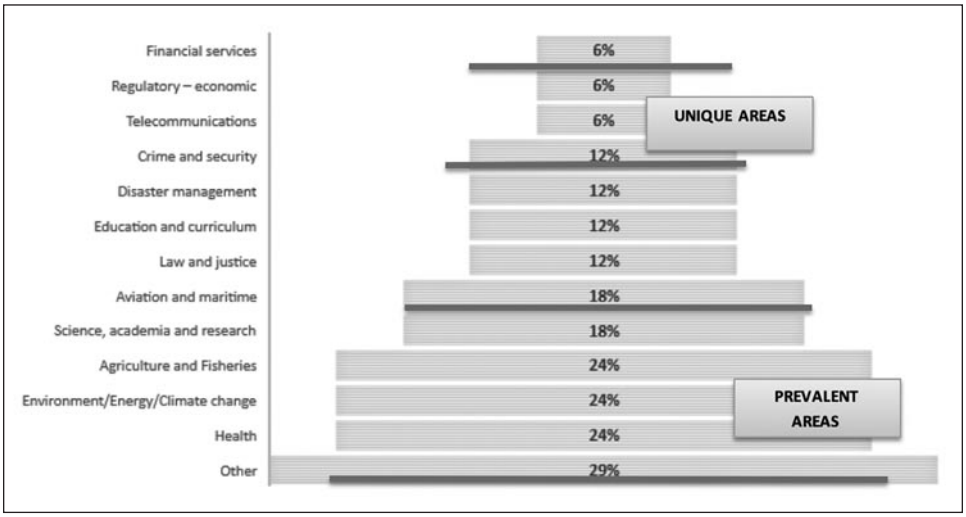

Figure 2: Primary sectoral interest of responding institutions

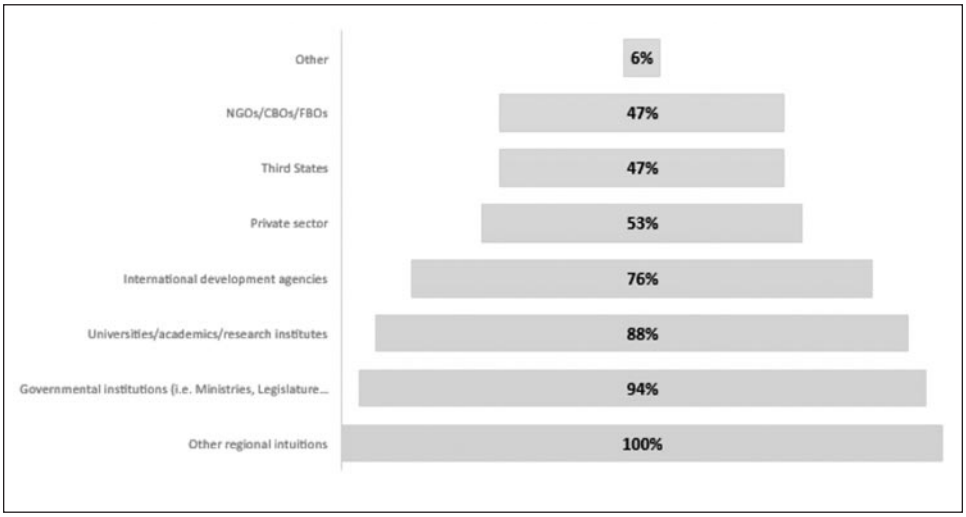

Figure 3: Types of organizations partnering with your institution

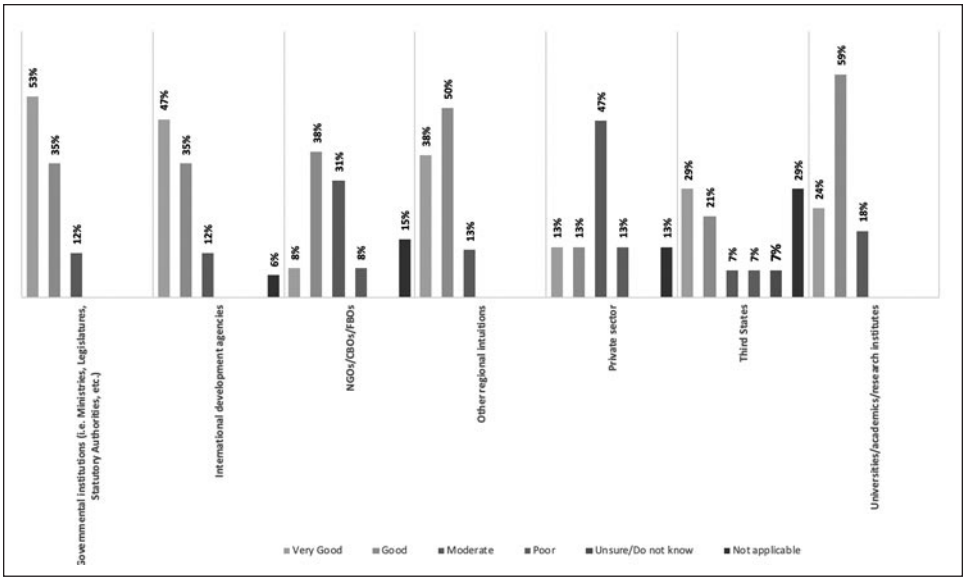

Figure 4: Quality of cooperation with the following type of partner

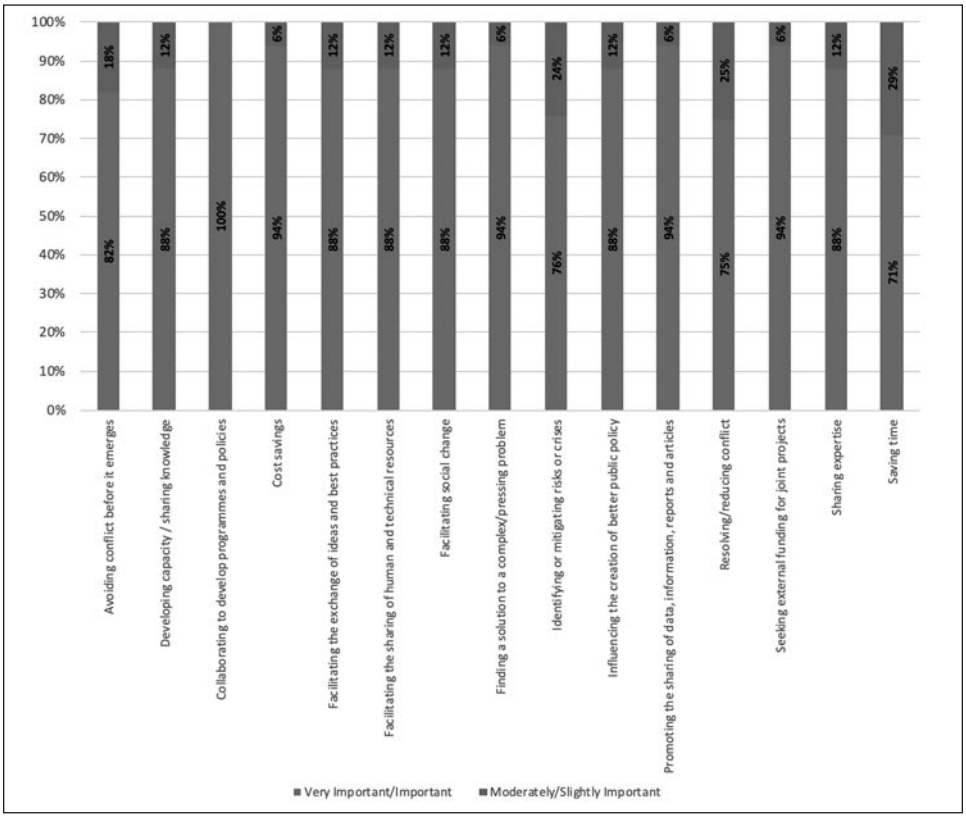

Figure 5: Importance to RI of the benefits of stakeholder engagement

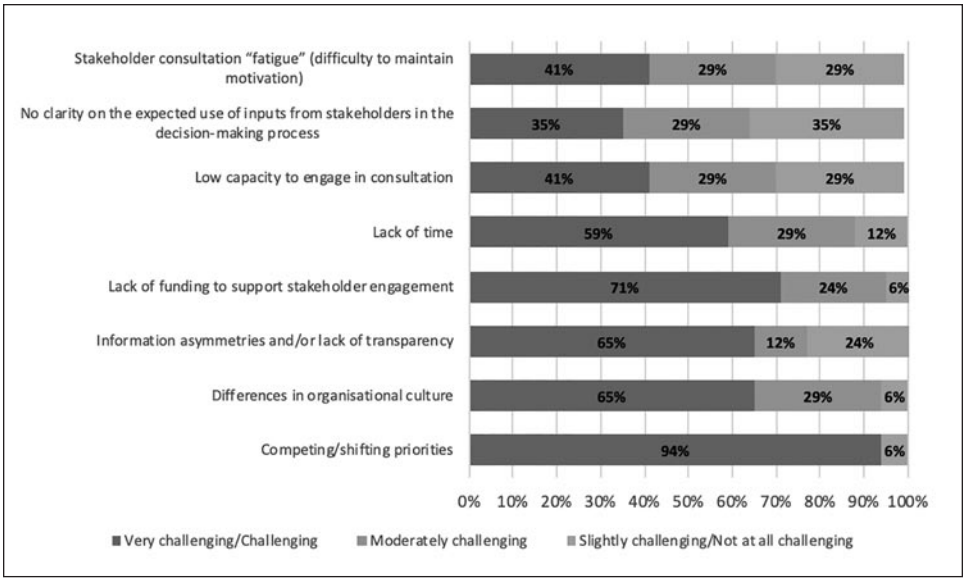

Figure 6: Obstacles RIs face when participating in stakeholder engagement

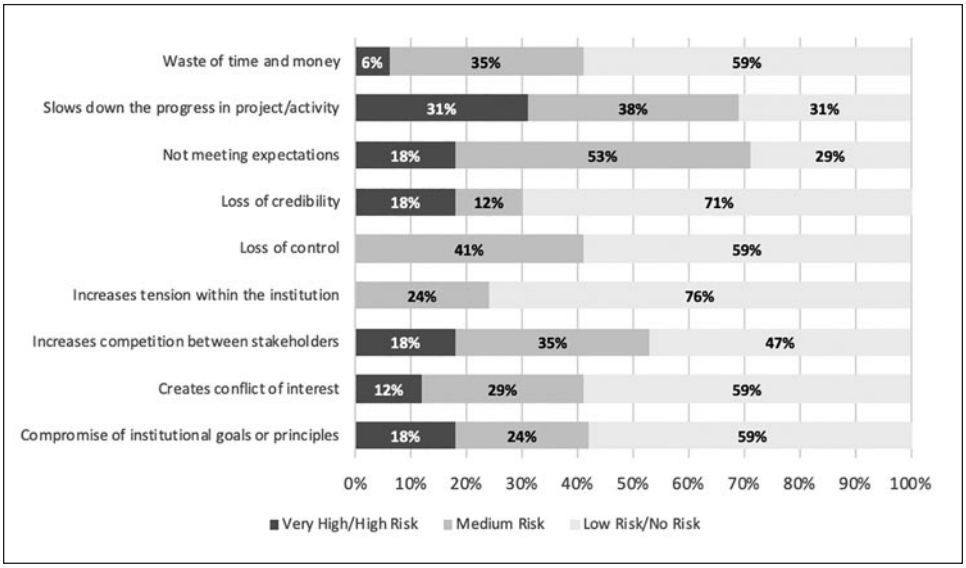

Figure 7: Potential risks for a RI when engaging stakeholders

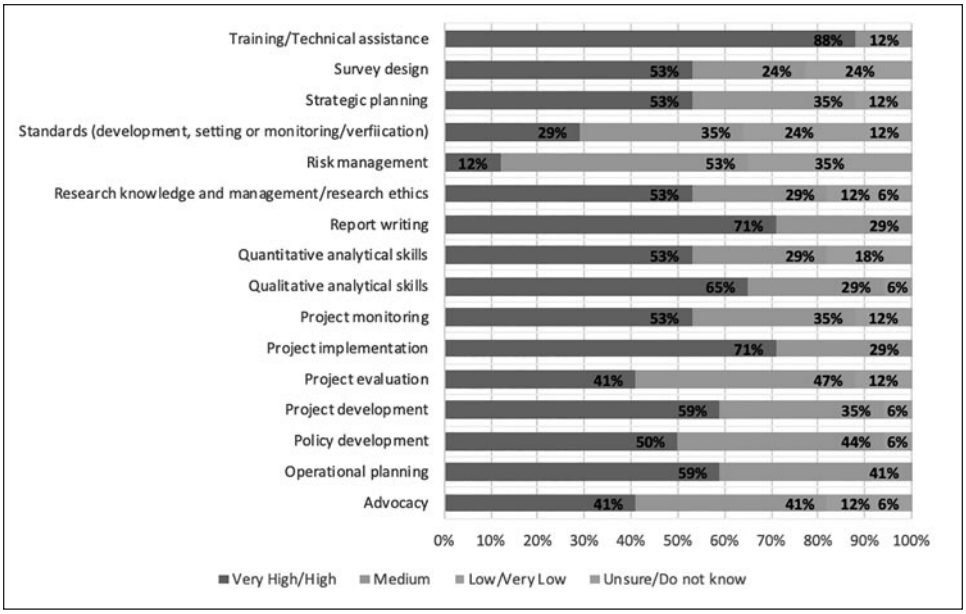

Figure 8: Capacity and skills of the human resources at the RIs

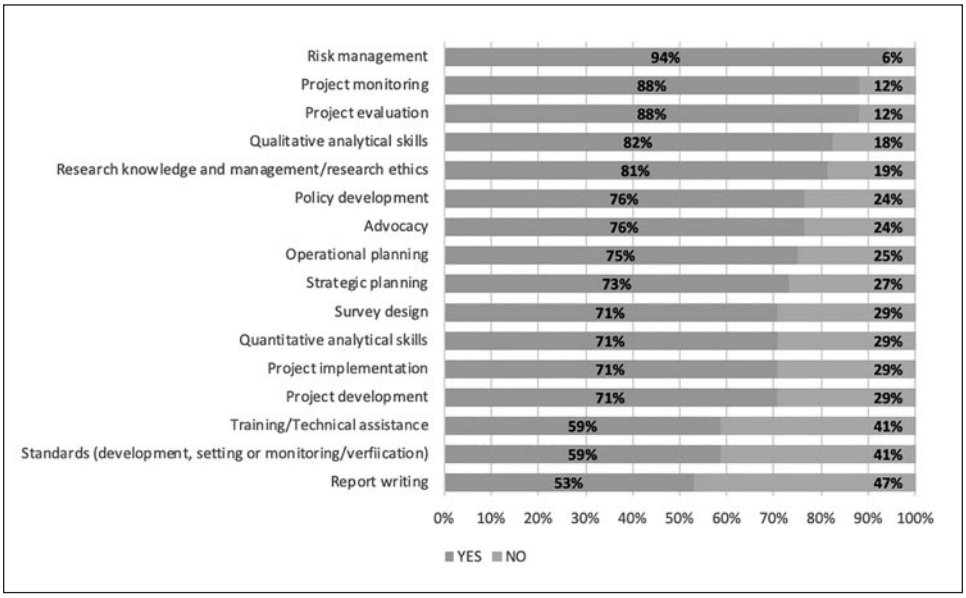

Figure 9: Areas identified for capacity building by RIs

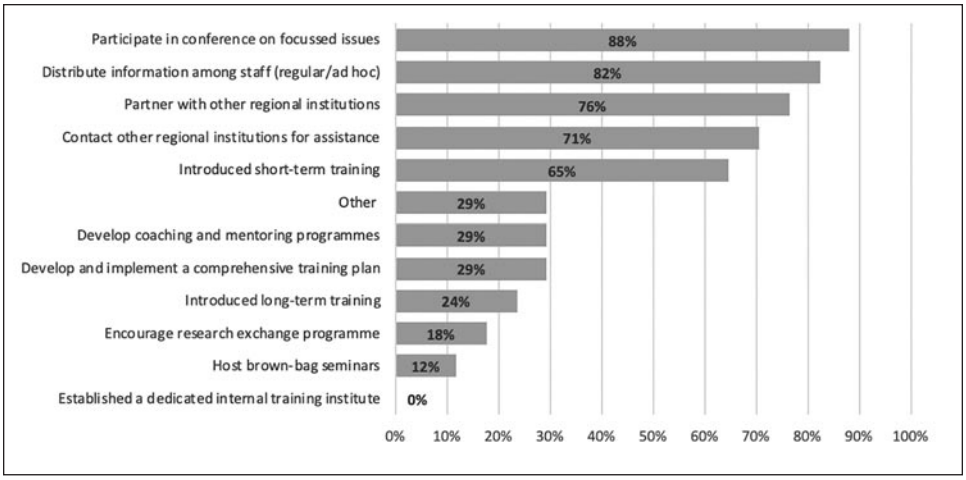

Figure 10: Activities by RIs to build its capacity in the last five years

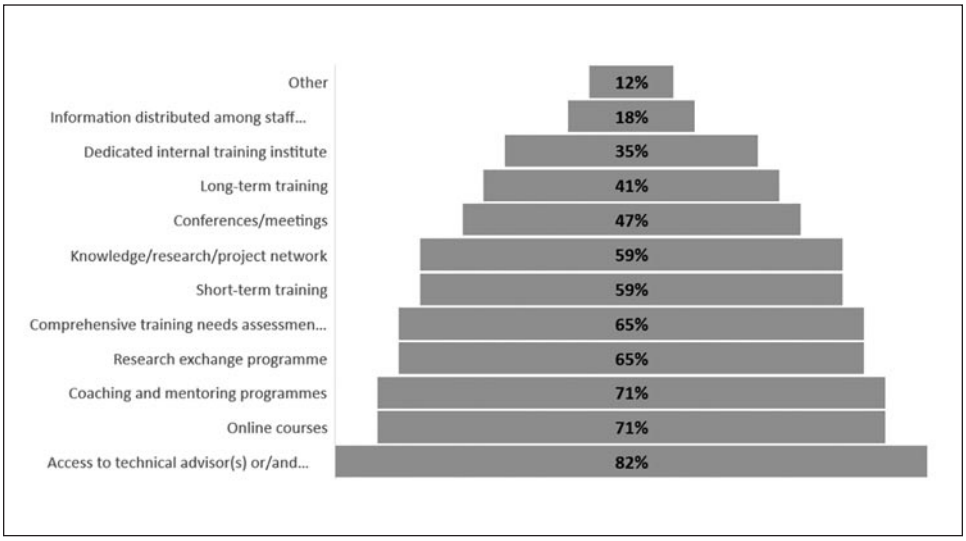

Figure 11: Activities that can assist RIs to build capacity

Quality Assurance: Fulfilling the Mandate

The Journal of Arts Science and Technology

Avoiding 'Swiss Cheese Curricula':
Enhancing Innovation-Literacy Among University Graduates

