

Introduction

The emergence of the Coronavirus Disease (COVID-19) in December 2019 in the city of Wuhan, Hubei Province, China and its subsequent exponential spread thereafter marked a turning point in the delivery of education globally (WHO, 2020). Whilst the virus reached Southern Africa around March 2020, Fiko (2020) indicates that the first case in Malawi was identified and reported on 2 April 2020 through a case imported from India. By 10 September, 2020, there were over 5704 confirmed cases and more than 178 reported deaths (Safary & Mtaita, 2020). A number of measures were implemented to curb its rise, and they included closure of schools, wearing of face masks, frequent handwashing, observance of social distance, restrictions of public gatherings, and internal and external travel limitations (Gadabu, 2020). In fact, Malawi President Peter Mutharika ordered schools and colleges to be closed even before there was a single case of COVID-19 as a means to control the spread of the virus (Safary & Mtaita, 2020). Maxmen (2020) identifies schools, colleges and universities as places with a high potential for increased opportunities for infectious disease transmission for respiratory viruses including the COVID-19 virus. In tandem with this observation, the Malawi Government developed a National COVID-19 Preparedness and Response Plan (Government of Malawi 2020) as a measure towards reducing the spread and impact of the pandemic. The plan comprises a section targeting the education cluster which aims at strengthening coordination among stakeholders as well as with other clusters (health, protection, and water, sanitation and hygiene clusters) in COVID-19 case management, intensification of awareness-raising activities and behaviour changes amongst teachers, learners and communities (Saka, 2021).

The plan further focused on promoting the safety of learners and teachers and ensuring continuity of teaching and learning activities in the face of school closures. However, most higher education institutions in the country were haunted with the idea of exploring alternative modes of education as they had inadequate or no infrastructure to enable them to switch to emergency delivery modes. Likewise, the Malawi University of Business and Applied Sciences (MUBAS) initiated efforts towards re-engineering its teaching and learning processes in the face of the plague. Notable amongst them was the institution of a taskforce in August 2020 to oversee the identification of requirements emergency remote teaching and learning (ERT&L) of which the author was a member, customisation and operationalisation of a Moodle platform, development of a training plan for staff and learners, development of training materials, and eventual roll out of academic activities. ERT&L had been running since then until March 2022 when the Government of Malawi through the Presidential Taskforce on COVID-19 announced the relaxation of restrictions on the pandemic following a significant decrease of new cases and fatalities. This paper uses the five-stage model to examine a capacity building programme for teaching staff in the implementation of ERT&L at MUBAS. Furthermore, it analyses staff experiences to determine how the university could deal with future pandemics.

Methodology

This study employed the mixed-methods design. Around 45 participants comprising 34 lecturers and 11 technicians took part in this research. The lecturers emerged from various disciplines such as engineering, public health, applied sciences, humanities and commerce. Furthermore, their teaching experience ranged from three to 21 years. The findings were, however, not segregated across these variables. Data was collected through a questionnaire survey, semi-structured interviews and observations. The questionnaire focused on a number of issues such as the participants' perception of the university's decision to implement ERT&L during COVID-19 emergency, their experiences during and after the ERT&L training, knowledge and skills gained from the training, and challenges faced throughout the ERT&L period. In addition, it included questions on the participants' need for support in terms of skills development, finances, and material things to help them implement ERT&L during emergencies. Cognizant of the fact that surveys rest on the assumption of an unbroken chain of comprehension between the mind of the researcher through the survey instrument and to the mind of the recipient and vice versa (Hardy & Ford, 2014), a pilot survey was conducted prior to the main data collection exercise to test the questionnaire.

