

TIRF-British Council Research Mentoring Awards

Researcher

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Project Title

Empowering Autonomous Learning:
Designing a Gamified MOOC Platform for
ESP Courses through the Self-Directed Learning Approach

Dissertation Supervisor

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TIRF Research Topic Investigated

Digital Technology in Language Education

TIRF Mentor Name

Dr. Carolin Fuchs
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Final Report

Research Topic and Its Significance in English Language Education

The research project, titled “Empowering Autonomous Learning: Designing a Gamified MOOC Platform for ESP Courses through the Self-Directed Learning Approach,” addresses a key challenge in English language education. As MOOCs (Massive Open Online Courses) continue to grow in popularity, ensuring learner engagement and promoting self-directed learning (SDL) in digital environments is increasingly important. This study aims to design a gamified MOOC platform for English for Specific Purposes (ESP) courses to boost student engagement and improve learning outcomes.

My dissertation, “Game On! Unlocking the Potential of the SDL Approach in Designing a Gamified MOOC Platform for ESP Courses to Promote Autonomous Learning,” provides both a theoretical and practical framework for incorporating SDL into gamified learning platforms. This research is particularly relevant to ESP, where learners require personalized, self-paced instruction to improve language skills specific to their professional and academic needs. The project aims to enhance learner autonomy and intrinsic motivation, aligning with modern educational trends that emphasize learner-centered approaches and digital literacy.

A key innovation of this study is the development of the Gamified Self-Directed Learning Scale (GSDLS), a psychometric tool to assess three dimensions of SDL in gamified MOOC

environments: self-management (SM), desire for learning (DL), and self-control (SC). Based on the Garrison (1997) model of SDL, the GSDLS fills a gap in existing tools that often fail to account for the dynamics of gamified learning. By providing a validated instrument to assess SDL, this research offers valuable insights for improving learner autonomy and engagement in digital education, especially in ESP contexts. ESP contexts are particularly relevant in this study because they focus on specialized language skills required in professional or academic settings (Hyland, 2022), where SDL is crucial for learners to develop the autonomy necessary to meet specific linguistic demands (Slamet & Basthomi, 2024). The GSDLS helps address the unique challenges of ESP learners, offering a tailored approach to enhance their engagement and motivation in these specialized learning environments. The findings of this study could transform the design of MOOCs and gamified learning platforms, offering practical strategies for educators, course designers, and policymakers to foster self-directed, lifelong learning. Additionally, the study's focus on gamification aligns with global trends in educational technology, making it a timely and impactful contribution to the field.

Research Question

The study is guided by the following primary research question: How does the proposed Gamified Self-Directed Learning Scale (GSDLS) assess self-directed learning (SDL) based on the Garrison model framework in a gamified MOOC platform?

Research Design and Methodology

This study employed a non-experimental survey research design (Creswell, 2013) to develop and validate the GSDLS instrument. The methodology was carefully selected to evaluate the psychometric properties of the scale and to capture the nuanced dimensions of SDL within a gamified MOOC environment. The GSDLS instrument consists of 30 items distributed across three dimensions of SDL (Garrison, 1997):

- a. Self-Management (SM): Encompasses time management, task completion, and goal-setting behaviors.
- b. Desire for Learning (DL): Reflects intrinsic motivation and engagement in learning activities.
- c. Self-Control (SC): Focuses on maintaining concentration and resisting distractions within gamified elements.

The development of the GSDLS drew inspiration from established scales such as the SDLRS (Bonham, 1991), the SRSSDL (Cadorin et al., 2011, 2013), and the SDOLS (Yang et al., 2020). Each item was designed to align with the theoretical underpinnings of the Garrison model of SDL, ensuring both construct validity and practical relevance. To evaluate the GSDLS, the study utilized Rasch analysis, a robust statistical method for assessing the reliability and validity of measurement instruments. The analysis focused on item fit, dimensionality, and person reliability indices, providing comprehensive insights into the scale's psychometric properties.