PAUL W. IVEY
Associate Vice-President & Associate Professor
School of Graduate Studies, Research & Entrepreneurship (SGSRE)
University of Technology, Jamaica

Abstract

The University of Technology, Jamaica (UTech, Jamaica) and other regional higher education institutions (HEIs) have key roles to play in providing technology-based solutions to national and regional challenges, through human capital development. Therefore, given the centrality of the curriculum in the teaching-learning process, it is important that these HEIs design and implement curricula that will ensure 'fitness-for-purpose' (FFP) of their graduates, which is a critical aspect of quality assurance. This paper reports the results of a knowledge gap survey conducted among final year students at UTech, Jamaica, to determine their knowledge of innovation, entrepreneurship, and related thematic areas that were included in the institution's Graduate Attributes policy. The results showed that knowledge gaps (akin to the holes in 'Swiss Cheese') existed among students. These results were used as evidence to inform curricula interventions to address the identified knowledge gaps, to ensure that graduates of the University are innovation-literate. The approach taken in this study has applicability for regional and other HEIs.

Keywords: Curriculum, quality assurance, entrepreneurship, innovation, graduate attributes.

Introduction

As one of the country's leading universities, the University of Technology, Jamaica (UTech, Jamaica) has a critical role to play in providing innovation-driven and

Corresponding author: Paul W. Ivey: paul.ivey@utech.edu.jm

technology-based solutions to clearly identified national challenges, such as the energy security problem facing the Island. Other regional higher education institutions (HEIs) have a similar obligation to their respective countries. Therefore, it is prudent for institutions in the Caribbean to adopt a deliberate approach to curricula design, and periodic review that will ensure 'fitness-for-purpose' (FFP) of their graduates - i.e., the fulfillment of specified requirements or stated outcomes. This is because 'fitness-for-purpose' (FFP) is a critical aspect of quality assurance. Indeed, Baird, Mole, and Gordon (2010) posited that the main purpose of quality assurance is to ensure an alignment between external expectations of HEIs and internal practices and outcomes. Additionally, Uvalic-Trumbic (2016) observed that quality assurance of their academic offerings is of increasing importance as HEISs are required prove that they are providing relevant and effective learning experiences to students.

Concerning the curriculum, some scholars view it as a primary instrument of change in education based on its centrality in the teaching-learning process (Toombs and Tierney 1993; Thomas, Kern, Hughes, and Chen 2016; McDougal and Schwartz 2018). Also, there are varying perspectives and definitions of what a curriculum is and its essential elements and purpose. So, for example, Grant (2013) proposed that a curriculum is really a statement: an expression of the objectives, content, experiences, results, and processes of an educational programme. In addition, Hyman-Anglin (1992) listed objectives, content, methods, and evaluation as the four 'essential elements' of a curriculum matrix. Also, Levine (1981) explained that a curriculum could be seen as the body of courses representing the knowledge, principles, values, and skills that are the intended consequences of formal education. Of course, as regards the methods component of the curriculum matrix, it is axiomatic that it should be underpinned by approaches that are informed by current and emerging theories of learning. So then, from the foregoing paragraph, it is clear that in education, the curriculum matters.

Graduate Attributes Policy

Related to its mission "To positively impact Jamaica and the wider Caribbean through high quality learning opportunities, research and value-added solutions to government, industry and communities" (UTech, Jamaica Strategic Plan 2018-2022), UTech, Jamaica has developed a Graduate Attributes Policy (GAP). The UTech, Jamaica GAP defines the characteristics that all UTech, Jamaica graduates will have developed during their studies, and which will enable them to add value to society. Specifically concerning *innovation and entrepreneurship*, the UTech, Jamaica GAP states that all graduates will: "understand the application of

entrepreneurial skills and innovation in wealth creation" (UTech, Jamaica Graduate Attributes Policy).

At its core, the UTech, Jamaica GAP reflects the envisioned outcomes of the University's various curricula. This is indeed the case in keeping with the aforementioned importance of the curriculum in the teaching-learning process. But, with specific reference to *innovation and entrepreneurship*, how does UTech, Jamaica assure itself, and its various stakeholders, that its students-cum-graduates are indeed acquiring literacy in these areas through the curricula it offers? To answer this question, a search for evidence of any knowledge gaps among students was undertaken.

Methodology

Within the framework of the European Union co-financed project, '*Knowledge transfer capacity building for enhanced energy access and efficiency in the Caribbean (CAP4INNO),'* on which UTech, Jamaica was one of nine partners drawn from Europe, Jamaica, and the wider Caribbean, a knowledge gap analysis was conducted – using a mixed methods survey (Gay, Mills, and Airasian 2011) and purposive sampling – to gather information from final year students in six academic units at the institution.

The purpose of the survey was to determine whether any knowledge gaps existed among the students, which, if found to be present, would subsequently be addressed through targetted curricula and other interventions. A total of one hundred and fourteen students participated in the survey, administered via a questionnaire.

Specifically, given that the UTech, Jamaica Graduates Attributes Policy states that all graduates will: "understand the application of entrepreneurial skills and innovation in wealth creation," the questionnaire sought to elicit from students their level of awareness/non-awareness (that is, whether during the course of their studies they were taught or otherwise exposed to them) of innovation and entrepreneurship, and related areas, such as intellectual property (evaluation, management, commercialization, and use of patent databases for technology surveillance).

Results

Knowledge gaps (based on level of awareness/non-awareness, expressed as percentages) among the students were identified in key areas related to innovation and entrepreneurship (Table 1).

Table 1: Students' Level of Awareness/Non-Awareness of Aspects of Innovation

Aspect of Innovation	Students' Level of Awareness (%)	Students' Level of Non-Awareness (%)
Knowledge and Technology Transfer	35	65
Intellectual Property Rights	45	55
Intellectual Property Evaluation	16	84
Intellectual Property Commercialization	11	89
Intellectual Property and Business Strategy	28	72
Use of Patent Databases for Technology Surveillance	18	82

Discussion and Conclusion

The results of the knowledge gaps survey provided evidentiary basis (high levels of non-awareness of key aspects of innovation) for targeted curricula and other interventions to address the identified gaps, so that UTech, Jamaica's graduates will have the capacity to develop innovative solutions to problems/address needs; effectively transfer knowledge to society; and use the intellectual property system for technology surveillance, as well as to inform entrepreneurial decisions. Accordingly, the outlines of existing courses have been revised and new ones developed that specifically 'plug' the areas of knowledge deficits that were unearthed by the survey. So, for example, the outline for the existing course 'Introduction to Intellectual Property Management,' was extensively revised.

In addition, workshops and seminars (for students and faculty members) aimed at "integrating innovation as a necessary basic into curricula" were conducted at the University. Topics covered in the workshops and seminars included: 'Transforming Novel Ideas into Business Assets'; 'The Innovation Imperative: Knowledge Transfer as a Key Driver of Innovation'; and 'Capturing Value from Research Results.' These workshops were held in collaboration with the Jamaica Intellectual Property Office (JIPO), The University of the West Indies (a partner on the CAP4INNO project), Bio-Tech R&D Institute, and the Planning Institute of Jamaica (PIOJ).

A definitive feature of Swiss cheese is the presence of holes in it. The knowledge gaps among students concerning key aspects of innovation that were unearthed by the survey reported on in this paper may be likened to the holes present in Swiss cheese. The critical knowledge gaps also betrayed misalignment with the 'Graduate Attributes Policy,' with specific reference to *innovation and entrepreneurship*. The results afforded UTech, Jamaica the opportunity, based on evidence, to take action to 'plug the gaps' in the curriculum. The results also underscore the importance of ensuring that, in designing curriculum, mapping to ensure alignment with intended outcomes, and periodic review after implementation are important considerations in the teaching and learning processes of HEIs.

As one of the country's leading Universities, UTech, Jamaica has a critical role to play in providing innovation-driven and technology-based solutions to clearly identified national challenges. One way for UTech, Jamaica to ensure that it does this is to continue to design and implement curricula that produce the entrepreneurial- and innovation-literate human capital (i.e., graduates that are 'fit-for-purpose') needed to drive Jamaica's innovation-centric sustainable development agenda. This approach is also recommended for other regional higher education institutions (HEIs).

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The Student Experience: Removing the Barriers

The Journal of Arts Science and Technology

Tracing our Graduates' Footprint

Improving Graduate Employability through Tracer Studies

KEREN WILSON
Planning Officer – Planning/Research Analyst
Campus Office of Planning and Institutional Research
The University of the West Indies, St. Augustine, Trinidad and Tobago

Abstract

The University of the West Indies, St. Augustine carries out a Graduate Tracer Study annually, seeking to assess graduate employability and evaluate the Institutions' capacity to prepare them for incorporation into the labour market. This paper analyses results of graduate tracers administered by the UWI from 2010 to 2015 in an effort towards advocating for and creating a foundation for refining university offerings towards the improvement and benefit of future student experience and graduate employability. This paper was developed by exploring research material on graduate employability and incorporates the synthesis of graduate tracer results in illuminating employability issues facing our graduates and the development of key strategies and recommendations that can be applied to future university offerings. It was found that average graduate employment ranged between 78% and 84% with the majority of graduates consistently being employed in the Public Sector. The relevance of the graduates' degree to their job was quite low in certain faculties with overall rating of degree relevance in 2015 being 59%. Areas recommended for curriculum development were subject-specific practical skills and the quality and delivery of subject material. Skills identified as most utilized by graduates were oral and written communication, team working, personal organization, time management and self–motivation. Recommendations made in this paper can be used to re-shape university programming and the student experience towards improving student preparedness for success in an increasingly competitive labour market. This paper seeks to bridge the gap between highly theoretical publications on graduate employability typically authored outside of the Caribbean context and the simplistic action of data collection of graduates' first destinations by providing avenues for the

Corresponding author: Keren Wilson: Keren.Wilson@sta.uwi.edu

practical application and implementation of recommendations that can have significant outcomes and impacts on student experience and graduate employability not just within The UWI St. Augustine but throughout the region.

Keywords: graduate employability, curriculum development, higher education, graduate skills, student experience.

Introduction

The economy of any country drives the capacity of its people, to adequately and effectively transpose the knowledge and skills acquired during their learning and development phase, into per capita income stimulating activities. An emerging trend in contemporary times is the requirement for skills to be dynamic and evolve within a realm of external investment, globalization and technological innovations. In order to become competitive and maintain pace with our ever changing ethos, persons need to acquire skills that would add to their productivity and enhance their ability to earn a living. Education is the key vehicle towards achieving this. Education can be viewed as one of the most important mechanisms for the empowerment of a population for their socio-economic, political and technological development. The environment for education incubation in higher education institutions must take cognizance of this view in structuring its academic programming. In an effort towards sustaining quality assurance of course programmes, tracer studies have become increasingly popular and important to higher education institutions wishing to meaningfully contribute to the overall development of its key stakeholders, the student.

Tracer studies are widely utilized as an approach to track and keep record of their students following graduation. Through these efforts, an institution enhances its ability to evaluate the quality of education provided to their graduates by observing the graduates' placement and position within society. The competent use of this information once collected, can be used as a benchmark to shape the quality and competitiveness of graduate output.

Over the years, The University of the West Indies has embarked on a number of Graduate Tracer Studies in an effort to provide a means for following up on graduates in order to observe how they have invested the education and training received while enrolled in an undergraduate programme. The study provides pertinent data on the relationship between higher education and graduate employment, career choices, development of related skill competencies, and information on graduate orientation and experience in the labour market.

The Graduate Tracer Study functions as an element of the quality assurance process by integrating diverse perspectives into the evaluation of its teaching and learning environment. This study represents an inclusive tool for incorporating graduates' point of view towards the creation of a sustainable learning environment for the continuous professional empowerment of its student population.

Employability, upon graduation and on a continuous basis following graduation, is perhaps, and understandably so, a major priority and key motivator for the majority of University students. From its origin, The UWI has continuously and increasingly offered a variety of higher education courses that equip students to enhance their employability. This is done through the heightening of their own awareness of their respective fields of study and by encouraging the translation of this awareness into practice. The central theme of The UWI has always been the creation of an open space for higher learning with an enduring perspective. This, viewed through the lens of equity of access, stages higher education as an opportunity for individual development, allowing those capable of benefitting from higher education to integrate better into the global knowledge society.

Results of surveys have confirmed that in general and in some specific instances, a first degree, though often viewed as a significant and necessary milestone in one's individual development, is not sufficient on its own to ensure gainful employability. Research suggests that the core transferable skills of the individual are also of major significance (Court, Jagger, and Morales 1995; Harvey, Moon, and Geall 1997). This realization, along with the introduction and transformation of many new tertiary education institutes and the steady increase the overall number of university graduates, has increased competition for employment opportunities for graduates. In response to this, many universities, including The University of the West Indies, have asserted their commitment to recognizing and providing for the development of such skills, necessary in enabling its students to successfully find employment. This has led to an increasing interest in examining graduate employability beyond simply their first destinations after employment. It leans towards the consideration of the graduates' perspective on their experience with transitioning from the academic environment into the world of work, skill requirements, their opinion on the teaching of these skills and the role of higher education in their future plans. This information is essential for examining the results of education and training of an institution and can therefore serve as a basis for future planning activities and the improvement of the educational experience.

Methodology

Theoretical Framework

The ability to provide gainful employment for a continually expanding population is perhaps, one of the greatest challenges a country faces. This, is particularly so in the developing world, where the population growth rate typically outstrips the rate of job creation. In Trinidad and Tobago, we observe a population rate that has been on a steady incline since crossing the one million mark in the mid-1970s (United Nations 2017). This paired with an upwardly mobile unemployment rate that has increased currently to 5.3% since experiencing a significant low of 4% at the close of 2016, echoes the importance of job creation and a skilled labour force that satisfies market demand (Trinidad and Tobago Unemployment rate 2018). Jobs created from both the public and private sector, not only provide employment opportunities to the labour force and endow them with increased purchasing power, but simultaneously, can be responsible for the multiplier effect, i.e., the increase in final income/government revenue, due to a new injection of government spending. In cases of high incidence of the employment rate tending towards full employment, the aggregate purchasing power of the labour force helps propel the economy towards a steady growth rate. This is done through increased production, consumerism and allocative efficiency of the country's resources. Additionally, from the social perspective, increases in productivity and employment can effectively cause a reduction in the crime rate, as declines in the crime rate can be due in part to the increase in the availability of legal employment opportunities (Raphael and Winter-Ebmer 2001).

The labour force, being made aware of these gains, that partly accrue to their interests, now have a moral obligation to ensure the continuous operation and development of the market since closure or contraction can negatively affect the labour force itself and by extension, the economy. This can be used as a partial justification for the continuously observed drive towards higher education and skills development. In this regard, tracer studies can provide the information necessary to contribute to higher educational reform to bring about an alignment between the requirements of the employment world and the endowments provided through higher education programming. Schomburg (2007) cautions though, that graduates may not in all cases, be able to identify the relationship between knowledge acquired during their academic career and their professional experience. Research goes further to note that findings in this field are only valuable if education planners can appropriately and effectively transform these results into concrete reforms. The

data collected for this study, in defiance of said warning, illustrate a graduate body that is well aware of what skills are expected of them currently in their professional lives and as such, lobby for these skills to be reinforced to a larger extent during their academic tenure. This has fed directly into the purpose of this research exercise, which was, to illuminate those challenges, due to skill deficiencies, faced by the graduate population upon their embarkation into the working world; and to recommend actions that can be implemented in the higher education environment to tailor University offerings, enhance student experience and improve graduate employability.

