

WORKSHOP REPORT

Transformative Workshops Empowering International Postgraduate Students

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Abstract

This is a report on a series of professional development workshops organised by the Centre for Mathematics & Statistics Teaching and Learning (CeMaSTeL) in 2024 at Middlesex University Mauritius. Workshop series form an integral part of CeMaSTeL activities and have evolved to include opportunities for interdisciplinary collaboration among Middlesex University campuses (UK and Mauritius). The four principles of the university's strategy 2031 are exemplified by carefully designing the workshop themes and delivery.

Keywords: Numeracy support, Non-specialist Mathematics and Statistics students, Middlesex University strategy 2031.

1. The Evolution of CeMaSTeL – Centre for Mathematics & Statistics Teaching and Learning

At the outset it is important to first understand the context of Middlesex University Mauritius. Operating under a paradigm of transnational education (TNE), this is an international branch campus of the UK Middlesex University, a global university, with three global campuses additionally in London, UK and Dubai, UAE. In 2009, Middlesex University Mauritius became the first accredited British branch campus to open in Mauritius, primarily serving learners across Africa and the Indian Ocean region. Today, it serves as a vibrant learning hub, catering to a diverse community of over 1,600 students from across 40+ countries. Middlesex University ranks in the top 150 young universities globally (Times Higher Education rankings) and 6th in the UK.

Started in 2010, a Mathematics Society, initially known as "Mathsoc," was established at the Middlesex University Mauritius to give students a voice. Its mission was to empower students to take initiative and drive solutions in areas such as Mathematics, Statistics, and Numeracy support, extending their own progress beyond academic studies. Through initiatives like guest speaker series, workshops, training sessions, and employability applications, students were encouraged to lead their own development and advance the quantitative aspects of their programmes. This model was inspired by the University of Greenwich's Mathematics Society, founded in 2003 by one of the authors, Dr. B.K. Ashley Hoolash.

By 2014, the authors identified several challenges in adopting the University of Greenwich's Mathematics Society model at Middlesex University Mauritius:

1. The Mauritius campus, where the authors and Mathsoc (now CeMaSTeL) are based, did not offer specialist undergraduate or postgraduate Mathematics or Statistics programmes.
2. There were limited market opportunities to introduce these programmes in the future.
3. Non-specialist Mathematics and Statistics students showed little interest in leading Mathsoc's activities.

4. There was a lack of interdisciplinary collaboration among academics to support the society's growth.
5. As a relatively new campus (established in 2010 as a branch of Middlesex University, UK), Middlesex University Mauritius lacked the infrastructure to support extracurricular activities.

In response to the evolving challenges and leveraging prior experience in managing a support group for students needing assistance in Mathematics and Statistics, the authors undertook a comprehensive overhaul of this support structure in 2017. With the campus expanding both in size and in the demand for enhanced student services, it became imperative to improve the delivery of support. Initially, the authors transitioned the structure from a "society" to a formal Centre within the campus. Subsequently, the Mathsoc was rebranded as CeMaSTeL, marking it as the first Centre established at Middlesex University Mauritius. The authors resumed leadership of CeMaSTeL's activities, with newly defined objectives to extend support not only to non-specialist Mathematics students but also to academics and administrative staff requiring analytical assistance or confidence building. To broaden its impact, the authors strategically integrated the Centre into the Learning Enhancement Team (LET). With robust support from the campus management team, the authors developed and launched a fully operational website, accessible at <https://www.cemastel.org/>.

2. Alignment of CeMaSTeL to the Middlesex University Strategy 2031

The Middlesex University Strategy 2031 (Middlesex University, 2024) outlines four key principles that CeMaSTeL has strived to uphold.

Principle 1 puts students at the heart of the university's actions. CeMaSTeL exemplifies this commitment by being attuned to the diverse backgrounds and varied pathways of its students. It promotes interdisciplinary collaboration and innovation, nurturing creativity and curiosity among students. CeMaSTeL's scope extends beyond Mathematics and Statistics, encompassing a wide range of workshop themes such as Ethics, Literature Review, Research Design, and Methodology.

Principle 2 embodies a commitment to a creative, collaborative, responsible, and agile approach. CeMaSTeL demonstrates this by fostering collaborative activities across the UK and Mauritius campuses, with the potential inclusion of Dubai campus, thereby maximising the collective benefits of these global relationships. Over the years, CeMaSTeL has promoted interdisciplinary collaboration across departments, faculties, and campuses through shared resources and cooperative sessions. This platform offers a sustainable solution to the challenges it addresses, through its global reach showcased by "Workshops," "Events," and "Contributors" links on its website (CeMaSTeL, 2024).

Principle 3 embeds equality, diversity, and inclusion in all endeavours. CeMaSTeL embodies this principle by fostering a respectful, diverse, and supportive community where both staff and students feel a sense of belonging and value. Central to its mission, CeMaSTeL's activities are designed to ensure that all participants can achieve their full potential. Notably, CeMaSTeL has organised Research Retreats aimed at providing postgraduate students and researchers with a focused environment for academic writing. Further details on these initiatives are elaborated in Section 3.

Principle 4 promotes working in partnership with students to enhance students' experience and outcomes. At Middlesex University Mauritius, managing postgraduate deferrals has been a persistent challenge for both staff and students. CeMaSTeL effectively addresses this issue by offering targeted support during the dissertation write-up stage, ensuring that students receive the necessary guidance and resources to complete their work successfully. This collaborative approach not only mitigates deferrals but also fosters a supportive academic environment to help students to submit on time.

