Encouraging critical thinking and meaningful engagement in asynchronous discussion forums

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The aim of this project was to explore pedagogical strategies used to encourage meaningful engagement in asynchronous discussion forums on a distance learning module in a London-based university. The methodology employed was an active inquiry which involved implementing pedagogical interventions into my own practice. Data collection methods included interviews, reflective learning journals, and gathering data analytics on participation in discussion forums. Findings suggest the interventions have improved students' collaboration, participation, critical thinking and meaningful engagement. Students reflected that the forums provided a supportive environment which enabled them to reflect, ask questions, share insights and grasp complex concepts.

INTRODUCTION

This article presents findings from a small-scale action research project on discussion forums, providing readers with an analysis of pedagogical interventions that encourage critical thinking and meaningful engagement. The Community of Inquiry (CoI) framework (Garrison *et al*., 2000) has been used as a theoretical frame for developing the interventions, and data has been analysed using the Active Learning Index (Wilson *et al.,* 2007).

Participation in discussion forums has been shown to promote active and collaborative learning, leading to better results (Xia *et al*., 2013). Additionally, there is a correlation between contribution in discussion forums and module completion (Cheng *et al.,* 2011; Nolan-Grant, 2019). As discussion forums are accessible over a longer period and the entire discussion is visible, it allows for more thoughtful learning (Hawkes, 2006). The extended time provides time for students to reflect upon and examine their own and others' ideas (Gao *et al*., 2013).

My review of the literature has revealed that despite the learning benefits of asynchronous discussion forums, there are pedagogical challenges within this learning space. Even though the discussion forum is one of the primary ways to develop a community of inquiry in online learning environments (Yang *et al.*, 2010), participation rates drop on forums because of a poor response rate and superficial discussions (Gikandi *et al*., 2011). Students do not feel a sense of belonging due to lack of contact with peers and frustration around delayed response to their posts (de Lima *et al.,* 2019). During the first few weeks, students return to the forum frequently but are disappointed

at receiving no response (Dennen, 2007).

The integration of an incentive to participate could increase peer interaction and create a sense of community (Luo *et al.*, 2017). Indeed, compulsory contribution is effective in encouraging cognitive presence and, therefore, creating a sense of community on online discussion forums (Kovanovic *et al.*, 2015). Students who are provided an incentive to participate in online forums do significantly better at the end of the module versus those to whom participation is voluntary (Gafni & Geri, 2010). However, while graded participation is effective, summative assessment is not appropriate (Kovanovic *et al.,* 2015). It is for this reason that my primary intervention for this action research project was to include a small, graded incentive for students to participate in discussion forums.

The CoI framework, upon which many of my interventions are based, develops Dewey's theories around socially meaningful and purposeful engagement with tasks. It posits that to create a community of inquiry in online environments, one must understand how cognitive, social and teaching presence align. Cognitive presence is the construction of meaning through dialogue and reflection. Social presence is the creation of an environment in which students can develop supportive relationships with their peers. Teaching presence is how the online learning space is designed to facilitate social and cognitive presence and guide students towards meaningful learning outcomes (Garrison *et al.*, 2000).

Research shows that it is vital that teachers play an active role in discussion forums and that there is a direct correlation between teacher presence and student engagement (Parks-Stamm *et al.*, 2017). However, to achieve genuine conversation, the teacher needs to situate themselves as a co-participant and not dominate the discussion (Leslie ,2020). Xia *et al*. (2013) establish that instructors need to motivate participation, scaffolding

students' interaction, peer collaboration and dialogue. This can be done by setting clear goals for activities on forums, using discussion prompts that support learning outcomes and providing engaging open-ended questions (Leslie, 2020). Without clear guidance from a teacher, students have been shown to engage in serial monologues, sharing their own experiences without connecting with their peers' contributions (Pawan *et al.,* 2003).

Salmon (2000) suggests that forum discussions should begin with personal and reflective questions to initiate discussion and develop relationships between students. In addition to this, Garrison (2009) posits that students need time to transition to this new form of communicating in a text-only environment. He proposes that students find it difficult to express themselves and their emotions without visual or contextual cues. To help students' transition to this new form of communication and encourage interaction, one of my interventions was to ask students to post a reflective GIF with their initial feelings about the module.