The interviews were aimed at complementing the questionnaire survey, and particularly focused on soliciting explanations the responses provided in the questionnaire survey. The interview guide contained question items concerning explanations related to the effectiveness of the online learning, the pros and cons of the customised Moodle e-learning platform, reliability of assessments administered the e-learning platform, challenges linked to lecturers' usage of the platform, problems encountered by students during the ERT&L lessons, and suggestions on how the online teaching and learning experience could be improved. Some best practices for conducting semi-

structured interviews were observed in line with DeJonckheere and Vaughn (2019) such as acquainting myself with the relevant literature before developing the questionnaire, determining the specific information required from the interviews, ensuring that they were iterative, structuring the questions from broad to in-depth perspective, and ensuring that the sequencing and wording of the questions were modified to best fit the interviewee and interview context. The interviews helped to gain insights into the teaching staff's subjective experiences and opinions. The observations focused on analysing the behaviours and comments made – formally and informally – by the teaching staff during the course of the training as well as the implementation phase of the ERT&L. As depicted by Busetto, Wick and Gumbinger (2020), the observations were particularly useful to gain insights into the setting and actual behaviours of the teaching staff as opposed to their reported behaviour and opinions. Consequently, they enhanced the reliability of the results by complementing the semi-structured interviews and questionnaire survey. The observations further assisted to minimise the distance between the researcher and the researched, and enhance the generation of new knowledge that was previously not envisaged Busetto, Wick and Gumbinger (2020).

The findings were analysed based on Salmon's (2000) Five-stage e-Moderating Model for Teaching and Learning Online. This model provides a framework to help experienced face-to-face lecturers become e-moderators on online programmes. An e-moderator may be viewed as a 'guide on the side', a facilitator of online learning rather than a lecturer (Anderson 2000) whose role is to encourage participation when appropriate. In this study, the model has been applied to examine how the lecturers developed from novices to independent e-moderators. The model comprises a series of five stages across the developmental process. The first stage focuses on access and motivation, second stage on online socialisation, third stage on information exchange, fourth stage on knowledge construction, and fifth stage on development.

Results and discussion

The results were analysed and discussed based on the five-stage model. The process assisted to determine how the staff developed from beginners to independent e-moderators. Cognizant of the limitations of the five-stage model according to Watts (2010) and Moule (2007), this study applied the model in a more flexible manner as the training of the teaching staff at MUBAS integrated both online and face-to-face methodologies. Actually Salmon (2017) presents a more fluid depiction of the model in the shape of a tree to take into account the demands of different contexts. The results further portray how the staff assumed the role of e-moderators and supported learner engagement and learning.

Access and motivation

The university made sure that the teaching staff and learners had access to the Moodle e-learning system and provided them basic resources to help build their technical skills. Johnson (2017) stipulates that the key to the success of the five-stage model rests on ensuring that physical, technical and basic needs are met at the early stages of the course. Among other materials, the teaching staff received monthly data bundles, new laptops for those without one, and the internet bandwidth was increased on campus. Furthermore, the university acquired additional ICT accessories including wireless internet routers to ensure wide Wi-Fi coverage. The support helped to increase their confidence in the new teaching and learning environment. However, the teaching staff noted that some learners faced accessibility problems due to lack of electronic gadgets. One of the staff members revealed during interviews that "one of my students missed classes for almost half the semester as he had no (mobile) phone." Actually, I only knew about this when he did not submit his assignment and had to reach out to him." Similarly, students in very remote areas experienced network challenges, and in some cases, they could not attend online sessions as a result of a lack of electricity in their areas.

In line with the model, the first sessions of the training were introductory with the intention to acquaint the participants with online learning theory and build their familiarity with the tenets of online learning. Kuganathan et al. (2021) stress the importance of providing clear instructions on accessing the online platform and allowing the participants to familiarise with the online environment. Technical problems were also identified at this early stage, and attempts were made to address them before the practical sessions rolled out. The teaching staff observed in the questionnaire survey that online learning is an effective mode of teaching and learning parallel to the face-to-face approach. They particularly appreciated the importance of ERT&L during crisis times such as the CoVID-19 pandemic era. In addition, about 92% of the teaching staff described the Moodle e-learning technology as an excellent platform for ERT&L. Six percent felt that it was a good platform while two percent rated it as poor. They cherished the platform's versatility as it comprises diverse functionalities such as multiple teaching methods, assessment, certification and process evaluation. At the beginning of training sessions, it was observed that most staff members held negative perceptions about ERT&L but the state of affairs gradually improved along the way.

The change in perceptions could be linked to the intensive training on the e-learning platform as well as the acquisition of the necessary infrastructure. An increase in academic independence also influenced the staff to hold positive perceptions. However, the participants highlighted the fact that internet connectivity posed a big challenge to seamless access to the platform. The problem resulted in either classes being stopped prematurely or continuously interrupted until the sessions were suspended.