Research Design

The use of secondary data sources in research is by no means new. This approach has a multidisciplinary appeal with many academics from diverse fields of study, drawing on information previously collected and included in secondary sources (Daas and Beukenhorst 2012). To be explicit, secondary research involves the utilization of pre-existing data for a purpose that can differ from that for which they were originally intended. For the purpose of this paper, two out of the three core methods of secondary research will be employed – secondary analysis and systematic review. Secondary analysis describes the use of quantitative or qualitative data that were previously collected for a different purpose. Additionally, systematic analysis or meta-analysis investigates the output of other research concerning a similar phenomenon.

The available Graduate Tracer Survey Reports from the years 2010 to 2015 are reviewed and analysed using the above captioned methods to extract data. This data are used to illuminate what were the contributing and hindering factors to graduate employability from the perspective of the graduates themselves. Taking into consideration that not all of the data collected for the previous Tracer exercises may be relevant to this research, the data collection tools (questionnaires) used to collect the data for these reports will also be examined, with only data relating to relevant areas of interest collected, to ensure reliability, suitability and adequacy of the data. Key consideration is also given to certain limitations that may have had an effect on the data when it was originally collected. For instance, the use of an online survey technique limited the sample frame to only those who submitted email addresses. Additionally, the reliance on an email contact list, of which personal emails were used as a primary contact, would have provided some invalid addresses. This led to a number of surveys being returned and if alternate emails were not provided for these respondents, these graduates would not have been able

to participate in the study. Lastly, in the datasets used, the majority of Law graduates were not seeking work due to them pursuing further studies as it is a recognized trend that most students enrol to pursue the Legal Education Certificate after graduation. As such, Law graduates would have been excluded from certain labour outcome analyses at the faculty level.

This study sought to not only give a descriptive analysis of employment outcomes of graduates but also to take a more in-depth look at factors affecting these outcomes. As such, sex, faculty and economic industry were explored as independent variables affecting employment patterns after university. Dependent variables were explored descriptively and would also be linked to independent variables as mentioned above. The dependent variables explored were:

1. Employment outcomes – the absorption rate of graduates, the employment earnings, sectors of employment, the status of jobs obtained and whether these jobs are related to their area of study, job satisfaction levels, etc.
2. Further Studies – any academic, professional or technical study that students pursue after graduating from their first degree, whether postgraduate or not and the types of programmes and institutions enrolled in, the relationship to the first degree field and the proportion of graduates pursuing postgraduate studies or planning to do so in the near future.
3. Learning Outcomes and the World of Work – feedback from graduates on their experience at UWI and the preparation provided towards their professional and personal development and the extent to which The UWI experience enhances complementary skills/attributes that are required in the World of Work.

Sample

In each of the studied years, a survey was undertaken utilizing a contact list generated from the graduating class, with the sample frame consisting of all members from the first degree graduating class of that year with a valid email address listed. In an effort to optimize survey responses and account for challenges with slow/low response rate, a census approach was taken and the instrument was forwarded to all members of the sample frame rather than taking a sample. Sufficient data was collected for near 30 percent of those in receipt of the survey instrument for each of the studied years with the number of respondents gradually increasing each year.

Table 1: Details of Survey Respondents for Study Cohort Years

Description	2010	2012	2013	2014	2015
Sample Frame	1977	1983	2884	2917	2607
Received	1799	1755	2697	1667	2592
Respondents	477	433	597	740	769
Response Rate	26.5%	24.7%	22.1%	44.4%	29.7%

Findings: Experience since Graduation

Graduates' Status

Survey responses were analysed in an effort to determine the main activity that was being undertaken by graduates of the 2010, 2012, 2013, 2014 and 2015 cohorts. The results indicate that consistently across the studied years, the majority of UWI graduates were employed. The employment rate, however, exhibited a declining trend over the study years with 86 percent employment (including 3 percent self-employed), 8 percent unemployment and 9 percent not seeking work due to engagement in further studies; in 2010, and 79 percent employment (including 4 percent self-employed) and 21 percent unemployment for the 2015 cohort.

Further Studies/Training

The results illustrate that though a large proportion of graduates consistently exhibit a positive inclination towards pursuing further studies, this trend has also been decreasing over the studied period. For the 2010 cohort, 70 percent of respondents indicated having pursued or being currently in pursuit of further studies. These instances of further studies were either being pursued in the same field of their first degree or in a different field. This figure fell consistently until it recorded its lowest rate of 45 percent of respondents for the 2014 cohort before exhibiting a small increase to 52 percent for the following year. The most consistently popular qualification pursued by graduates after completion of their first degree was the Taught Masters (2010: 36%, 2012: 28%, 2013: 30%, 2014: 33%), with the option to pursue a second Bachelor's Degree or a Professional Qualification being the second most common choice, as can be seen in in Figure 1. A similar trend was observed for the 2015 cohort with regard to further studies and the popularity of the Taught Masters. However, it can be noted that, in addition to Professional

Qualifications and a second Bachelor's Degree being valid second choice options, respondents actively pursued Certificates, both at the undergraduate and postgraduate levels. This indicates perhaps, the intension of the graduate to strengthen their academic standing in an effort to become more competitive and attractive in the labour market as first degree enrolment continued to be an increasingly popular trend. When observing the trend of Further Studies by faculty, it should be noted that consistently across the relevant years, the Faculty of Law has demonstrated 100 percent participation in further studies, which confirms the typical practice that graduates of the LLB go on to pursue the Legal Education Certificate qualification before entering the job market. The Faculty of Humanities exhibited a decreasing trend in participation in Further Studies while other faculties experienced a relatively flat trend with minor fluctuations. Additionally, a Kruskal Wallis test was performed on the most recent dataset studied to evaluate if there was any relationship between the pursuit of further studies and income. Results, however, illustrate that there was no significant effect evident with cross-tabulations revealing a minute differential between both groups. They concluded that, though there were less graduates in the lower income categories that pursued further studies compared to those who did not and in the higher income categories, for every two persons who didn't complete further studies, three persons did (2:3 ratio).

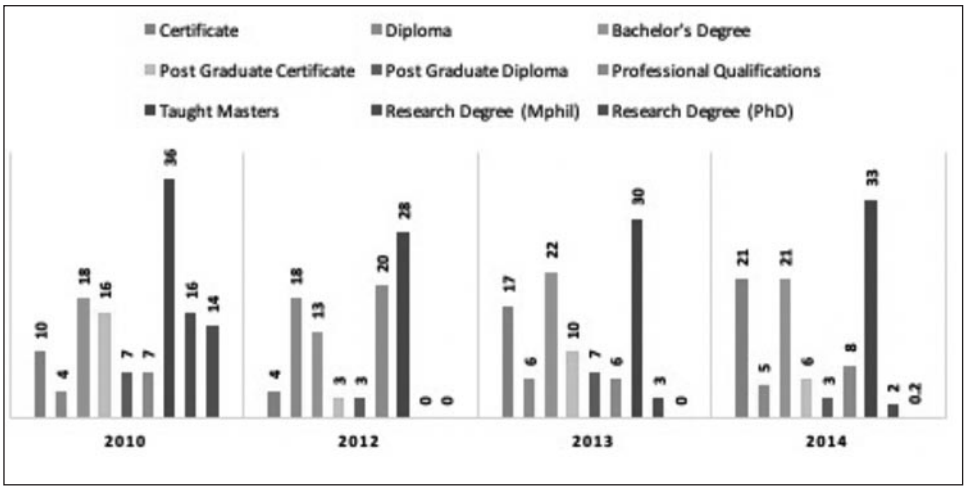

Figure 1: UWI STA Graduates Trends in Further Studies by year

Table 2: UWI STA Graduates Time Taken to find Employment by years

	2010	2012	2013	2014	2015
Months	8	5	6	5	4

Unemployment

Unemployment exhibited a steadily inclining trend among respondents for studied years, with the exception of a small decline between cohort 2013 and 2014, before increasing substantially to 21 percent in cohort 2015. Most respondents noted that they experienced unemployment at some point following graduation, a trend confirmed by Table 2 above. It should be noted that this increase in unemployment occurred while there was a simultaneous decrease in the average time taken by graduates to find a job. Specifically, for cohort 2015, the highest levels of unemployment were experienced and those who were employed at the time of survey administration, did so in an average shorter time than earlier cohorts, 4 months, as seen in Table 2 above.

When asked to reason for their unemployment (apart from the pursuit of further studies), a decline was evident in those graduates who responded that their experienced unemployment was due to a scarcity in employment opportunities, a decline from 63 percent in the 2010 cohort to 28 percent in the 2015 cohort. Additionally, the proportion of respondents who were unemployed due to their inability to access a job related to their field of study rose steadily until the 2015 cohort, where it experienced a decline from 31percent for the 2013 cohort to 16 percent. When examining the unemployment trend by Faculty, in the earlier years of the study period, the Faculties of Engineering and Science and Agriculture illustrated highest levels of unemployment. When the decision to decentralize the Faculty of Science and Agriculture into the Faculties of Science and Technology and Food and Agriculture, the trend of high unemployment persisted. The Faculty of Science and Technology had the highest unemployment in cohort 2013, while, Food and Agriculture had the highest unemployment in cohort 2014 and cohort 2015, where Science and Technology was a close second, as seen in Figure 2 below. Of note, was the significant increase of unemployment in the Faculty of Medical Sciences, even though experienced unemployment was consistently lowest. In all prior cohorts up to cohort 2014, the faculty experienced single digit unemployment. This jumped to 29 percent in the 2015 cohort. Consideration that participation of the Medical faculty in the survey has steadily increased in the 2015

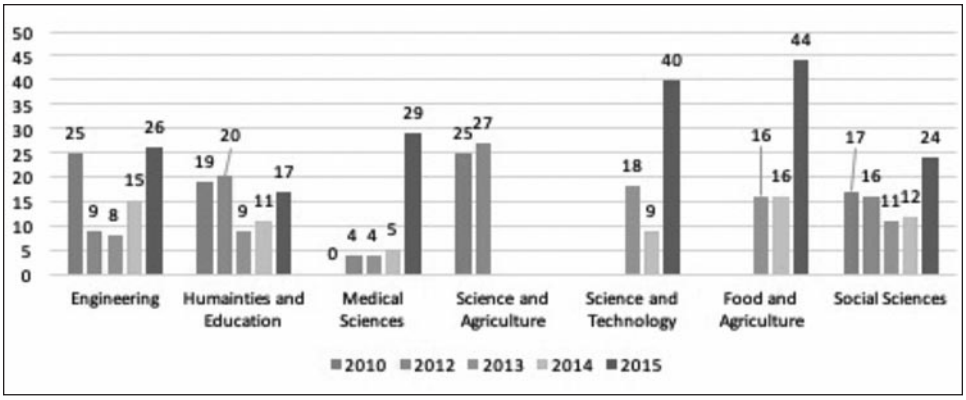

Figure 2: UWI STA Graduates Unemployment by Faculty

cohort compared to earlier years, could account for such a sharp increase being evident. However, any increase in unemployment in that faculty could be attributed to the over-saturation phenomenon being observed in that field. It should also be mentioned that the Faculty of Law was not represented in the analysis of unemployment trends as, consistently evidenced by data, 100 percent of Law graduates surveyed have gone on to pursue Further Studies, prior to seeking employment, in the form of the Legal Education Certificate.

Statistical tests revealed that age was the only tested variable found to have a statistically significant effect on Employment Status, with in depth review indicating that unemployment was more rampant in the 18–23 age category (80 respondents) and 24–29 age category (121 respondents) implying that experience was a valid contributor to employment and income.

Employment Outcomes

Consistently, across all studied cohorts, the majority of respondents (>70%) have indicated their being employed at the time of survey administration. It is also evident that though the majority continue to find employment, that rate is also declining with overall traditional employment falling from 83 percent in the 2010 cohort to 75 percent in the 2015 cohort. The rate of self-employment although, has been increasing since the 2012 cohort with the rate doubling between the 2014 cohort (2%) and the 2015 cohort (4%). The Faculties of Medical Sciences and Engineering typically have the highest employment rates with The Faculties of Social Science and Humanities and Education vying for third place ranking.

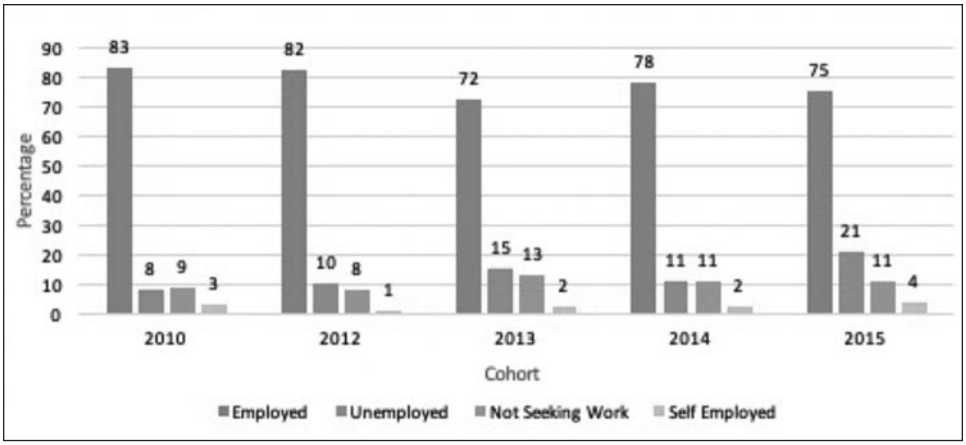

Figure 3: UWI STA Employment Rates by cohort

Type of Employment

Graduates in each cohort were asked to provide details of their job status, classification of their position and the nature of their employment. In the 2010 and 2012 cohorts, the majority (52% and 48% respectively), though not vast, were employed in full time positions. This trend changed from the 2013 cohort onwards where employment in contractual positions outstripped the alternative (2013= 60%, 2014= 61%, 2015= 57%). Part-time employment was lowest across all studies cohorts, not emerging above 5 percent. Traditionally, most graduates went on to be employed in the Public Sector, with a rate that was persistently above 50 percent and rose steadily to 60 percent in both cohorts 2014 and 2015. Private Sector absorption of graduates leveled between 34 and 37 percent for all cohort years with graduates making a minute dent into the Non-Government, Regional and International Organizations' labour markets, recorded as 2 percent, 1 percent and 1 percent respectively in the most recent of cohort years studied. The immense majority of graduates' jobs were classified as Professionals or Researcher Staff. This margin slimmed significantly in the 2014 cohort where results showed that 34 percent were classed as Professional/Research Staff, 29 percent classed as Technicians/Associate Professionals and 24 percent classes as Clerical/ Sales/Support/Service positions. There has however, been a notable shift in the Management and Armed Forces job classifications, where previously, no more than 4 percent of graduates found Management positions at the time of survey administration, 16 percent of graduates in the 2015 cohort were employed as such. For the Armed Forces classification, 4 percent of graduates in the 2015 cohort were

categorized under this classification, which is double its previously highest recorded participation rate for earlier cohorts. This shift in job classifications suggest the possible introduction of a trend in underemployment, where graduates gravitate to jobs based on availability and not necessarily relevance to their qualifications due to economic constraints and high levels of competition in the labour market.

Relevance of Degree to Employment

Graduates were asked to give feedback, utilizing a 4 point Likert scale for agreement, on the relevance of their degree and curriculum to their current position and the daily tasks that they were expected to execute. For the graduating cohorts between 2010 and 2014, graduates agreed that their first degree qualification was relevant to their current job description and that the skills they acquired from their first degree were utilized in their current job. This perception was maintained in the 2015 cohort where 59 percent of respondents, with no discernable differences across all faculties, felt that their degree was relevant to their current job and that their studied curriculum was also quite relevant.

Income

Analysis of graduates' gross domestic income showed that, steadily across all studies years, graduates for the Faculty of Medical Sciences, followed by graduates from the Faculty of Engineering consistently earned a higher salary than graduates from the other faculties. Median Salary dropped across all faculties from cohort 2010 to cohort 2012. Mean salary was found to be a reliable measure for cohorts 2013 and 2014 but a similar decreasing trend was evident in all faculties with the exception of the Faculties of Medical Sciences and Food and Agriculture where an increase in average salary occurred. In earlier cohorts, graduates from the Faculty of Science and Agriculture earned the least, later cohorts would show that graduates from the Faculty of Food and Agriculture were the lowest earners, earning a gross monthly income between $6000.00 and $7500.00. A look into the factors that may affect income revealed that the variables of Sex, Economic Activity and in some cases Sector of Employment had a statistically significant effect. Typically, graduates employed in the international organizations earned more than other graduates with those employed in the public sector earning the second highest. Male graduates typically earned more than females, with more males tending to earn between $7000.00 and $11,999.00 in cohort 2015 while more females earned less than $7000.00. Graduates employed in the areas of Health and Social Services, Energy and Energy based Services and Manufacturing/Construction Services earned more than those employed in other areas of economic activity. This cane as no surprise

since earlier revelations detailed that graduates from the Faculties of Medical Sciences and Engineering were the highest earners and these same graduates tend to dominate employment in these economic areas.

Learning Outcomes/Skills

This study also sought to analyse similarities and differences across studied cohorts of graduates' learning outcomes and skills gained while enrolled in their respective undergraduate programmes. For cohorts 2010 to 2014, the individual tracer surveys administered, evaluated graduates learning outcomes according to seven attributes that ranged from "Critical and Creative Thinking Skills' to 'Ethical Values'. The survey used for the 2015 cohort aimed to expand this list as requirements of graduates to be globally responsive continue to be dynamic, with the new expanded list of attributes being categorized under the headings of 'On-the-Job Skills' and 'Citizenship and Service Skills' (as seen in Table 3 below).