3. CeMaSTeL Workshops as a Strategic Tool to Empower Non-Specialist Mathematics Postgraduates

Drawing on their extensive teaching experience in the MSc Management programme since 2015 and the MA Education programme since 2013, the authors identified a critical need for student support in both qualitative and quantitative aspects of professional development. To address this, they designed a comprehensive schedule of targeted workshop sessions delivered in three modalities: online, in-person, and hybrid. This inclusive approach was tailored to accommodate the diverse learning needs of both full-time and part-time students. The flexibility in learning modalities significantly benefits postgraduate students, enhancing their academic and professional growth.

The authors observed that staff enrolled in various programmes, including the Postgraduate Certificate in Higher Education (PGCertHE), MA Higher Education, DProf (Doctorate in Professional Studies), and PhD, frequently sought extensive support from CeMaSTeL to enhance their analytical research skills.

CeMaSTeL has recorded and uploaded many specific presentations. In this paper, we detailed those which were delivered in 2024, targeting international postgraduate students, although the reach also encompasses any researcher interested in developing their research skills.

3.1. Speakers and Abstracts

1. Dr. B. K. Ashley Hoolash (Middlesex University Mauritius): *Analysis with SPSS*.
 - Abstract: A weekly, 2-hour long, in-person workshop, conducted between 20 January to 15 March 2024, to support researchers by introducing analytical techniques using SPSS to perform descriptive statistics, cross-tabulation, hypothesis testing, simple regression, and multiple regression.
 - This was attended by 21 students and 3 academic staff.
2. Sanjay Matadeen (Middlesex University Mauritius): *Middlesex University Institutional Research Ethics Application for Researchers*.
 - Abstract: A 1.5-hour long online session, conducted via Zoom on 17 July 2024, to inform and demonstrate the ethical approach taken when engaging in data collection with the potential for statistical analysis.
 - This was attended by 21 MSc Management students.
3. Mike O'Driscoll (Middlesex University UK): *Introducing NVIVO software to do Qualitative Analysis*.
 - Abstract: A 2-hour long online session, conducted by Zoom on 29 July 2024 introducing NVIVO software to empower researchers to analyse data collected from interviews and focus groups through a practical approach which complemented the theory of qualitative analysis, which they were more familiar with.
 - This was attended by 35 academic staff and 17 students.
 - Online link: <https://www.cemastel.org/workshops.html>
 - NVIVO – Two Workshops by Mike O'Driscoll (Workshop 2)

4. Dr. B. K. Ashley Hoolash (Middlesex University Mauritius): *Deconstructing the Research Onion*.
 - Abstract: A 3-hour long in-person workshop, conducted on 31 July 2024 including a workshop for two hours and scenario-based activities & discussions for one hour, to enhance students' comprehension of the different layers of research helping them in the structure of the thesis or research publications, particularly the research design.
 - This was attended by 21 students.
5. Anju Ajodah (Middlesex University Mauritius): *Interpretative Phenomenological Analysis (IPA)*.
 - Abstract: A 2-hour long online session, conducted by Zoom on 05 August 2024 giving a brief introduction to IPA which is a qualitative research approach focusing on subjective experiences of researchers and their subjects.
 - This was attended by 21 students.
6. Dr Sweta Rout-Hoolash (Middlesex University Mauritius): *Thematic Analysis*.
 - Abstract: A 3-hour long hybrid workshop, conducted on 22 August 2024 following Mike O'Driscoll's NVIVO session, introducing the steps involved in performing thematic analysis. A sample interview taken from Dr Ashley Hoolash's research was used to apply the workshop theory to practice.
 - This was attended by 21 students.
7. Dr. B. K. Ashley Hoolash (Middlesex University Mauritius): *Research Retreat and Networking event*.
 - Abstract: A weekly, whole-day, in-person retreat, conducted between 1 July to 15 September 2024 held every Tuesday to ensure a dedicated, silent time where researchers could focus on progressing their research write-up. A separate 1-hour long in-person networking event concluding the retreat allowed researchers to collaborate and discuss ideas.
 - The number of participants varied each week. On average around 10 students and 3 academic staff participated.

4. Transformational Intent and Impact

After careful critical reflection, the authors have identified several ways in which CeMaSTeL's workshops support advanced practice in the learning environment and has the potential to have broad ranging and transformational impact. The intention to foster global interdisciplinary intercampus cooperative relationships across the UK and Mauritius, potentially including Dubai in the future, demonstrates an innovative approach. It was the first 'centre' to be established at Middlesex University Mauritius. It offers targeted support to students and staff undertaking the research component of their degrees, responding to institutional challenges and delivering impactful solutions.

More concretely, participant feedback from the workshops further evidenced their impact. While all participants strongly agreed that the workshops were relevant, and supported their dissertation work, the reason they gave for this was the research support offered by the workshops. 100% of participants strongly agreed that the workshops made them feel more confident to write a more focused dissertation for their study programmes. Qualitative feedback received highlighted that workshops provided participants with clearer insights into a systematic approach to research

methodology including selection of methods, justification, sampling strategy, data collection methods and the interconnectedness of approaches, to positively impact quality of writing to demonstrate criticality in their dissertation. Improvement areas include introducing the workshop series earlier on in the academic year for more timely learning enhancements; and to add more workshops and more activities in the workshops.

The authors used the feedback received to build on their reflections and evaluations, improving the workshops design to have even more wide-ranging impact on the student experience in a sustainable manner across a range of needs for different audiences and individuals.

5. Acknowledgements

CeMaSTeL's vision of fostering collaboration with colleagues from other campuses and enhancing student learning experiences is gradually becoming a reality. We must recognise the invaluable contributions of colleagues in Mauritius and the UK, who have gone above and beyond to support the authors in their endeavours.

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