Online socialisation

The ERT&L training included a theoretical orientation of the Moodle e-learning platform which corresponds to Stage 2 of Salmon's model. The session encouraged the participants to log in into the system and get a feel of the customised platform. The practical sessions started with e-tivities that increased the participants' familiarity with the e-learning platform, and in congruence with Thamarasseri and Vengal (2021), helped to address anxieties and made the participants more comfortable. E-tivities are online activities which include individual participants posting a contribution (Salmon, 2020). Thamarasseri and Vengal (2021) views them as online tasks that are based on intense interaction and reflective dialogue between a number of participants, such as learners and teachers, who work in a computer-mediated environment. They also include interactive or participative elements such as responding to the postings of others as well as the summary, feedback or critique emanating from the e-moderator. Furthermore, the teaching staff were encouraged to engage in informal discussion on how the platform will be utilised in their respective modules. The session further focused on encouraging the teaching staff to promote collaborative activities among the students. Alkhawaldeh (2020, p.231) regards this stage as embodying 'the process of sending and receiving messages'. The activities included ways of inspiring the learners to get to know each other online by exchanging messages and by performing simple tasks together. The process increases their confidence and forms the basis for collaborative work. While the staff acknowledged increased collaboration among the learners in carrying out academic activities, they bemoaned problems concerning the quality of internet and financial limitations which render the learning experience traumatic.

As facilitators, we created an atmosphere where the participants felt respected and free to express their views. We set the scene by promoting mutual respect, defusing any potential conflicts between individuals and helping participants with similar interests and needs to find each other. It was observed that such an environment helped the participants to develop a sense of community and register their social presence on the online platform. The staff complained about the short time between the ERT&L training and implementation of the new mode of teaching and learning. They suggested the need to provide close supervision and support especially during the practical sessions. One staff member grumbled that "we're thrown into river before we mastered the swimming skills. It was really difficult and stressful at the beginning but the situation improved as we went along." The staff suggested the need to organise follow-up sessions as a way of consolidating the knowledge and skills acquired in the maiden training. Such sessions would also provide an opportunity for the staff and learners to address any grey areas observed during the implementation phase.

Information exchange

The training incorporated e-skills related to discovery of new knowledge and information exchange about it. One of the sessions focused on online information search and teamwork with regard to discussion about the content. To facilitate information exchange, the trainings were organised in such a way that academic staff within the same faculty attended the training together. As a result, staff members had the opportunity to work jointly and determine effective ways on how the training aspects could best be implemented in their various programmes. Ruzmetova (2018) maintains that this stage is considered to be completed when all participants learn how to navigate on the e-learning platform, and are able to find and exchange information efficiently and properly. Alkhawaldeh (2021) emphasizes the need for e-tivities linked to searching and personalising the e-learning platform, facilitation of tasks and supporting the use of related learning materials. The teaching staff were advised to present course content, links to online resources, web pages and sites to the learners during the implementation phase in order to achieve familiarity with the utilisation of software tools. One of the participants complemented in the questionnaire survey that "we assisted each other as a faculty since our programmes involve a lot of practical work. It's important that the assessments that we give out correspond with the nature of our programmes, and we need to help each other to do this." The training encompassed the skills needed to develop assessments involving statistical applications and scientific formulae which prevalent in the hard sciences.

The participants were further trained on how to create and manage chatrooms for learners. The chatrooms were intended to provide online spaces where learners would freely interact with one another and share information about the module. Observations revealed that the chatrooms provided a podium where a class could discuss as a

group thorny areas concerning a module and work out best ways of how to tackle them. In so doing, slow learners benefitted from fast learners whilst the latter supplemented their knowledge with the diverse viewpoints of others. One staff member observed that “the students were able to work in groups, motivate each other, debate, and share knowledge on various subjects.” In order to ensure continued support for staff and learners beyond the training, the university assigned information and communication technology (ICT) experts to each faculty. The experts were responsible for attending to staff queries related to the platform usage. The queries ranged from accessibility problems, uploading of module files, formation of learner groups, management of chatrooms, rights and roles in the platform, and administration of assessments.