Table 3: Differences in Measured Learning Outcomes/Skills Attributes across Study Cohorts

Cohort 200–2014 Measured Attributes	Cohort 2015 Attributes
Critical and Creative Thinking Skills Effective Interpersonal Communication Skills Information Technology Skills Entrepreneurial Skills Globally aware & well-grounded in our Regional Identity Socially, culturally and environmentally responsible Ethical Values	**On-the-Job Skills** Information Technology Skills Productive Team-working Skills Effective Oral and Written Communication Skills Information interpretation and Research Skills Time Management Skills Knowledge Application Skills Entrepreneurial Skills Problem Solving Skills Critical and Creative Thinking Skills Responsive to Feedback **Citizenship and Service Skills** Knowledge of Major Regional and National Issues Sensitivity to issues of Ethnic and Cultural Diversity Commitment to making a Difference in the Community Understanding and Application of Moral Values and Ethical Standards

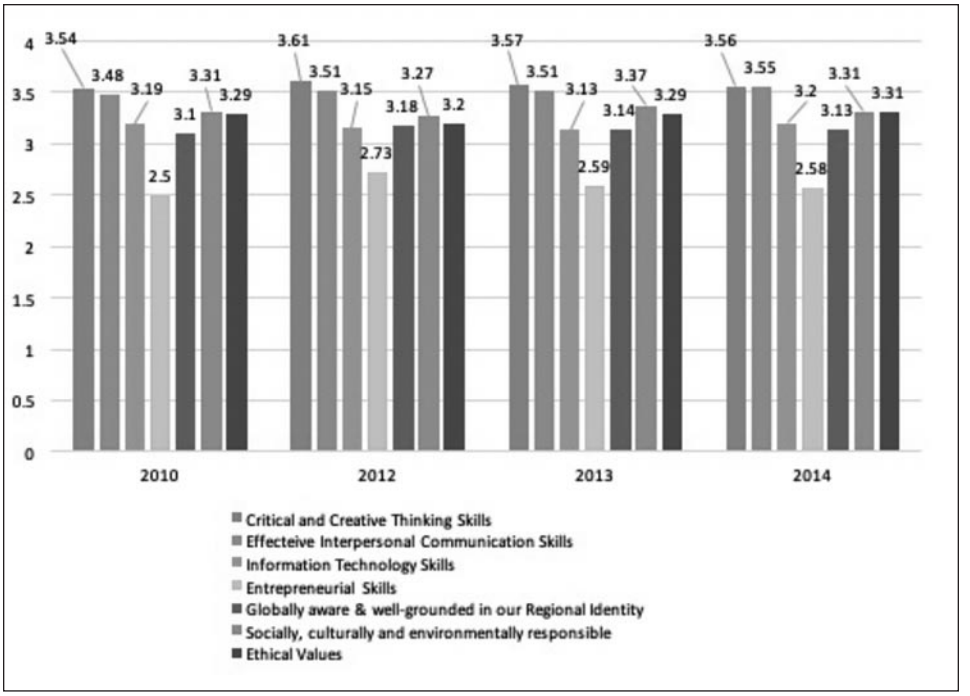

Figure 4: UWI STA Graduates Mean Rating on Learning Outcomes for cohorts 2010–2014

Respondents were asked to use a 4 Point Likert Scale, (1=None, 2=Low, 3=Moderate and 4= High) to evaluate the impact of their UWI degree on the listed areas.

For cohorts 2010-2014, Figure 4 shows that the majority of measured attributes across the years garnered a mean rating between 3 and 4, which suggested that The UWI, in their opinion, had Moderate to High impact on their Learning Outcomes/Skills. Consistently though, the attribute for 'Entrepreneurial Skills' fell below the 3 rating suggesting that there was low impact in that area. The attribute for 'Information Skills' also received ratings on the lower end of the 3 to 4 band, which also implies that this area was not only in danger of receiving a low rating, but was a cause for concern and in need of enhancement since information and technological skills are considered vital to thriving in the competitive landscape of the contemporary labour market.

The trend evident for earlier cohorts persisted in the 2015 cohort, with overall ratings for OJT Skills attributes actually declining. Most attributes' ratings hovered around a 3 or a 'Moderate' impact rating (see Figure 5). The rating for 'Entrepreneurial Skills' remained low lending closer towards a 2 or 'Low' rating, while the rating for 'Information Technology Skills' fell further below the

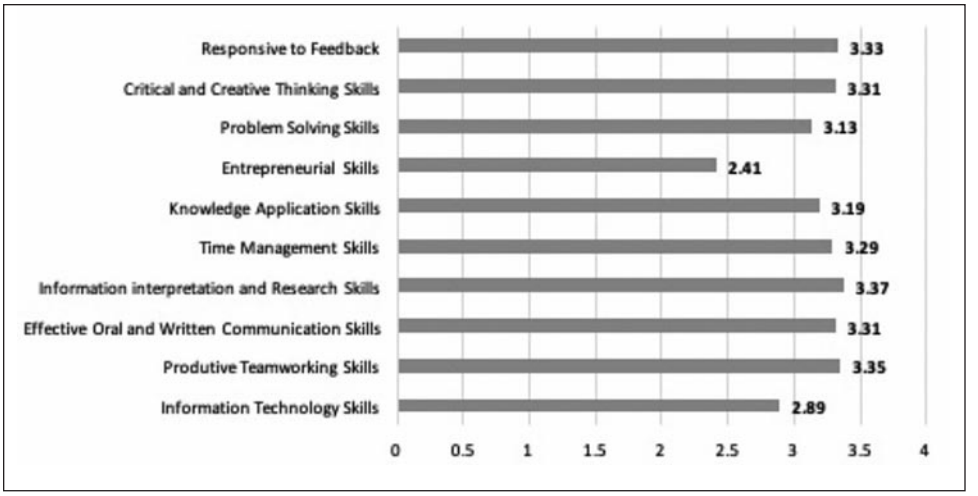

Figure 5: UWI STA Graduates Mean Rating on Learning Outcomes for OJT Skills in Cohort 2015

'Moderate' rating as predicted. Attributes for 'Information Interpretation' and 'Productive Team-working' received the highest ratings.

Regarding Citizenship and Service Skills, graduates' views were somewhat positive, with all attributes receiving an impact score that tended towards 'Moderate', as seen in Figure 6 below. However, more programmes geared towards enhancing these attributes should be incorporated into the curriculum as the holistic and global student has a more competitive advantage in the job market and scores relating to 'Knowledge of Major Regional and National Issues' revealed the lowest rating. It should be noted that, at the faculty level, graduates from the Faculties of Engineering and Science and Technology rendered the lowest ratings

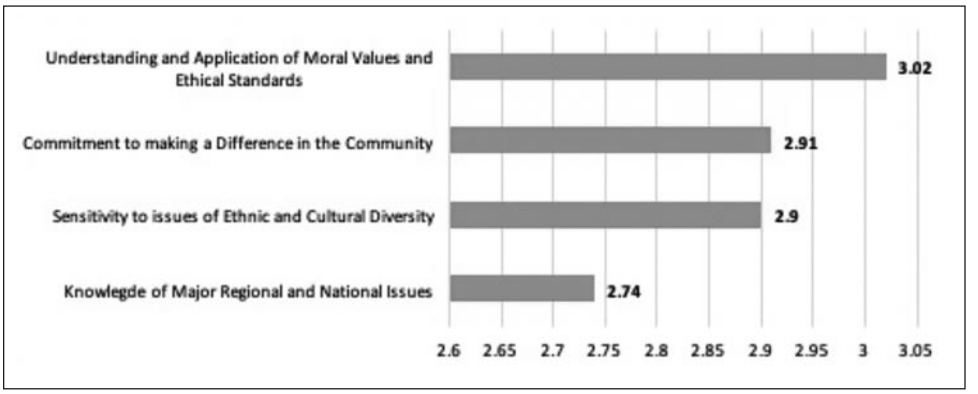

Figure 6: UWI STA Graduates Mean Rating on Learning Outcomes for Citizenship and Service Skills in Cohort 2015

in the overall area of Citizenship and Service, while graduates from the Humanities and Social Sciences, gave the highest ratings. With the emerging trend of major companies and corporations increasingly looking to commit to holistic community and national development, further development in certain key areas must be implemented. This would lead to the production of graduates that are not only academically inclined but socially conscious as well so that they can thrive in the ever-changing landscape of the global labour market.

Key skills in need of further development

Data from all cohorts suggest the presence of a particular trend in the interaction between employment and the skill endowment of graduates. For the 2015 cohort specifically, attributes for Academic Experience were rated using a 3-Point Likert Scale where 1=Poor, 2=Fair, 3=Good. As seen in Table 4 below, though scores tended towards 2, 'Availability of Practical Experience', 'Industry Relevance' and 'Opportunities for Interdisciplinary Learning' were areas that graduates felt were in need of improvement.

Table 4: UWI STA Graduates Mean Rating on Academic Experience in Cohort 2015

Attribute	Opportunities for Interdisciplinary Learning	Industry Relevance	Research Opportunities	Availability of Practical Experience/ Student Internships
Mean Rating	1.92	1.93	2.07	1.64

Additionally, graduate's qualitative opinions were garnered as to what additional efforts could be put in place to minimize the gap in Learning Outcomes and better prepare them for the World of Work. With overwhelming responses, graduates felt that the provision of more opportunities for practical experience was a major gap in the University's programming approach. It was felt that the curriculum should be one that emphasized not only the academic theory governing a particular field of study, but also afforded students sufficient opportunities to enhance their professional standing through the engagement in hands-on training in their field. Graduates also felt that though some opportunities were available in the public sector, income was typically lower than expected and there was no guarantee that the job was actually in the graduates' field of study, further confirming statistical trends cited above. With regard to private sector employment, the lack of practical

experience again, along with the need for more qualifications was a stumbling block. Graduates noted feeling rejected and displaced in the private sector as employers' demands exceeded their capacity. In general, graduates felt that a re-engineered curriculum and course structure that placed more emphasis on practical experience would be a key driving force towards minimizing the evident skills gap. Graduates also expressed that, creativity in both lecturer teaching styles and students responses should be encouraged so that their overall University experience could become more holistic and relevant in the global environment.

Conclusion

Though the majority of graduates over the studied cohorts were employed, the employment trend was consistently decreasing over the period with a minor but steady increase being evident in those graduates gravitating towards entrepreneurship. Unemployment steadily increased over the period with most graduates noting that they experienced some period of unemployment before obtaining a paid position. Though unemployment increased, the time taken to find employment across studied cohorts decreased. This potentially demonstrated that integration into the job market does take some time. However, given the declining state of the economy, the decrease in available positions and the difficulties faced in gaining employment in a related field, underemployment may be evident as graduates may be inclined to take unrelated, possibly lower income jobs rather than remain unemployed. This was also evident in the general decline in income levels of graduates and the increase in the proportion of graduates that were employed in Clerical/Sales/Support/Service positions as well as those employed in the Armed Services.

Graduates felt that there was a deficit in the provision of Practical skills, Entrepreneurial skills and to some extent, Information Technology and Citizenship and Service Skills. Particular emphasis was placed on the need to improve the provision of practical skills, as it was the general perception, that more experience in that area would better empower them to not only navigate the job market but make a significant impact.

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THE JOURNAL OF ARTS SCIENCE AND TECHNOLOGY

Higher Education Empowered Me:

Voices from Jamaican Nontraditional Students in Higher Education

MARSHA BLACK-CHEN
Senior Lecturer, Department of Social Sciences
The Mico University College, Jamaica, West Indies
marsha.chen@themico.edu.jm

Abstract

The last two decades have seen a dramatic increase in continuing education enrollment among nontraditional students, both in Jamaica and overseas. This paper contributes to the gap in knowledge by exploring the academic experience of Jamaican nontraditional female students returning to college, placing emphasis on support services within the higher education institutions attended, and on these women's successes, challenges and strategies for successful academic and social integration into the higher education environment. The study consisted of twenty participants, and was guided by three research questions, using a narrative inquiry and a feminist approach to research to provide findings related to the study. Findings indicate a value for education, and academic accomplishment, but they faced challenges upon returning and integrating into their higher education institution environment, such as physical and psychological pressures, family obligations, and financial difficulties. This research provides information to the various higher education institutions, policy makers, and practitioners, but more importantly, it is an attempt to highlight how higher education empowered these nontraditional students, while understanding the efficacy of this student population. The responses hold significant implications for future research involving female nontraditional/part-time students. Recommendations for future study include institutions offering financial options, such as a payment plan, and changes in policy in terms of extending the hours of operation and the teaching style and availability of the academic staff, as returning adults are more discriminating in their educational experience.

Keywords: academic experience, Caribbean, higher education, Jamaica, nontraditional students

Corresponding author: Marsha Black-Chen: marsha.chen@themico.edu.jm

Introduction

The most obvious characteristic about Jamaican schools is that they are diverse and multi-layered – elementary/primary, secondary, and tertiary/higher education, and these schools were established during different historical periods (Evans 2001). As the education evolved, policy has impacted how higher education in Jamaica operates, and as Evans and Burke (2006) posit, the University Council of Jamaica (UCJ) was established in 1987 to create a structure within each higher education institution by doing quality assurance and accreditation, and as such, the structure of the higher education system has now changed. This change has widened the opportunity for higher education institutions to offer post-secondary education, which has impacted recruitment and retention. Senior (1991) posits that since the 1960s, there has been an increase in equality of educational opportunities between sexes, and Caribbean girls have taken full advantage of this. The true status of Caribbean women's education is that women dominate the higher levels of the education system across the region in terms of participation and performance (Bailey 2003). One such group is the nontraditional student, and specifically women, who have made use of opportunities to return to school.

The nontraditional students in this study are acknowledged as part-time/evening college students, since Jamaican scholars have not formally begun to address them as nontraditional, as they would be in other parts of the world, such as North America. Other researchers have examined women and the family or simply described barriers for women in the Caribbean, e.g., the Marriott-Mayhew Commission of 1993 that strongly recommended the appointment of women to every board of education in the islands visited (Mayers 1995), or the experience of mature women in higher education (Gordon-Stair and Johnson 2004). This study examined what facilitates nontraditional/part-time/evening college women's success by illuminating their academic experience. Emphasis was placed on their reasons for returning; the support they receive from family; support service within the institution they attend; their successes, challenges and barriers; and their strategies for successful academic and social integration into the institutional environment. The following research questions guided the study: How do nontraditional female students describe their academic experience in higher education? What challenges do nontraditional female students identify when they return to college? What type of support do nontraditional female students identify as receiving throughout their academic experience from their higher education institution?

Literature Review

Researchers have grappled with defining the term nontraditional students, given the breath and volume of students included in this population. While Schuetze (2000) aptly distinguished between the traditional and the nontraditional student from a North American perspective, the Anglophone Caribbean has identified the same new group of students who are on the increase, as mature and over the age of 30 (Roberts 2003). The profile of these new students can be characterized as those who are noticeably older, study part-time, work full-time, are married or divorced with children, and have more responsibility than the average younger college student. Such profiles could inform and expand the current construction of nontraditional female students of whom are more mature women pursuing higher education in the Caribbean.

Caribbean Women Pursuing Higher Education Degrees

Bailey (2003) uses the reversal of Stromquist's (1990) explanation of inferiority theory, which can be applied to the Caribbean society because of the widely held view that women are the inferior sex, and that they have had to obtain more education and competence than men to compete on equal footing. In light of this, the UN Economic Commission for Latin America and the Caribbean (ECLAC 2010) confirmed that women needed to have more years for schooling than men to compete for similar levels of remuneration in the labour force. Individuals in these societies are socialized to believe that men need less education than women to succeed in society. Such a line of inquiry could inform and expand arguments put forward by researchers on the education status of Caribbean women, and more importantly, Jamaican women's status in higher education.

The UN Economic Commission for Latin America and the Caribbean (UNECLAC 2010) study divulges critical information about the realities of Caribbean women, indicating that in higher education women easily exceed men in terms of the percentage of graduates in some parts of the Caribbean. For example, in 1994, 10.5% of young women and 9.6% of young men had at least 13 years of education. By 2007, the equivalent figures had risen to 17% for women and 13.4% for men. These figures indicate that women tend to stay in school longer in order to have higher qualification than men and be on equal footing. According to the UNECLAC (2015), the trend of higher education enrollment continues for all countries in the Caribbean, with enrollment ratio of 1.279 in Trinidad and Tobago (in 2005) to 2.523 in Guyana indicating that more than two women are

present in tertiary education for every man. Furthermore, Charles and Stuart (2011) stated that at The University of the West Indies (UWI), there are twice as many females enrolled compared to males in an increasing gap in female to male enrollment since the 1940s (as cited in UNECLAC 2015). However, it should be noted that in Jamaica, as the education system evolved, women are not explicitly discriminated against at any level of the educational system, and this may be an impetus for empowerment, evolution and progression.