The study involved 103 participants enrolled in the "English for IT Professionals" course on the LearnovaUM platform, a gamified MOOC designed specifically for this research. Participants were selected based on their enrollment in the course and their willingness to complete the survey instrument. The diverse participant pool provided a rich dataset for evaluating the scale's applicability across various learner profiles.

Progress Made Throughout the Mentoring Period

The TIRF mentoring program has been instrumental in guiding and supporting the progress of my research. During the mentoring period, I achieved several significant milestones:

- a. **Development of the GSDLS Instrument:** With the guidance of my mentor, Dr. Carolin Fuchs, I refined the GSDLS items to ensure alignment with the theoretical framework and research objectives. The iterative process involved multiple rounds of review and feedback, enhancing the instrument's clarity and relevance.
- b. **Implementation of the Gamified MOOC:** The LearnovaUM platform was successfully developed and launched, providing a gamified learning environment for the ESP course. The platform incorporates elements such as badges, leaderboards, and progress tracking to foster learner engagement and motivation.
- c. **Data Collection and Analysis:** The survey was administered to participants, and the collected data were analyzed using Rasch analysis. The results confirmed the reliability and validity of the GSDLS, with minor revisions suggested for further refinement.
- d. **Manuscript Submission:** A manuscript titled "Assessing a Proposed Instrument of the Gamified Self-Directed Learning Scale (GSDLS) in a Gamified MOOC Platform: Garrison Model Framework of SDL" was successfully submitted to the *Journal of Teaching and Learning (JTL)*, a Scopus-indexed (Q2) publication. The manuscript acknowledges TIRF's support and highlights the impact of the mentoring program on the research outcomes.

These accomplishments demonstrate the substantial progress made during the mentoring period and underscore the value of the TIRF program in advancing my research.

Influence of the TIRF Mentoring Program on Research Skills

The TIRF mentoring program has had a profound impact on my research skills, providing invaluable guidance and resources to enhance the quality and rigor of my work. Key areas of influence include:

- a. **Research Design and Methodology:** Through regular consultations with my mentor, I gained deeper insights into designing robust research studies and selecting appropriate methodologies. The mentorship helped me refine my survey design and adopt advanced statistical techniques such as Rasch analysis, elevating the credibility of my findings.
- b. **Academic Writing and Publishing:** Dr. Fuchs provided constructive feedback on my manuscript drafts, enabling me to articulate my findings more effectively and align them with the expectations of high-impact journals. This guidance has significantly improved my academic writing skills and increased my confidence in publishing.
- c. **Project Management:** The mentoring program emphasized the importance of setting clear milestones and managing timelines effectively. These skills have been crucial in ensuring the timely completion of my research tasks and deliverables.
- d. **Networking and Collaboration:** The program facilitated connections with experts in the field, broadening my professional network and opening opportunities for future collaboration. The mentorship has also inspired me to explore interdisciplinary approaches to language education research.



Overall, the TIRF mentoring program has been a transformative experience, equipping me with the skills and knowledge to conduct impactful research and contribute meaningfully to the field of English language education.

Deliverable and Sharing Permissions

The primary deliverable for this project is the validated Gamified Self-Directed Learning Scale (GSDLS) and its accompanying research findings. The scale and findings have been documented in the manuscript submitted to the *Journal of Teaching and Learning Journal (JTL)*. Once the manuscript is accepted and published, the validated scale and its applications can be shared publicly to benefit researchers, educators, and policymakers. I grant permission for TIRF to share the deliverable with the public, as it aligns with my goal of contributing to the broader field of English language education. The GSDLS has the potential to inform the design of gamified learning environments and foster autonomous learning practices, making it a valuable resource for stakeholders in education and technology.

The 2024 TIRF-British Council Research Mentoring Award has been a cornerstone of my research journey, providing the support and resources needed to achieve significant milestones in my dissertation project. Through the development and validation of the GSDLS, this research addresses critical challenges in digital language education and contributes practical solutions for enhancing learner autonomy and engagement in gamified MOOCs. I remain committed to disseminating my findings through publications, presentations, and collaborative initiatives, ensuring that the impact of this research extends beyond academic boundaries. I am deeply grateful to TIRF for this invaluable opportunity and look forward to further advancing the field of English language education.

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