Knowledge construction

During the trainings, we encouraged the teaching staff to evaluate teaching and learning resources and create their own content as part of e-moderation. The staff were tasked to upload their module outlines on the e-learning platform, produce PowerPoint (PPT) presentations with voice-over, develop module handouts, and develop online tests and examinations. The voiced-over PPT presentations compensated for the frequent internet interruptions experienced during the implementation phase as learners had the chance to download the presentations and listen them offline at times most convenient to them. There were also requested to divide their learners into groups once implementation got underway and give each group some academic tasks to carry out together in order to promote collective knowledge creation among the learners. The activities were situated along the principles of constructive alignment in which the staff members constructed their own learning through relevant practical activities (Salmon, 2020). We created a conducive learning environment to support the activities in order to enhance the achievement of the training outcomes. The staff were advised to ensure that the curriculum, intended outcomes, design and delivery of module content as well as the assessment tasks were aligned to each other during the implementation phase of the ERT&L.

Since the greatest amount of interactivity with the staff occurred at this stage, we allocated a considerable amount of time towards this stage (about 60% of total training time). In fact, time allocation for the training sessions had to be revised after the first training as the participants noted some disparities especially for the practice-oriented activities. One staff member noted in the questionnaire survey that “the introductory sessions were far too long and consumed a significant amount of time which could better be allocated to the practice sessions.” Another one hinted that “we will need another training concentrating only on online assessments. This area requires three full days so that we have a chance to practice thoroughly.” Part of the training on library skills included techniques for validating electronic resources in the face of the proliferation of predatory websites and content. Additionally, the staff were oriented on how incorporate e-tivities in their implementation actions. Kuganathan et al. (2021) highlight the need to present tools and skills that allow learners to critically evaluate issues, compare, contrast, and hypothesize solutions to issues.

Development

As facilitators, we encouraged the teaching staff to reflect on and evaluate their own learning in order to help them become self-directed, independent e-moderators. During this stage, the autonomy of the teaching staff was significantly increased and each participant was encouraged to reflect on their own learning. The training encompassed a lot practical work to allow the teaching staff to apply the knowledge and skills in the development of their own modules in the e-learning platform as well as determination of the elements requiring increased focus or further training. Nearly 63% of the staff registered dissatisfaction with the e-learning platform in relation to administration of assignments and examinations while fewer of them (37%) were positive. They felt that these activities would not be effectively and efficiently conducted with current state of internet connectivity. One staff member observed during interviews that:

There will be a lot of resistance from the learners due to connectivity problems. Most students do not buy enough bundles to last an examination session. And even if they buy, the quality of our (as a country) connectivity would not enable them to finish an online test without disruption. It won't work!

Skills development was further enhanced through scaffolding. Scaffolding involves key activities such as facilitating the learning by providing summaries, weaving the knowledge chunks together, and giving feedback (Salmon, 2020). The teaching staff were trained to integrate scaffolding activities through sharing of new information or demonstrating how to solve a problem, and then gradually stepping back to let the learners practice on their own. Thamarasseri and Vengal (2021) adds that the e-moderator acts as an initial scaffold that gradually shifts responsibility to the learning community under their guidance and the learners develop themselves based on the relationships within the community. Orientation on online assessments allowed the teaching staff to develop

their skills on how to administer assignments and examinations through the platform. The observations showed that staff were able to engage in self-reflection about the best types of assessments for their modules. The assessments ranged from multiple-choice tests, quizzes and essay-type assignments.

Conclusion

The development of online skills progressed gradually from the lower levels of the model (Stages 1, 2 and 3) to the higher levels (Stages 4 and 5). Close supervision was highly required during the first sessions of the training but the participants seemed to be more self-reliant as the training proceeded towards the final session. Similarly, the frequency of questions decreased considerably from the middle point to end of the training. The assignment of ICT support experts for each faculty was a great idea as they provided scaffolding to the development of skills regarding platform navigation. The role of these experts became more visible during the implementation phase of the ERT&L as teaching staff experienced various technical challenges connected with platform access, uploading of content and learner assessment that needed urgent intervention.