Evolution and Progression

Jamaica's educational system has evolved from efforts to serve the needs of the island's diverse population. Hamilton and Leo-Rhynie (1984) state that there is a hierarchy that reflects the economic and cultural disparities existing within the Jamaican society, and which may lead to one group not progressing as well as the other. However, the situation in the wider Caribbean is that women are seen to be the dominant participants in this region, especially in higher education, and Jamaica's situation is by no means different. Women in Jamaica are seen as the dominant sex in terms of high enrollment in education, and the legacy of the history for contemporary Caribbean education as indicated by Miller (1992) is that "there are high rates of participation and levels of achievement by women and girls" (26). Equally important is that the education system in the Caribbean for the past 50 years at least, the opportunities for social mobility have increasingly favoured women, resulting in a growing interactive effect between gender and social class (1992). In examining education from a gender-role stereotype, education is seen as a key to woman's empowerment, and Caribbean women display a keen awareness of the potential value of education (Senior 1991). Therefore, it can be concluded that education has now become a door into the 21st century, and a means of achieving social mobility for many women.

Method

Since this study examined the participants' academic experience in higher education in Jamaica, an emerging qualitative approach to research was chosen (Creswell 2008). The collection of data was done in a natural setting, and semi-structured interviews were used to glean information from 20 female students from five higher education institutions in Kingston, Jamaica. Narratives were used, as there was a need to "organize and explain, to decipher and illuminate" (Packer 2011, 103).

Open-ended semi-structured interviews were used to collect data, and participants selected were based on a snowball selection (Mason 1996). Pseudonyms were used to maintain confidentiality, as participants were asked questions concerning their academic experience in higher education. The interviews were transcribed and analysed, as transcription laid the foundation for more in-depth analytic work (Saldana 2011). I also made complex decisions about the orthography of the written language, such as spelling and punctuation, to achieve better understanding of the interview and the experiences shared by the participants.

Findings and Discussion

This study provides an understanding of the academic experience of Jamaican nontraditional female students in higher education. The following major findings emerged: value for education, academic accomplishment, physical and psychological pressures, family obligations, financial difficulties, infrastructure, and faculty support. An important outcome of this study was how nontraditional female students described their academic experience and how they were able to prioritize the value of their education in terms of personal development.

Value for Education

Caribbean women value education because education allows for upward social mobility. Roberts (2003) states that prior to the 1960s, the Caribbean saw students enrolled in university education as being young males who were similar in academic preparation and social background, but currently, many students are much older. Tittle and Denker (1980) state that, a nontraditional woman's goal is to prepare for employment, and central to this was how the participants in describing their academic experience, articulated how much they valued their education as returning to school prepared for them for employment. Ren expressed that her academic experience had been great and said, "The knowledge I have gained has been phenomenal, and I have been applying it, such as making inference and judgments while reading, so I am not limited in scope."

Appreciating the courses they were enrolled in impacted their value for education. As Kearol reconstructed her experience, she said, "I did a speech course, and I must say I feel very proud of myself that I have overcome pronouncing letters." Another participant Cady, found technology to be an important tool in education, and utilizing technology in her classes played a major role in how she valued her education, as she said, "I have learned that technology is very

important…but they encourage us to use it and use PowerPoint… make videos… so it is not just chalk and talk." These nontraditional students were constantly learning their own value for the education system that proved to be the medium for their empowerment.

Academic Accomplishment

Although the participants academic experience showed that they valued their education, they were also able to highlight their academic accomplishments. For example, Kee mentioned that as a teacher in training, she felt accomplished having received a scholarship, "I received a government scholarship, which helped me for the past two years, the CSJP, which I am very thankful for as they gave me $165, 000 (JA) . . . as long as I maintained A's and B's." Pat's academic experience has also allowed her to reflect on her academic life, and says, "I have grown as a teacher and the program has helped me to think differently as opposed to when I just started, especially as it relates to my pedagogical skills." So for some of these women, maintaining good grades and enhancing their pedagogical skills, were all a part of their successful academic experience. And as Kabeer (2005) notes, access to education can bring about changes in the cognitive development ability of women as they act on conditions of their lives and gain access to knowledge.

Furthermore, the knowledge these women have gained from formal schooling has shaped their experiences, and according to Baumgartner and Merriam (2000), the journeys that women take allow for the formation of new identities. For many of the participants, their academic accomplishment has allowed them to form new identities. Tash stated that her academic experience has impacted her life as she stated that, "It has impacted my life as it makes me feel more mature, and I have a sense of self-worth and independence as a woman." Roch, who has missed a couple of classes because she was not working and could not afford to travel to attend classes, reminisced on her experience, and said,

> When I got my exam results, it was rewarding as I got some A's and B's, so again it makes you feel good and then you can go and look back at some things you have been thorough and it empowers you.

The academic experience of these women showed how much they valued their education, as well as a sense of academic accomplishment. In short, the impact higher education has had on these women, also allowed their viewpoints to be changed, which gave them a positive outlook on life.

Physical and Psychological Pressures

Adult learners are thought to have special needs when they return to college, but nontraditional women have unique circumstances that can make earning a college degree more challenging. Some of the physical challenges these women encountered were being tired from their daily travels to and from school, having hectic schedules, and being late for classes. Psychological challenges included mixed reactions from their decision to return, feeling overwhelmed, and trying to balance work and school.

Kerka (1989) stated that adults need the required services when they return to school in order to manage because of psychological influences including: coping skills; self-confidence and image; and anxiety about schooling because of previous experience and beliefs. Physically and psychologically, it was challenging for Kearol as she expressed, "Wow! Hectic… you are tired and you just want to rest." She further mentioned that, "emotionally it was challenging too, because leaving work and going to school, sometimes you would be hungry and some lecturers would not allow you to eat in their class." Roch related her experience and the physical challenges she encountered, and how being at a shift school impacted her daily travels:

> I have to leave my house by 4:30am in the mornings to go to work now because I am on the morning shift, and then leave at 12:00pm for school for my 5:00pm class, and then I will reach home by 10:00pm in the nights.

She felt that returning to school was physically exhausting. Another female, Tryph, stated that her schedule was hectic, as she says, "leaving school at 8:00pm at nights when I was really tired and then preparing for work the next day was challenging." Cady who is enrolled in a Masters programme recounted her experience, as for her returning to school was hectic, and as a full-time student, adapting to the schedule on a given day was important for her academic success.

> [Laughter] A Typical day, we have a series of classes from 8:00am-4:00pm with a one-hour break each day, so you may have two classes each day or you may have a number of classes like three days in a row, so it varies and more so, it depends on what the class entails. Sometimes we sit and we take notes in the lecture, and other days we do presentations for the session.

Consequently, as working adults who have returned to school, a lot of time is spent preparing for classes, and for some adult learners, there is a need to do much better now than before, hence balancing work and school can prove to be

challenging. Substantiating such claims, Bennett, Evans, and Riedle (2007) made reference to Eppler and Harju who found that these learning goal-oriented nontraditional students spent more time studying and more hours in paid employment than their traditional counterparts. Similar to Bennett et al.'s (2007) findings, these women were goal-oriented regardless of the physical challenges they encountered.

Many participants found examinations a challenge, because they did not believe that at their age and the level at which they were studying, they should be doing exams. So for some of the participants, the psychological pressures of taking examinations was a challenge. Trish was one such participant and stated: "As adult learners, we tend not to like exams," but said, "my most challenging academic experience to date has been completing my research paper." Kim also mentioned that, "Most challenging thus far for me has been the research paper." Jass mentioned that there were times when she felt overwhelmed: "It is a lot of reading, and in fact many people who are doing my job have opted to work part-time, because it takes up so much time, so that is one challenge." Likewise Pat said:

> One of the challenges I found with the program was that there was a lot of action research and I did not like that, as it had to be carried out at your work place and getting the cooperation from persons at your workplace is one of the most difficult things to do, as no one has time for that especially if it does not concern them, and more so, if there is no financial gain.

When the status of the nontraditional students was examined, Beckles, Perry, and Whiteley (2002) mentioned that, in the Caribbean, the return of larger numbers of mature students to higher education institutions created challenges for the University of the West Indies. These students were primarily professionals and were seen to be more discriminating and not easily satisfied with the quality of teaching and learning. And as such, for many participants, the physical challenges of returning to school, coupled with their unique expectations, proved that they could still be successful regardless of their academic challenges.

Family Obligations

Many of these women experienced other challenges such as family obligations, which were integrated into their existing roles as students, and expressed similar sentiments as stated by Raj (2008) and Silverman, Aliabadi and Stiles (2009). Tash expressed that as a single mom, she has had some family support, but said that for her to be successful academically, she had to divide her time between her daughter's education and her own:

> My mom helps, but being a single parent and going to school and coming home in the nights, my daughter is up waiting on me to review homework… Having to study for my final exams, while my daughter has her end of term exams, and I am studying, breaking to help her and get back to my schoolwork has been challenging.

Kee also expressed that as a single mom, working and going to school with two children was difficult for her, but she persisted. Levin (2007) informs us that research and policy studies that address nontraditional students in higher education draw on the trait framework in defining nontraditional students, and one such trait is family relations. The trait framework therefore is relevant, and for some of these women some of these women balancing family time and studying proved challenging, however, having the support of family was important for their success.

Financial Difficulties

Levin (2007) identified nontraditional students as those over 24 years of age, and they are better understood as disadvantaged because there is more sophisticated understanding of the population. The disadvantage he sees is tied to economic status, but also includes social, linguistic, and cultural backgrounds and conditions, as well as physical and mental functioning. Kee stated that her most challenging educational experience was financial, "Getting a loan was challenging, and based on the amount I had to repay, my salary was not enough, so I had to borrow money from family members to pay my tuition." Kay also recounted her experience, and said, "Financially, I remember even in my final year when I was ready to do my exams, I could not find the other half of the school fee, and that was very stressful for me, but eventually I was able to sit my exams."

The dynamics of returning to school and having support was important for these women. Many were faced with the reality of taking on multiple roles when they decided to return to school to further their education. However, when Levin (2007) trait framework is examined, the nontraditional student who draws on such a trait does experience some amount of success, and many of these women believed that if there were to experience academic success, they would need the assistance of their family.

Infrastructure

Most participants expressed disappointment, as they thought that their higher education institution catered mostly to the traditional-aged or day full-time

students. Since these nontraditional female students attend college part-time, meeting after class would be an ideal time to complete group work. For some students, this was not a positive experience since their school's policy did not really accommodate the part-time students' schedule. As Ann recalled, "I noticed the college has been cutting back on the use of electricity. As it pertains to security, I was pounced upon one Sunday and robbed at knife point." She further explained that she chased the robber even though she knew it was a dangerous act. As she related the story to the Sister at the school, she was asked by Sister, "Why did you do that?" and she said she replied, "But I don't have any more money!" As she recounted the incident and smiled, she said, "So incidents like that, I believe they need to improve on." The success of nontraditional students is also dependent on the infrastructure that is in place at their higher education institution. Many expect to find basic facilities such as computer labs, library, and copying services available to them, even though their schedules are different from the traditional student. When these services are not adequately available, it poses a challenge, and so they believe higher education institutions need to ensure infrastructure is in place.

Faculty Support

Although the participants encountered many challenges, they were able to show how they overcame these challenges and were successful. As many of these women looked forward to continuing their education, they also anticipated more flexibility from their institution, especially faculty support. Silverman, Aliabadi, and Stiles (2009) state that "not only are student-faculty relationships important, but also participating in enriching educational experiences such as, research programs" (227). Cady commended her institution and had high praise for her lecturers when she was asked about the types of support systems available. She explained, "Our Lecturers, we can see them physically, in and out of the office face-to-face, and online… there have been times when we were allowed to borrow their personal text." Trish also revealed that her lecturers were supportive and were available. Ren expressed similar sentiments and said, "Well the lecturers themselves were open to us in that, we can go to them if we needed clarification." This type of student-faculty relationship was important for student success.

Faculty support is important for student's academic success, and another type of academic support is mentoring. According to Chrisler and Rose (2010), mentoring young women aids in fulfilling their potential, emphasizing that mentoring is very significant to the personal and professional development of undergraduates and may be especially important to women students. A few

participants highlighted the importance of this, and as Sher stated: "Some of our lecturers are very supportive, as we can talk to them and they are willing to help and give advice." Another participant Cady, also explained that she was not expecting so much from her lecturers and stated, "I didn't know they would be so involved, like we can talk to them about anything . . . and they will advise us on matters that will help us manage our time better." The assessment therefore is that adult learners do appreciate the support they receive from their faculty, and according to Schlossberg, Lynch, and Chickering (1989), the criteria for measuring effectiveness are ensuring that a system of services and programs are flexible and responsive to the needs of all learners. It is therefore imperative that administrators, faculty, and student development professionals make every effort to offer the support that make the difference to nontraditional students, especially women who bring with them a myriad of challenges to the classroom, but who are making strides in higher education regardless of the challenges they encounter.

Conclusion

The participants in this study described their academic experience in higher education, and the many challenges they encountered on their path to success. An important direction for further research is that it is done simultaneously with males, as well as exploring other Caribbean territories. Nontraditional/part-time students, especially women, have multiple roles and divergent life patterns, and are faced with many challenges when they decide to pursue further studies. Higher education institutions must recognize the importance of flexibility when examining their policies in relation to students who attend part-time and to the support systems in place to accommodate them. Nontraditional is the formal term used to describe students over the age of 25 years old who have returned to school after a hiatus. The changing demographics of higher education in Jamaica will require colleges to keep up with and understand terminologies used in other countries to describe students who return to college to further their studies. Higher education institutions in Jamaica will need to explore new and more innovative ways to cater to their needs if they want to function efficiently in this globalized world, as off-shore universities will capitalize on opportunities missed by Caribbean higher education institutions.

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Achieving Inclusion in the Tertiary Setting Through Blended Admissions and Teaching The '<u>SIMPLE</u>' Strategy

ZUWENA WILLIAMS-PAUL
The University of the West Indies
PT Lecturer, adjunct faculty

Abstract

This longitudinal study employed a quantitative methodology and a survey, quasi-experimental research design whereby, the Locus of Control Orientation of first Year Undergraduate students was determined. One sample of those who scored as Externals at Time 1 (at the beginning of the semester), was taught the '<u>SIMPLE</u>' strategy (Internality instruction) and another sample of Externals was not treated. Both the Control and Treatment groups of Externals were re-tested at the end of the semester at Time 2, and similar to previous research, the mean Locus of Control (LoC) scores of the treatment group had desirably reduced from a mean score of 18.29 to 14.33. This research thus advances that Blended Admissions and teaching the <u>SIMPLE</u>' strategy is one strategic way to achieve inclusion of at –risk, high-needs groups, including Externals, at the tertiary level.

Keywords*:* Inclusion, Tertiary, At-risk, Locus of Control (LoC), <u>SIMPLE</u> strategy

Introduction

It is imperative that leaders at Tertiary Institutions understand and appreciate, that their institutional and obligatory commitment to student stakeholders must trigger on entry and be sustained throughout their sojourn. The University of the West Indies (The UWI) is one premier institution which will surely benefit from such a proactive approach particularly, considering its strategic vision. The strategy

Corresponding author: Zuwena Williams-Paul: zuwenaw@gmail.com

outlined in its 2018-2022 Triple 'A' Strategic Plan to achieve its 'increased Access' goal, stated that the target is to enrol 65,000 students by 2020 across all campuses and colleges of The UWI (UWI, n.d.). While this increased access impetus is credible as it is in keeping with Education for All (EFA), equity and disbanding barriers to educate underprivileged groups, one sure implication among many others, is an increase in the diversity spectrum across all incoming student cohorts which may present simultaneous challenges.

Moreover, Kassim, Dass and Best (2015, xviii) in speaking about past initiatives to address "equity issues via enhanced access", indicated that "such increase has largely not led to an equivalent decrease in inequality [due to] access and completion remaining dependent on other socioeconomic factors which favour the middle class and those aspiring to it" (xviii). They further stated that "universities will need to introduce or scale-up the efficiency and effectiveness of products and services" if they are to attend to the needs of a "more diverse student population".

There is thus no better time, as a proactive measure, for The UWI to strategically prepare for, and mitigate against any challenges and/or implications of such impending realities as demonstrative of its obligatory efforts to remove student barriers. One proactive measure entails determining on entry, the general attributions of incoming cohorts of students through Blended Admissions which can be administered by a student Early Alert Programme (EAP).

Statement of the Problem

Being accepted into The UWI is such a rewarding experience for many especially those groups who "must have had to surmount a multitude of obstacles" (Finn and Rock 1997, 221). However, the social and academic conditions of The UWI must proactively cater for the needs of these groups as their resilience which brought them to this level may not necessarily be sufficient to help them manoeuvre and sojourn through The UWI terrain where the expectation is self-sufficiency and intrinsic motivation, both of which are required at this new tertiary level; a much more advanced level than ever expected before.

Resilience, as stated by Windle (2002),"is the ability to successfully adapt to life circumstances when faced with social disadvantage and highly adverse situations" (as quoted in Finn and Rock 1997, 222) and it may involve continuous adaptations to various confronting situations in different contexts.

In other words, The UWI must provide an ethos of "equality of condition" which, according to Lynch and Baker (2005, 2), is "about aligning people's 'real options', by *equal enabling and empowerment* of these individuals". In the tertiary

education context, the delivery of needs-specific student support services is an appropriate manifestation of the commitment to such a mandate and releases a great deal of 'adaptation' responsibility on the students whose resilience up to this point could be weighing quite heavily on them.

According to Merton (1938), the frustration and strain felt by these students will be expressed as feelings of helplessness, deviant unsanctioned behaviour and attitudes, as responses to these conditions which are meted out to them. Merton, however, was careful to point out that expressions of deviance are relative, meaning that not every student or individual exposed to such conditions will respond similarly. His deviance typology accounts for this person to person variation.

In the egalitarian equality context social deviance may be considered to be a social construct which is unjustly characterized, labelled and stereotyped when in fact it may have been perpetuated and reproduced by conditions of exclusion and persistent inequalities that were perpetuated as one means to seek to control the disadvantaged and sustain their suffering and prejudiced experiences with no regard for remedying the true causes of such inequalities which are evident and produced within the social structure itself.

Background

Universities, among other roles, are charged with the overall responsibility of ensuring that students generally feel fully included, that is, that they "are able to fully participate in school life and achieve desired outcomes from their education experiences" (UNESCO 2009, 6). In contributing to the global mandate of Education for All (EFA), institutions of learning thus need to refine inputs, processes and environments in an effort to support the entire holistic learning experience of the learner; an experience which should initiate on entry into the UWI system.

This research endeavour advances that one way of achieving this is by instituting a Blended (cognitive and non-cognitive) Admissions system whereby, in addition to cognitive potential/academic profiling and as a proactive measure, the attributions of students should be determined so that those found to be characteristic of maladjusted attributions can be flagged on entry as high needs/at-risk and, be in line to have immediate and consistent student support services meted out to them, in keeping with the administration of '*Early Alert*' initiatives.

Such an approach as this study has revealed is not only strategically proactive but is characteristic of inclusion which the UNESCO (2005, 16) stated is a moral imperative and which ensures that those groups of learners most at risk for

underachievement, marginalisation and exclusion, can have an equal opportunity to access the education system and participate and achieve within it.

Efforts, therefore, by The UWI to enhance the student learning experience and promote academic achievement must too, be informed by, and sensitive to, the diverse social and psychological challenges of its student population. As such, the strategic planning process of any university must also consider the importance of understanding the personality characteristics and challenges of its prospective, current and graduate student population as an inclusive approach and of ensuring the realization of holistic measures intended to benefit its student population as well as to inform new policies and restructure existing ones.

Most significant too, and as mentioned earlier, is the widened access initiative being proposed by The UWI whereby, enrolment will further increase, thereby signalling the pertinence of ensuring that all admissions and student support approaches include preventative innovations and initiatives which ideologically, theoretically and practically should originate during recruitment, and on entry to The UWI system, as well as persist as students sojourn, which can all be honoured by an EAP which facilitates Blended Admissions.

Notwithstanding the benefits of widened access, including, but not limited to, increased student numbers and diverse student populations (McPhee and McEntee 2014); increased potential to produce a greater number of graduates who can actively participate in a democratic society further to a direct core function of being educated (Baum, Ma and Payea 2010 and Ma, Pender, and Welch 2016); increased opportunity for less affluent individuals and groups to access higher education and achieve social mobility (McPhee and McEntee 2014); fulfilment of a high priority development agenda and nation building (Hanushek and Wößmann 2007) as well as increased contribution to gross domestic product (GDP) (Islam, Wadud and Islam 2007; Lucas 1988), there are relatable outcomes that may be undesirable if allowed to go unchecked.

In this study, such an approach was investigated in that, of a population three hundred and thirty-four (334) new undergraduate students from the Faculty of Social Sciences (FSS), 108 scored as Externals (having scores within the range of 16–40 on the Norwicki and Duke, 1974 generalized expectancy LoC scale) and only 55 gave consent to continue on to form a Control and Treatment group. Sixteen (16–4.8%) students from this sample only were found to be of an Internal Orientation having scored between 0 and 6. The Treatment Group was taught the **SIMPLE** Strategy 'Internality' Instruction (Figure 1). At the end of the fist semester, both the Treatment and Control Groups were retested (C: n_2=25 and T: n_2=24.

Research Objectives

The aim of this research was to:

1. Determine the Locus of Control Orientation of first year undergraduate students in keeping with a Blended admissions approach
2. Teach the SIMPLE Strategy (teach Internality) to a sample of those students found to have an External Locus of Control Orientation as a means to mitigate their degree and level of ad-riskedness
3. Re-Test these students at the end of the semester to determine whether the Instruction was effective in changing the LoC score/orientation of Externals in keeping with the intent to help Externals achieve Inclusion in their new-found tertiary setting

Literature Review

Locus of Control (LoC)

Rotter (1966), who developed the term 'Locus of Control' from Seeman's (1959) concept of Alienation (Mirowsky and Ross 2003, 173 and Ross and Mirowsky 2006, 424), believed like Seeman that Externality (eLoC) is related to powerlessness. Powerlessness, which is the major form of subjective alienation (Seeman 1959) is conceptualised as a student's perception/belief that s/he does not have the personal power/ means/ or own the resources /possess the individual ability to achieve his/her goals or influence situations or outcomes (Landrum 2010, 244; Rotter 1966).

Most significantly, Newman (1981) proffered that Externals (***'eLoC'***- Having an external LoC Orientation), are more than likely, symptomatic of such perceptions, as well as of not having personal control in learning. Such an orientation is thus troubling and should be proactively detected on entry as the first step in a series of intervention initiatives, to be meted out to students, as a means to reduce 'at-riskedness' for underachievement and other challenges.

Achieving Inclusion in Tertiary Education through Blended admissions processes and resulting implications for quality and Best Practice student support services

The concept of achieving inclusion in educational settings at any level, has centred on mobilising resources to ensure that every citizen is granted equal opportunities

in, and access to, basic education (Kisanji 1999). Inclusion can therefore be conceptualised as a process which, according to UNESCO (2005, 13), treats with, and appropriately responds to the divers needs of learners.

In fact, it must be noted that to this end, efforts to reduce disparities must be consistent and basic quality based education services, should be expanded (UNESCO cited in Kisanji 1999, 3). According to the UNESCO (2009, 8) policy guidelines, in Jomiten, Thailand in 1990, the World Conference on EFA focused on stressing the importance of being proactive in identifying resources to mitigate against barriers encountered by many in their pursuit to access educational opportunities.

Inclusion is thus, an all-encompassing concept which incorporates not only the requirements and implications for quality curriculum and teaching reform but also best practices for student service support initiatives which in this research setting should move toward prioritizing more strategic, proactive approaches (screening on entry through Blended Admissions) rather than responsive ones.

Education for All is therefore, characteristic of providing education that is "responsive to needs and relevant to lives thus resulting in quality that is indicative of needs-based criteria" (World Declaration on Education for All, 1990 quoted in UNESCO 2009, 10). Cognitive development is thus not the only component of the inclusive framework or mandate but, also is "promoting values and attitudes of responsible citizenship and creative and emotional development" (10).

The aforementioned thus signals the need for similar attention to inclusiveness to be paid to student support services and initiatives. The focus to date has centred on access to education for all and equality and inclusiveness within the classroom via teaching strategies (curriculum differentiation, universal design and professional learning) and not equally, to the provision of enabling environments and social conditions of egalitarianism.

Viewing student support services and education through an inclusive lens is indicative of a paradigm shift whereby the education system rather than the child, youth or young adult is viewed as the problem (UNESCO 2009). It is also indicative of an education system which is equipped and readily positioned to treat with differences by being "welcoming of diversity and expedient and resourceful in the early identification and remediation of individuals at risk for failure" (UNESCO 2009, 15).

An individual thus entering the tertiary education system as a new entrant and having been screened and found to be high-needs and possibly a constituent of the at- or high-risk learner group should, be presented with support services and approaches, academic and otherwise to assist him/her at inception and throughout his/her sojourn at the university.

Methodology

A quantitative methodology was employed for this research study. A survey was the method of data collection and the research design was a quasi-experiment. From a population of 334 registered students, 108 were found to be Externals. Of this amount only 54 students expressed a willingness to proceed to the next stages of the research. They were conveniently to either a Treatment or Control Group based on their availability to attend the workshop on the days it was scheduled. The Treatment group was taught the SIMPLE Strategy – 'T') via workshop delivery and both groups were retested at Time 2, at the end of the semester. Due to attrition not all participants were retested. The research questions and Hypothesis which were thus relevant and tested are as follows:

RQ_1: What is the Locus of Control (LoC) orientation of first year undergraduate FSS Students?

RQ_2: What is the demographic profile of first year undergraduate FSS Externals?

$H1_0$: The LoC score of those externals who comprise the treatment group will **NOT** reduce after treatment.

$H1_a$: The LoC score of those externals who comprise the treatment group will reduce after treatment.

Results

The majority of the 334 participants in this study were found to be Intermediates (62.9%). Thirty-two percent (32.3%) were Externals and only 4.8% were Internals.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Internal	16	4.8	4.8	4.8
	Intermediate	210	62.9	62.9	67.7
	External	108	32.3	32.3	100.0
	Total	**334**	**100.0**	**100.0**	

Notwithstanding that the majority of main sample of 334 comprising females, and by extension, also the majority of the 108 externals, it is significant to point out that interestingly, and in keeping with significant aspects of the literature, **No Chinese, Whites or 'Other' scored as Externals** (table 5).

Table 2: Demographic and LoC Summary Data for the 108 Participants who scored as Externals

eLoC SCORE	Frequency	Percent	Valid Percent	Cumulative Percent
16	21	19.4	19.4	19.4
17	27	25.0	25.0	44.4
18	11	10.2	10.2	54.6
19	13	12.0	12.0	66.7
20	6	5.6	5.6	72.2
21	13	12.0	12.0	84.3
22	8	7.4	7.4	91.7
23	6	5.6	5.6	97.2
24	2	1.9	1.9	99.1
25	1	.9	.9	
Total	**108**	**100.0**	**100.0**	**100.0**
GENDER	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Female	84	77.8	77.8	77.8
Male	24	22.2	22.2	100.0
Total	**108**	**100.0**	**100.0**	
AGE	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
18	46	42.6	42.6	42.6
19	41	38.0	38.0	80.6
20	11	10.2	10.2	90.7
21	5	4.6	4.6	95.4
22	1	.9	.9	96.3
23	1	.9	.9	97.2
24	1	.9	.9	98.1
27	1	.9	.9	99.1
38	1	.9	.9	100.0
Total	**108**	**100.0**	**100.0**	
ETHNICITY	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
African	26	24.1	24.1	24.1
Indian	53	49.1	49.1	73.1
Mixed	29	26.9	26.9	100.0
Total	**108**	**100.0**	**100.0**	

Table 3: Cross Tabulation of the External LoC Score (eLoC) Distribution with Ethnicity for the 108 Participants who scored as Externalsa

eLoC Score	African	Chinese	Indian	Mixed	Other	White	Total
16	3		12	6			21
17	9		9	9			27
18	1		7	3			11
19	3		6	4			13
20	2		3	1			6
21	2		8	3			13
22	1		4	3			8
23	4		2	0			6
24	1		1	0			2
25	0		1	0			1
Total	**26**		**53**	**29**			**108**

Additionally, the mean LoC score of the Treatment Group reduced after treatment which was anticipated and was desirable. As such, the null Hypothesis was rejected ($p<0.05;0.022<0.05$) and the Alternative Hypothesis was accepted ($H1_{0:}\ eLoC_1 = 18.29$; $H1_a:\ eLoC_2 = 14.33$).

Table 4: Mean LoC Scores at Time 1 and Time 2 for the TREATMENT Group

LoC Scores (Treatment Group)		Time 1		Time 2	
		Statistic	**Std. Error**	**Statistic**	**Std. Error**
Mean		**18.29**	.472	**14.33**	.857
95% Confidence Interval for Mean	Lower Bound	17.32		12.56	
	Upper Bound	19.27		16.11	
5% Trimmed Mean	18.07	18.07		14.30	
Median	17.00	17.00		14.00	
Variance	5.346	5.346		17.623	
Std. Deviation	2.312	2.312		4.198	
Minimum	16	16		6	
Maximum	25	25		24	
Range	9	9		18	
Interquartile Range	3	3		6	
Skewness	1.269	1.269	.472	.041	.472
Kurtosis	1.520	1.520	.918	.464	.918

Table 5: Paired Sample T-Test the Generalized LoC Scores at Time 1 and Time 2 for both the Control and Treatment Groups

Paired Samples Test									
Paired Differences									
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	LoC Score 1 LoC Score 2	1.592	4.725	.675	.235	2.949	2.358	48	.022

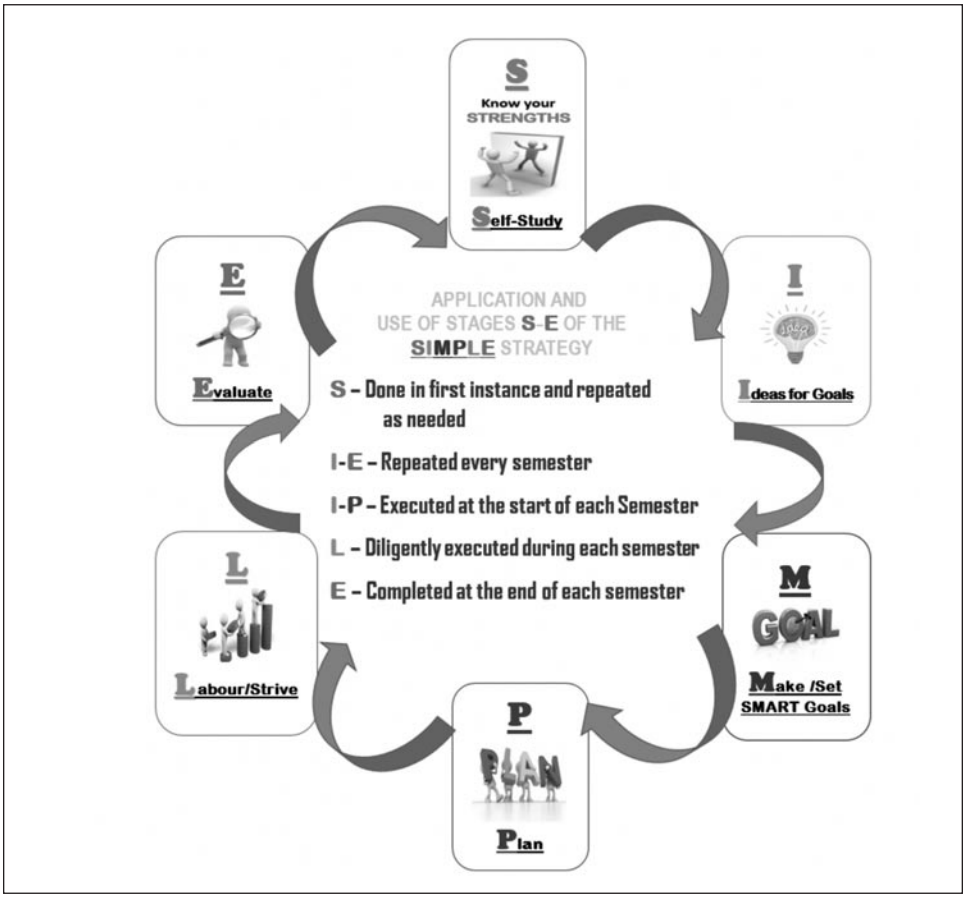

Figure 1: The SIMPLE Strategy Workshop-Format Model, adapted from the PAS, ACT Strategy Source: Hill (2011b)

Discussion/Conclusion

The purpose of this research was to determine the LoC orientations of first-year undergraduate students, teach them the SIMPLE Strategy and retest them after instruction. This was executed for new incoming Social Sciences students for the 2016/2017 academic year at The UWI, St. Augustine Campus. Considering that a significant number of students were found to be Externals, further gives credence to the importance of blended admissions systems to determine such orientations on entry (early screening) so that such students and other at-risk, high-needs groups can be confidentially flagged to receive appropriate support services and benefit from Early Alert Program (EAP) initiatives.

Of significance too, is that with the commercialisation and privatisation of higher education (Chao 2013) which is very competitive and profit driven, the educational sector within the Caribbean has expanded. As a consequence, The UWI which although may still be considered the premier provider (as it consistently communicates), surely, is no longer the sole provider of tertiary education services.

Notwithstanding that HEIs, in addition to screening for mainly cognitive ability using test scores and academic profiles, also reference the professional history/experience of applicants which is the 'mature entry route' that is available to more so, the older demographic of students, these are not significant enough efforts toward fostering inclusion.

HEIs must go many steps further, in that, these are customary prerequisites for entry; entry routes which traditionally result in the grouping of incoming students (young and mature) on the basis of prior academic attainment which is not a holistic or inclusive response to rapid market changes, changing demographics and to supporting diversity.

In fact, this practice of prioritising a single indicator (test scores ; academic profiles) and lauding cognitive ability rather than a 'blended' approach can be considered as aiming to 'target' and 'market' only for 'educationally attractive' and financially viable students within the younger demographic pool and thus inevitably fosters admissions systems which are class biased and which perpetuate exclusion of high-needs and at-risk groups (Gewirtz, Ball, and Bowe 1995; Lareau 1989; Lynch and Lodge 2002; Reay 1998).

Moreover, the delivery of quality education according to Sockalingam (2012, 1) is thus indeed contingent upon understanding and meeting the multifaceted needs of adult learners. As such, older students who were permitted entry to HEIs via the mature entry route further to having the requisite professional experience in the field, and not necessarily the test score pre-requisites, also require needs-specific

targeted student support as they may be most likely at risk for academic and social dissonance challenges as they sojourn, and these challenges can prove to be more extensive than those being encountered by the younger student cohort.