The five-stage model seems to be generally effective for the implementation of ERT&L. However, given the contextual landscape of Malawi, application of the model would be more fruitful if it is modified to integrate both synchronous and asynchronous methods of delivery. Such an approach would ensure that problems associated with internet reliability, quality of phone network and gadget limitations are addressed to ensure a seamless provision of education. In addition, it would be more ideal to allow an adequate amount of time for the implementation of the model particularly in the later stages where development of high-order thinking skills are critical. The variation would also permit sufficient time for addressing technical hitches faced by the teaching staff and learners before they plunge into the implementation phase. The short period of time provided in this study influenced some of the participants to request for follow-up trainings to compensate for the gaps experienced.

References

- Alkhaldeh, A. (2020). Reflections by Some Jordanian EFL Lecturers on Salmon's Five-Stage E-Learning Model and Its Possible Application to Teaching English in Jordan. *International Journal of English Linguistics*, 10 (2).
- Anderson, T., 2000. Book Review: 'E-Moderating: The Key to Teaching & Learning Online'. *Journal of Distance Education*, 15(1), 99 - 101.
- Busetto, L., Wick, W. & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurol. Res. Pract.* 2, 14. <https://doi.org/10.1186/s42466-020-00059-z>.
- DeJonckheere M, & Vaughn L. M. (2019). Semi-structured interviewing in primary care research: a balance of relationship and rigour. *Family Medicine and Community Health*, 7, e000057. doi: 10.1136/fmch-2018-000057.
- Government of Malawi (2020). *National COVID-19 Preparedness and Response Plan: March–June 2020*. Government of Malawi.
- Hardy, B., & Ford, L. R. (2014). It's not me, it's you: Miscomprehension in surveys. *Organizational Research Methods*, 17(2), 138–162.
- Johnson, C. S. (2017). Collaborative technologies, higher order thinking and self-sufficient learning: A case study of adult learners. *Research in Learning Technology*, 25. <http://dx.doi.org/10.25304/rlt.v25.1981>
- Kuganathan, A. Slifierz, M., Anderson, L. N., Alvarez, E., & Apatu, E. (2021). The Design of a Master of Public Health Professional Development Course During the COVID-19 Pandemic: Application of the Salmon Model. *Pedagogy in Health Promotion: The Scholarship of Teaching and Learning*, 1–7. DOI: 10.1177/23733799211021453journals.sagepub.com/home/php.
- Maxmen, A. (2020). More than 80 clinical trials launch to test coronavirus treatment. *Nature*, 578, 347-348. www.nature.com/articles/d41586-20020-00444-3.
- Moule, P. (2007). Challenging the five-stage model for e-learning: A new approach. *Research in Learning Technology*, 15 (1), 37–50.
- Ruzmetova, M. (2018). Applying Gilly Salmon's Five Stage Model for Designing Blended Courses. *Dil ve Edebiyat Araştırmaları, Bahar*, 17, 271-290.
- Salmon, G. (2000). *E-moderating: the key to teaching and learning online*. London, Kogan Page.
- Salmon, G. (2017). *Gilly Salmon*, [online] Available at: <http://www.gilysalmon.com/five-stage-model.html>
- Salmon, G. (2020). The 5 Stage Model. Navigating through COVID-19 to ensure quality learning. *eLearnit. Education Alchemists Conference*, Bahrain, Iran. 9 – 11 June, 2020.
- Saka, T. W. (2021). *Digitalization in teaching and education in the context of COVID-19: Malawi*. Publications Production Unit (PRODOC): International Labour Organization.

Safary, E., & Mtaita, C. (2020). COVID – 19 Pandemic in Malawi. *African Journal of Health Sciences*, 33(6), 27-34.

Thamarasseri, I., & Vengal, A. J. (2021). Revisiting Gilly Salmon's Five Stage Model for Online Teaching and Learning. *Indian Journal of Applied Research*, 11, 1. DOI : 10.36106/ijar.

Watts, N. (2010). Reflecting on models for online learning in theory & practice. *All Ireland Journal of Teaching and Learning in Higher Education (AISHE J)*, 2(1). [online]. Available at: <http://ojs.aishe.org/index.php/aishe-j/article/view/19>.

WHO (2020). *Novel coronavirus(2019-nCoV) situation report – 22 [Online]*. Available: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200211-sitrep-22-ncov.pdf?sfvrsn=fb6d49b1_2. [Accessed 29 March, 2022].