What do such revelations really mean for the strategic planning efforts of the institution? Well for certain, all future plans developed for the achievement of The UWI's long-term sustainable goals should encompass the mobilization of resources to pursue a strategy which is specified and aimed toward the academic and holistic achievement of students during sojourn so that the qualities of the distinctive UWI graduate are more attainable. Such a strategy will need to be proactive in its design and applicability rather than reactive and should, involve the implementation of a student EAP which involves screening on entry for vulnerable, at-risk, high- needs groups and individuals via a blended admissions process.

It is understandable that universities experience increased pressure to make educational access more possible for groups that traditionally have not, and would not have had, the opportunity to receive tertiary education. However, coupled with this reality must be the acceptance that once the opportunity for access is made available to such groups, there is a particular often neglected responsibility which remains the strategic remit of the institution.

This institutional liability refers to the facilitation of an 'equality of condition' throughout the sojourn of these students. This means that support interventions should commence on entry and be sustainable throughout students' stay at the institution. This will increase their chances of overall success, development and inclusion, thereby creating a cultural paradigm shift with regard to the institutionalised approach to attending to proactive, targeted student support interventions. To renege on this 'duty of care' obligation, is tantamount to exclusion and discrimination of such groups.

Considering that "external control may be most strongly influenced by the macro-environment, i.e., societal and institutional forces" (Zahodne et al. 2015, 14), the deprivation endured by certain students for most, if not all of their lives, must not be reproduced by the institutions with which they now have a social and legal contract regarding their tertiary educational experiences and learning outcomes.

According to Kassim, Dass and Best (2015, 125) "UWI data show that over the six-year period of 2007/2008 to 2012 /2013, the average ratio of females to males remained constant at about 2:1 across the three residential campuses." They further indicated that "females being a majority was in keeping with international trends" (125). In this study this fact resonated as the majority of the 334 random sample were females (table 1: 255 / 76.34%).

In regard to the demographic characteristics of those 108 students who scored as Externals however, the results indicate that only East Indians, Africans and Mixed ethnicities comprised the pool of Externals. No Chinese, Whites or 'Others' scored as Externals (table 5). Additionally, of these 108 student participants, the majority (84/78%) were females as only 24 (22.2%) were males (table 9). Most of the sample were 18 years of age (46/42.5%) and 41 (37.9%) students were aged 19 (table 4).

Various studies have shown demographic correlations with LoC orientation. For example, according to Duke and Norwicki (1972), "generally blacks score more toward the external side of the LoC continuum than do whites and that this could owe to the fact that blacks are more inclined to perceive and be victims of discrimination wherein they do not get the rewards that they believe to have earned in society".

Zahodne et al. (2015, 15) in their study found that "eLoC was associated with poorer health and cognition and was reported more among African Americans than non-Hispanic Whites". Hill (2011b, 24) stated that" several studies support the contention that class, race, and family stability which are related to opportunity, influence internality", in that, the more opportunities one is afforded, the greater the likelihood that one will be of an Internal LoC orientation and experience greater wellbeing and overall life success.

The UWI's Student Life and Development department (SLDD) previously the ASDLU (Academic Support Disabilities Liaison Unit) at the St. Augustine campus, which is one arm of the Division of Student Services and Development (DSSD), previously the Student Advisory Services (SAS), needs to be credited for its academic support services including peer tutoring, educational assessment, referrals, and academic workshops on time management, study skills, learning styles, overcoming procrastination and examination strategies. Additionally, in executing its mandate of "creating a campus without borders", the department stated on its website that inclusiveness is a core value.

Once at-risk and high-needs students have been identified on entry, one student support intervention can be the teaching of internality which is a more desirable orientation. This instruction can be packaged for workshop delivery and offered for co-curricular credits under the student EAP which would be an initiative under the DSSD. The researcher's SIMPLE Strategy, tertiary workshop format which was highly influenced by Hill's (2011b) elementary school classroom instruction Achievement strategy was developed for this purpose. According to Hill (2011b), the classroom instruction Achievement strategy was designed to teach Internality which corresponds to desirable behaviours and overall life outcomes. The **SIMPLE** Strategy (Figure 1), unlike the classroom strategy, was developed for workshop

delivery to similarly teach Internality but to a tertiary audience. This was executed early into the semester to the treatment group (pre-tested) before they acclimatized to the university environment in an effort to integrate.

As demonstrated in Figure 1, stages **S** to **P** (**S**elf Study, Generating Goal **I**deas; **M**aking/setting SMART goals; **P**lanning) of the **SIMPLE** Strategy were executed under the researcher's supervision during the workshop, in an effort to teach the strategy and to guide and ensure that the strategy was well taught and understood by all attendees using the same standard. Stage **L** (**L**abouring) was executed during the semester while stage **E** (**E**valuation) was executed at the end of the semester. The ellipsis **SIMPLE** was thus established by the author of this current study to ensure that the use, and the reporting on the efficiency of this use, of the strategy, were well aligned and consistent for all attendees who received training.

This instructional workshop can thus be offered as a bridge-in programme during the summer period for new incoming students who scored as Externals when they applied to the institution in keeping with the blended admissions process. This bridge-in programme thus ensures that Externals carded to commence studies in September of any given academic year would have proactively received intervention prior to attending classes.

Most significantly, is that as "inclusion should benefit all learners and not only target the excluded" (UNESCO 2005, 15), those found to be Internals on entry, can voluntarily serve as peer internality coaches/mentors to Externals and Intermediates and optionally learn the strategy themselves. In this line of thinking, the strategy can thus also be offered during strategic periods in each semester to benefit these Internality student coaches, mentors and other students who may be so interested in earning co-curricular credits. Externals would also be free to attend these semesterly workshop sessions as a refresher but on such occasions, no additional credits will be earned.

The impact and role of personality (non-cognitive) testing in university admission criteria is noteworthy (Kyllonen Walters and Kaufman 2005; Kyllonen 2005; 2008) as many factors predict and influence academic success. Additionally, too great an emphasis over the last few decades has been placed on cognitive goals, limited skills sets and competencies (Allen and Ainley 2007) resulting in unidimensional, minimalist, economistic utilitarian conceptions of educational tasks and canons (Avis 2003; 2009). Conceptually embedded within this, and characteristic of such a reductionist framework is an overarching preoccupation with knowledge commoditization for obvious economic gain (OECD 2010; Brighouse 2006).

Moreover, of the four key elements used to conceptualize inclusion, the element

which stated that "inclusion involves a particular emphasis on those groups of learners who may be at risk of marginalisation, exclusion or underachievement" (UNESCO 2005, 15), detailed that there is a "moral responsibility to ensure that groups most at risk are carefully monitored" (16).

Conclusion

The recommendation emanating from this research is for the implementation of a student EAP which facilitates Blended Admissions as a strategic inclusive student support services initiative. The invaluable significance and encouraging aspect of this proposition is its proactive potential as high-needs, at-risk students will confidentially be flagged on entry to receive needs-specific student support. It is more of a proactive than responsive/reactive approach to student support services design and delivery.

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Unearthing Factors of Retention

An exploration of the factors affecting first year retention rates at The University of the West Indies St Augustine Campus

MELISSA BERKLEY
Planning Officer/Institutional Research Analyst
Campus of Office of Planning and Institutional Research
The University of the West Indies, St Augustine Campus, Trinidad and Tobago

Abstract

Statistical trends, among several institutions indicate that the highest dropout rates are experienced after the first year of study. As to what determines these trends, research points to a myriad of factors, some of which include first year engagement, pre-college characteristics and socio-economic factors (Cole et al. 2009). Additionally, retention rates are often considered as an indicator of an institution's ability to optimize its resources, thus affecting its financial outlook. The St Augustine Campus is presently operating in a time when there is an increasing demand to optimize resources in order to achieve sustainability, thus decreasing its reliance on state funding, enhancing retention rates has been become a priority as the campus embarks on its Strategic Plan for the period 2017–2022.

This study is exploratory in nature, and it provides insight into possible factors influencing first year retention rates among newly admitted first degree students at the St Augustine Campus. It contributes to discussion as it pertains to improving retention rates by highlighting theoretical underpinnings as it pertains to phenomenon, then examining data available at the campus to undercover possible factors that impact first year retention. Using the results of the Incoming Student survey along with first year retention data extracted from the campus' Business Intelligence portal, this study attempts to deduce statistical linkages between both data sets using a binary logistical regression model. The results of the model showed that student status had the most significant impact on first year retention. More specifically students enrolled on a part time or evening basis were less likely to re-enrol for a second year of study as opposed to their full time counterparts.

Corresponding author: Melissa Berkley: melissa.berkley@sta.uwi.edu

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Introduction

The first year of university is perhaps the most crucial year for tertiary students. As they enter the campus with a myriad of expectations, their experiences within the campus environment during the first year of study can potentially determine whether or not they would continue to pursue higher education. Historical data at the St Augustine Campus have shown that the highest dropout rate for any particular incoming undergraduate cohort occurs after the first year of enrolment. This phenomenon is not unusual, as this trend is prevalent among many institutions of higher education. As such, researchers in the field of institutional research have sought to examine the issues of retention in hopes of understanding factors that influence this phenomenon. The outcomes of these research efforts have uncovered factors such as first year engagement, pre-college characteristics and socio-economic status (Cole et al. 2009, Bauer and Laing 2003) which play a key role in determining first year retention rates. Additionally, these studies are oftentimes useful in providing insight into how institutions can improve first year retention rates by providing support services to students.

Over time first year retention rates have become a marker of an institution's reputation and have also become a key performance indicator that has been linked to resource utilization and as such it has become an international best practice of higher education institutions to monitor these rates. In this regard, from a global perspective, institutions oftentimes engage in initiatives which seek to monitor the characteristics of incoming cohorts in an effort to develop predictive models to discern the students who are likely to persist. These initiatives play an influential role in the decision making process involved in the development of initiatives aimed at improving retention rates. Consequently, the introduction of First Year Experience programmes and institutions, especially in the United States, have become a popular practice as a means of orientation for students to improve engagement during their critical first year of higher education. According to Eric Jamelske (2009)

> ". . . many institutions have begun to allocate significant resources to first-year experience in an effort to improve student outcomes. First year experience (FYE) programs vary widely across institutions ranging from highly organized learning communities to basic courses introducing students to college life." (374).

These varying practices bring varying results due to the differences in programme structures, implementation and unique characteristics of the institutions, however, the popularity of these programmes is an indication that institutions are cognisant of the need to invest resources into improving student success.

On the local and regional level, these types of research have not yet been popularized. However, at the St Augustine Campus the implementation of First Year Experience (FYE) programmes has been an on-going strategy used to improve acclimatization to university life. Additionally, it has only been in recent times that the Campus Office of Planning and Institutional Research (COPIR) has developed an interest in understanding the pre-university background in terms of academic and non-academic experiences that newly admitted students may have had prior to enrolling at the campus and also about their expectations of university life. However, efforts to link these characteristics to first year retention have not yet been explored by COPIR. As such, there is need to develop research in this area, especially in light of recent dialogue that has emerged concerning increasing the agility of the university through student development as part of its new strategic plan as well as the need to increase access to populations that may not have been reached in the past.

In light of the need for more detailed inquiry into the factors that influence first year retention rates at the St Augustine Campus, this study seeks to initiate the exploration of this phenomenon through the use of data available on the campus and accessible to COPIR, that have the potential to unearth some factors associated with first year retention rates. At present, the COPIR administers an Incoming Student Survey to newly admitted undergraduate students which seeks to gather data concerning students' academic and non-academic background prior to entering the campus. Also available, are administrative data from our Business Intelligence portal which can provide data as it pertains to student demographics and student status. This study will therefore attempt to merge both administrative and survey data to explore the trends that may exist between students' pre-university academic and non- academic experiences, socio-economic background, student status and first year retention student at the St Augustine Campus. By exploring variables as it relates to the incoming cohort it is hoped that COPIR can begin the process of developing a student model for predicting the factors which impact first year retention at the St Augustine Campus.

In this regard this study would seek to answer the following research question:

What are the factors captured in the Incoming Student Survey, as well as administrative data such as student demographics and student status that effect first year retention rates at the St Augustine Campus?

Importance of retention

Some scholarly work regarding the factors that affect retention have placed emphasis on the pre-university characteristics and student engagement and how these interact to stimulate institutional commitment and involvement to play a role first year retention (Tinto 1975, Milem and Berger 1997, Astin 1985, Bauer and Liang 2003, Cole et al. 2009). Among the pre-university characteristics studied are personality traits, educational experience, student involvement and psychological factors that influence students' ability to integrate into and succeed at higher education institutions. As such, these characteristics are considered an important area of study as it contributes not only to the enhancement of the students' experiences with teaching and learning on a campus but can also be utilized as a source of data which higher education institutions can use to support efforts to improve retention rates which are an indicator of the resource utilization (Jamelske 2009). For this reason, COPIR has seen the need to monitor retention rates, especially in a time when there are impending changes in policy as it relates to financing higher education. There is also the awareness that optimal resource utilization is imperative in order to achieve sustainability as an institution since the changing economic climate is calling for a decrease in reliance on state funding. Considering these factors, this study can contribute to recommending a means by which the campus can adopt a student centered approach to resource optimization.

Theories of student retention

From a theoretical standpoint, two of the most popular underpinnings are Astin's Theory of Involvement and Tinto's Theory of Student Departure. Both theories examine retention from the perspective of student experience in terms of students' interactions with the institutions' environments. However, both theories differ from each other in that Astin focuses on how levels of student involvement with the campus environment have an impact on retention while Tinto purports that students' likelihood of persisting is dependent on goal commitment and institutional commitment which are determined by the academic and social systems within which the students exist.

Astin's Theory of Involvement

Astin's theory of student involvement focuses on examining the dynamics of student persistence from the perspective of student involvement which is defined as "the amount of physical and psychological energy that the energy that the student devoted to the academic experience" (Astin 1999). According to Astin's theory,

highly involved individuals are those who invest a considerable amount of time and energy into studying, extracurricular activities and interacts frequently with faculty as well as spend a considerable amount of time on Campus. Astin's involvement can be both physical and psychological and can refer to "highly generalized" or "highly specific" activities, any of which the student can invest different degrees of involvement at different times. All in all, these degrees of involvement not only exist along a continuum but can also be measured quantitatively in terms of time spent on each activity which results in a directly proportional impact on the learning and personal development of the student. As such, Astin postulates that student success is directly placed in the hands of the higher education institutions whose responsibility should be to implement policies that would promote student involvement. For Astin,

> if it is a given that higher education's principal reason for being is to develop the 'human capital' of the nation-then 'quality' or 'excellence' should reflect educational 'excellence' should reflect educational effectiveness rather than mere reputation or resources (Astin 1985).

Consequently, institutions with effective student involvement initiatives, according Astin's theory are likely to have lower dropout rates which lead to higher first year retention rates. Astin cites research conducted in the 1970s which supported the assumption that factors such as full-time enrolment, participation in extracurricular activities, studying hard, living on campus and interacting frequently with other students and faculty resulted in higher levels of persistence (Astin 1985).

All in all, Astin's theoretical model offers insight into how the university experience has an impact on student persistence as it is the experience with the university environment that is responsible for student retention. As such, Astin attributes responsibility to institutions to foster the ideal environment to facilitate the enhancement of student experience.

Tinto's Theory of Student Departure

In his 1975 article, Vincent Tinto, undertakes an extensive and complex examination of student attrition in higher education by offering a theoretical concept that bears some similarities to Astin's theory, but gives a more multifaceted perspective on student departure. Tinto aims to

> "formulate a theoretical model that explains the processes of interactions between the individual and the institution that lead differing individuals to drop out from institutions of higher education, and that also distinguishes between those

processes that result in definably different forms of dropout behaviour" (Tinto 1975).

Tinto refers to the interactions of academic and social systems, postulating that pre-college background as well as a goal and institutional commitment all contribute to the model. Goal commitment according to Tinto has to deal with the level of expectations and the intensity with which these expectations are held. These expectations he believes are "psychological orientations the individual brings with him into the college setting" (Tinto 1975). With regards to institutional commitment this is defined as "specific institutional components which predispose him toward attending one institution (or type of institution) rather than another." (Tinto 1975). Tinto also seeks to differentiate the types of student departure such as voluntary withdrawals and academic dismissals which should be considered due to differences in factors that play a role in each type of departure.

Additionally, Tinto's theoretical model in essence finds its basis in Durkheim's Theory of Suicide which is based on the assumption that "suicide is more likely to occur when the individuals are insufficiently integrated into the fabric of society" (Tinto 1975). He likens the higher education institution to a social system where dropping out is treated as being similar to that of suicide. This analogous comparison to suicide serves as a generalization or descriptive reference to the Tinto's concept of student dropout. However, the interactionalist nature of his model is longitudinal in nature which is built on the assumption of academic dismissal and voluntary withdrawals occurring as a process which result from interaction within the social and academic systems that are characteristic of higher education systems.

This interactionalist model gives an in-depth consideration to the individual's pre-university factors such as family background, pre-university schooling as well as individual attributes which Tinto (1975) purports have a direct influence on the individuals' commitment to completion as well as institutional commitment. Tinto also points out in his model that although pre-university factors remain constant, individuals' commitment evolve as they interact with the academic system which can potentially determine student departure. These changes in commitment are a result of the institution's ability to meet the individuals' needs in terms of peer and faculty interactions.

The Method

This study is undertaken using a combination of survey and administrative data. The incoming student survey was conducted with 1354 newly admitted first degree

students for the academic year of 2016/2017. The responses to this survey were used as a source of data for students with respect to pre-existing characteristics regarding household income, expectations of university life and pre-university experiences. These variables are itemized in Table 1 below. Additionally, the survey was able to provide information concerning students living situations while studying at the St Augustine Campus.

In respect of administrative data, these were sourced from the St Augustine campus Business Intelligence application, an in-house data warehouse that was developed as a platform to allow access to live student data from the Banner system. From this system, data concerning retention, marital status, and student status data were extracted and then paired with the data from the Incoming Student survey. This was done using an Excel toolkit which enables excel tables be merged on the basis of a unique identifiers which in the case of this study was the student ID number. In the case of determining first year retention this was done by tagging students who after completing the 2016/2017 year of study had re-enrolled in 2017/2018.

In terms of the variables explored in this study, a combination of latent and observed independent variables were utilized. For the latent variables, composite

Table 1: A Listing of Independent and Dependent Variables utilized in the study.

Independent Variables	**Dependent Variable**
Observed Variables • Sex • Household Income • Living Arrangements • Marital Status • Student Session • Age • First Generation university students **Latent Variables for Pre-University Experience*** • Study Habits • Extracurricular activities • Pre-University In Class Participation • Leadership Skills • Writing Thinking and Communication Skills • Research Skills	• Retention Indicator

*Indicators used for these variables are outlined in the appendices.

scores were computed while observed variables were recoded into nominal binary variables in order to facilitate the use of the binary logistic regression for developing the model. For the latent variables, the composite scores were computed using the measures of the scales used for each question that was related to each variable. In respect of the observed variables, to prepare these for analysis, they were recoded into binary variables using the responses with the highest frequency distributions as the reference code. In terms of the dependent variable, a retention indicator was computed using binary coding, where 1 was used to code students who re-enrolled in September 2017 and 0 was used code those students for which there was no active status at the time of extraction, meaning that the student did not re-enroll in the new academic year.

The binary coding was necessary to facilitate the use of a binary logistic regression in SPSS which was the statistical technique used in this study. This technique allows for analysing the levels of impact factors affecting respondents while controlling for the presence of varying factors simultaneously. Additionally, the predictive nature of the binary logistic regression allows for determining the probability that specific variables will increase the likelihood of students' persistence.

Before moving forward into analysis, it is also important to point out that the use of survey and administrative data presents the limitation of missing data various variables across the cases that are being explored. As a result, for the purpose of this study, some level of imputation of missing values was undertaken to facilitate the use of the regression model. In this case the Expectation Maximisation technique was utilized to generate imputed values for missing variables.

Limitations

As was previously mentioned, missing variables presented a limitation not only in terms of the response rate to specific questions but also in terms of the application of the regression model. Consequently, the use of imputation techniques became necessary in order to facilitate analysis of data. For data which were extracted from the Business Intelligence system, occurrences of missing data were not very prevalent however missing data were observed mostly in the case of data derived from the survey instrument. Although, some level of non-response is typical for survey instruments and the use of imputation techniques can offer a means of addressing this challenge, it is worthwhile to consider that amendments to the survey questionnaire can potentially increase response rates to these variables.

Additionally, at this point one must also note the challenges that can occur when

using data from a survey instrument that only captures data concerning the habits of respondents before entering the campus environment such as what the Incoming Student survey is meant to capture. Although these variables proved to be useful, it is important to acknowledge that interactions with the campus environment both academic and non-academic in nature would also have some bearing on the respondents' likelihood of re-enrolling for a second year of study at the St Augustine campus. As such this presents an opportunity for future research initiatives such as longitudinal studies which can explore students' interactions with the campus environment and also therefore make additional linkages that can unearth more detailed observations concerning the factors affecting first year retention rates.

Results

As stated in the previous section, both latent and observed variables were inputted into the model as this yielded the best fit. The goodness of fit tests resulted in a Negelkerke R squared on .473 and also Hosmer and Lemeshow tests yielded results (χ^2 = 13.436, Sig. = .098) which is an indicator of a relatively good predictive model. Results are shown in Table 2.

Pre-University Experience: When considering all categories, the results indicated that when controlling for all other variables under observation, none of the variables categorised under pre-university experience was statistically significant. This shows that for the respondents to the incoming student survey, the indicators for pre-university experience as measured in the survey instrument, had no predictive effect on the likelihood of students persisting to a second year of study.

Student Status: Regarding the student status of respondents, two variables in this category proved to have a statistically significant effect on retention. These variables were full time students and commuter students. The relationship was such that full-time students and commuter students were both predictors of retention when controlling for all other variables in the model. Full-time students resulted in the highest odd ratio as well as the highest beta values (B = 3.845, Exp(B) = 46.752) which suggests that within the context of the variables under observation in this study, enrolling as a full-time student greatly increases the chances of persistence. In terms of commuter students, the model showed that respondents who lived at home while studying were more likely to persist than those who lived away from home. However, the odds ratio was not as strong as was observed for student session (B = 0.597, Exp (B) = 1.817).

Table 2: Results of Binary Logistic Regression Model

	B	S.E.	Wald	df	Sig.	Exp(B)
Pre University Experience						
Extracurricular Activities	-.015	.035	.171	1	.679	.986
Research Activities	-.128	.158	.655	1	.418	.880
Study Habits	-.069	.059	1.385	1	.239	.933
In Class Participation	.063	.036	3.089	1	.079	1.065
Writing, Thinking and Communication	-.005	.094	.002	1	.960	.995
Leadership Skills	-.085	.186	.212	1	.645	.918
Student Status						
Full Time	3.845	.343	125.607	1	.000	46.752
Commuter Students	.597	.280	4.542	1	.033	1.817
First Generation University	.045	.344	.017	1	.895	1.046
Demographics						
Single	2.130	1.271	2.808	1	.094	8.416
Household Income Under 15K	-.132	.277	.226	1	.635	.877
Under Age 24	-1.382	.457	9.135	1	.003	.251
Sex	-.130	.321	.165	1	.684	.878
Constant	-.359	1.120	.103	1	.748	.698

Demographic and Socio-economic status: The logistic regression also yielded statistically significant results for the respondents under the age of 24. When controlling for all other variables, results suggest that there was a negative relationship between age and retention such that students 24 years and younger were less likely to persist, thus implying that more mature students are likely to re-enrol for a second year of studies (B= -1.382, Exp (B) = 0.251). However, it must be noted that the low odds ratio is an indicator that age, although this variable proved to be statistically significant, the probability of this having an impact on persistence may not be as consistent as with the other variables.

Discussion

The findings of this study highlight potential possibilities for modelling student retention at The UWI, St Augustine Campus. Although only a few variables proved

to be statistically significant the results in respect of full time students and commuter students proved to be insightful and can be used as a basis for developing further research that can further develop the model.

The results concerning full time students corroborates with suppositions made by Astin's theory of involvement which suggested that full-time student may be more involved in campus life than part time students. As such, it is an indicator that part-time students may invest less physical and psychological energy into the campus experience. This due to the fact that part time students may be balancing full time jobs, family life and course load and this lack of involvement may negatively affect institutional commitment. Taking this into consideration, it may be worthwhile to consider undertaking further research with students to further explore the nature of the student experience for part time and evening students.

It must also be noted, that notion of institutional commitment as postulated by Tinto's theory of departure (1975) can prove further insight into the results yielded for full time students, in that these students are more likely than part time students to experience higher levels of goal and institutional commitment and lower levels of alienation. This according to Tinto can mitigate against the propensity to commit suicide or more specifically to drop out of the institution. As such, it is important that programmes and polices be implemented to keep part time students motivated. This has, however, proven to be a challenge in the past as programmes initiated at the St Augustine Campus such as extended hours for student services as well as Saturday programmes were not well subscribed as students indicated that their busy schedules presented a challenge to participate.

Regarding the results for commuter students, it was expected that results would indicate that student who live away from home would be more likely to persist, however the results of this study which contradict this ideology is perhaps an indication that more research should be done in this area to provide a deeper understanding of the nature of this phenomenon at the St Augustine Campus.

Conclusion

When considering the results attained for pre-university experience, the lack of statistical significance is supported in Tinto's theory where he highlights that past educational experiences do not necessarily predict retention. However, he does infer that these attributes are more directly academic performance. Additionally, COPIR survey report of results for the Incoming Student survey 2016/2017 cohort which was used as a source of data for this study, indicated that variables such as "study habits' and "in class participation" had a positive and statistically significant

relationship with cumulative GPA at the end of the first year. This suggests that survey respondents who had developed study habits and had higher levels of in class participation were more likely to perform better academically.

Given that pre-university experiences were not predictive in nature with retention, it suggests that some further exploration be undertaken to determine what aspects of the student's campus experience may affect retention. And it may also be worthwhile to extend this study to also examine the factors affecting attrition which is another aspect of student success that is directly related to retention. Further study of attrition in respect of required to withdraw, administrative withdrawals and voluntary withdrawals, may prove to be insightful as it has the potential to unearth aspects of student retention that can support the implementation of student support initiatives that can improve first year retention rates, thereby improving efficiency, access and contribute to improving the financial health of the St Augustine Campus.

All in all, this study despite its limitations, provides a basis for developing a predictive model that can be utilized to assess the types of students that are not only likely to persist but also those who are likely to drop out after their first year of study at the campus. Furthermore, this model can be used to undertake further interrogation of other factors that affect first year retention by expanding the study to include variables such as student engagement and academic progress along with the data derived from the Incoming Student Survey. Perhaps this can take the form of a longitudinal study where results from a Student Engagement survey are added to the model to discern how these have an impact on first year retention. Nevertheless, undertaking this study has not only shed light on the value of the data presently available to COPIR but it also provides a basis for advancing the institutional research effort in such a way that it provides opportunities to collaborate with student services and faculties to contribute to the process of the development of initiative and programmes that can enhance the reputation of the institution as well as contribute to the accomplishment of the goals set out by the strategic plan .

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Appendix 1: Indicators used in the computation of latent variables

Extra-curricular Activities At your last institution on average, how often were you involved in the following activities? • Performing/Visual Arts • Sports Team/Clubs • Student Council • Student Publications • Community Association/Club • Religious organization/youth group	**In Class Participation** At your institution that you attended, how frequently during your last year did you do the following? • Ask questions in class • Work with others to solve a problem • Critically evaluate information you receive in class • Seek feedback from teachers on your assignments and projects • Work with other students on group projects • Accept mistakes as part of the learning process • Seek to solve problems and explain them to others • Seek alternate solutions to a problem • Integrate skills and knowledge from different sources and experience
Study Habits During your last at your last institution on average, how many hours did you spend per week doing the following activities? • Working on assignments/project • Reviewing notes from your classe • Doing reading/research outside of assigned reading for class	**Writing, Thinking and Communication Skills** Ability Ratings • Write clearly and effectively • Oral communication skills • Ability to think critically
Research Activities While doing research projects, which of the following were you required to do? • Present and explain results of the study • Collate and analysis the data • Use research sources in a database or library • Develop a methodology for collecting data • Develop research questions	

Notes on Contributors

Melissa Berkley

MSc Development Statistics, The University of the West Indies. Planning Officer/Institutional Research Analyst, Campus of Office of Planning and Institutional Research, The University of the West Indies, St Augustine Campus, Trinidad and Tobago

Research Interest: Development Statistics: Survey Research

Marsha Black-Chen

Ed.D. Adult and Higher Education, Northern Illinois University, USA. Senior Lecturer, Department of Social Sciences, The Mico University College, Jamaica, West Indies

Research Interests: women in higher education and leadership, non-traditional students, critical pedagogy, and teaching and learning

La-Cresha Gordon-Brydson

M.A. The University of the West Indies. MPhil/PhD Candidate University of Technology, Jamaica. Co-operative Education Co-ordinator, University of Technology, Jamaica

Research Interests: Teaching and Learning, Career Readiness and Professional Development

Paul W. Ivey

Ph.D. and MSc Insect Biology and Environmental Planning & Management, Louisiana State University; MEd in Adult Education/Lifelong Learning, Mount St. Vincent University; BSc, Agricultural Science, University of the West Indies, St. Augustine. Associate Professor and Associate Vice President, School of Graduate Studies, Research and Entrepreneurship, University of Technology, Jamaica.

Research Interests: Applied Entomology, andragogy, research productivity, innovation, and impact of higher education institutions.

Halima-Sa'adia Kassim

Ph.D. History, The University of the West Indies. Senior Planning Officer, University Office of Planning, The University of the West Indies, Regional Headquarters, St. Augustine, Trinidad and Tobago

Research Interests: Caribbean history and gender and development with a focus on Muslim communities, gendered identities, cultural retention and negotiation; and higher education with a focus on system coherence mad capacity building

Maria Mason-Roberts

MSc Organizational Leadership, Springfield College, USA. Lecturer, Arthur Lok Jack Global School of Business, The University of the West Indies, St. Augustine Campus, Trinidad and Tobago

Research Interests: Authentic business education; Self-leadership in organisations; Organisational learning for flexibility in VUCA environments; and Behaviour turnaround for organisational culture shifting in response to changing needs in the Fourth Industrial Revolution

Audrey Thomas

Ed.D. Nova Southeastern University, Education Consultant

Research Interests: Interdisciplinary approach to curriculum planning and development, Teaching and Learning

Dianne Thurab-Nkhosi

Ed.D. University of Sheffield, UK. Faculty Development Specialist, The University of the West Indies, St Augustine Campus, Trinidad and Tobago.

Research Interests: Supporting Teaching Effectiveness; Blended and online learning to increase accessibility; Quality assurance in higher education; and Instructional design for sustainability education

Gwendoline Williams

Ph.D. in Organizational Studies, University of Warwick Business School, Coventry, England. Lecturer, Arthur Lok Jack Global School of Business, The University of the West Indies, St. Augustine Campus, Trinidad and Tobago.

Research Interests: Problem Based/team Based Learning in Business Education, and Gender and Management Development - Focus on Gender Responsive Budgeting

Zuwena Williams-Paul

Ph.D. Sociology, The University of the West Indies. Senior Administrative Assistant and Supervisor, The University of the West Indies, St. Augustine Campus, Trinidad and Tobago

Research Interests: Mediation, student support services, analytics and predictive modelling, inclusiveness in education and the workplace, academic dissonance,

and the nature and management of interpersonal conflicts between superior-subordinate, worker-worker and sibling and parent dyads

Keren Wilson

MSc Developmental Statistics, The University of the West Indies. Planning Officer – Institutional Research Analyst, Campus Office of Planning and Institutional Research, The University of the West Indies, St. Augustine, Trinidad and Tobago

R*esearch Interests:* Higher Education Policy, Graduate Employability, Data Protection, Enterprise Education, Developmental Statistics

Justin Zephyrine

Ed.D. Johns Hopkins University, USA. eLearning Support Specialist, Centre for Excellence in Teaching and Learning (CETL), The University of the West Indies, St. Augustine Campus, Trinidad and Tobago

Research Interests: eLearning, student engagement, instructional design, technology-related projects and professional development/training ventures in Google applications, game-based learning, Learning Management Systems (LMSs), online examinations, mobile applications, social media and animations in education

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Manuscript Submission Guidelines

The Journal of Arts, Science, and Technology (JAST) is an international, multi-disciplinary, peer-reviewed journal aiming to promote and enhance research and technology in diverse fields of knowledge, including architecture, arts, business management, computing, education, engineering, finance, health, hospitality, law, liberal studies, marketing, pharmacy, sports, and urban planning.

JAST is published by the University of Technology, Jamaica, and is intended for readers in the scholarly community and for professionals in industry. Besides research papers, the journal welcomes scholarly book reviews, conference papers, and commentaries.

JAST is published annually. Each issue will include the following sections: editorial, research papers, book reviews, conference reports, and industry viewpoints.

A range of papers is encouraged, including evidence-based research papers, reviews, and personal reflections. In addition to research-based papers, we welcome papers on industrial perspectives for the "Industrial Issues" section of the journal.

Any academic referencing style (APA, MLA, Chicago, etc.) may be used based on Author(s) discipline.

Author(s) should use Calibri, double spacing in MS Word document, and 12-point font, and left align.

- Title page (The front page of the paper should include: title of the paper, name, affiliation, postal address, and email for each Author.
- Abstract (should be no longer than 250 words, and should summarize the research problem and its significance, the methodology used, key findings, analysis and interpretation of the findings, and conclusion.
- Keywords
- Introduction (background, rationale, purpose of the study, research objectives, research questions, hypothesis, etc.)
- Body of Paper
    - Methods research design, data collection, procedures, data analysis, reliability and validity, ethical issues considered, etc.)
    - Results discuss major findings according to research questions/objectives with the literature, support or refute findings, alternative interpretations, study limitations)
    - Conclusion (concluding remarks on major findings and recommendations, etc.)
- References in discipline-appropriate style
- Acknowledgements (optional)
- Appendix (optional)
- Each author should submit with their paper a brief profile indicating highest qualifications, academic base, and research interests.

Paper Review Process

- Receive and acknowledge to the Author(s) receipt of the paper.
- Review paper (Each paper will be peer reviewed by at least two experts in the field for originality, significance, clarity, impact, and soundness, etc.)
- Remarks (paper may be accepted or rejected, or the author(s) may be asked to revise paper, etc.)
- Author(s) notified, will be asked to send in bio-data if not previously submitted
- Paper published

Note:

- Journal articles should not be more than 6,000 words
- Industry Notes should be at least 600 words
- Papers should be submitted electronically to jasteditor@utech.edu.jm

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