Existing research demonstrates that a high level of interaction does not always create deep and meaningful learning. Numerous studies indicate that there is a need for the development of tasks within discussion forums that encourage critical thinking (Richardson & Ice, 2010; Cheng *et al.,* 2011). Ochoa *et al*. (2012: 123) discovered a repeating pattern in discussion boards:

> *a student poses a question, several students echo with 'me too' replies, the teaching assistant answers and the original poster acknowledges the answer with a 'thank you'.*

Indeed, Champion & Gunnlaugson (2017) concluded that conversations in online discussion boards often are superficial and that pedagogical practice to encourage critical thinking in discussion forums needs to be developed. My study addresses this gap, exploring pedagogical strategies to promote critical thinking and meaningful engagement in discussion forums.

METHODOLOGY

The investigation took place on a first-year undergraduate distance learning module on research methods in a London-based university. The data collection methods consisted of interviews with five students and gathering ongoing data analytics from the Learning Management System (LMS) on overall participation in the discussion forums. The aim of this inquiry was to offer evidence-based research to higher education practitioners on pedagogical strategies to support students' meaningful engagement in asynchronous discussion forums. The study was an active and critical inquiry into an issue I encountered within my own pedagogical practice, with the hopes of applying theory and instituting positive change and thus is classified as 'action research'.

Action research has been defined as a critical inquiry into practical issues with the aims of finding specific solutions for both the context and participants of the study (Cohen *et al.,* 2007). Action research supports practitioners to improve their own practice through action, evaluation and critical reflection (McNiff, 2017). Action research breaks down boundaries between theory and practice, research and action (Winter, 1989). It builds upon critical theory, adding the imperative of action to this process (Townsend, 2012).

Action research involves a process whereby an issue is identified and an experimental intervention is developed and evaluated to gain insight into the problem, with the hopes of solving it (McNiff, 2017). The interventions employed within this project are based within the CoI framework, alongside current research literature, which is detailed in the introduction. They were as follows:

1. Opening with reflective GIF on students' initial feelings on the module.

2. Participation on every forum necessary to get top grade.

3. Discussion prompts that support course learning outcomes.

4. Expectation to provide one piece of feedback to a peers' post.

5. Clear guidance around times the instructor will respond to the forum.

6. Define ground rules for respectful interactions.

7. Engaging open-ended questions.

8. Framework for providing quality feedback to peers.

Action research is suited to higher education as it gives insight into student response and the effectiveness of pedagogical strategies over an academic year. This contextual approach ensures that students receive support for their problems that is tailored to their own specific circumstances (Yasmeen, 2008). Action research is cyclical in nature (Mertler, 2016). These cycles may continue through subsequent cycles of implementation, evaluation and revision, from one year to the next (McNiff, 2017).

This article details the first cycle of action which occurred over one academic year on an undergraduate distance learning module I lead in a London-based university. The study is situated firmly within the interpretivist paradigm: the ontology maintains a subjective stance and the epistemological position is based within socio-constructivism. My positionality was one of an insider-researcher as I am a practitioner within the context I was studying.

Students were asked to write in reflective learning journals following each forum, which were used as a prompt during interviews. They were asked to reflect upon: their learning, the interactions with their peers, the level of support on the forums, and any additional comments or ideas they had. The journals helped to gain a deeper understanding of students' evolving opinions on the discussion forums, and the interviews were used to discern the students' views, understandings and beliefs on the interventions.

Within the interviews, I adapted and restructured questions according to individual participants' level of understanding and their reflective journal entries. This ability to rephrase and readjust questions according to the participant allowed for the interviewee's point of view to be heard and reduced some of the power imbalances in the dynamic between myself as lecturer-researcher and the students as participants (Mukherji & Albon, 2018).

Interviews were offered via videoconferencing software as the student participants lived in different countries, which is common on distance learning courses. Nehls *et al.* (2015) suggest that videoconferencing helps to overcome the barriers of geography. The audio from the video-chat was recorded, with the students' prior consent, so that I could listen without focusing on taking notes (Roberts-Holmes, 2014). Data collected from semi-structured interviews was analysed and coded using the software N-Vivo, computer-assisted qualitative data analysis software, identifying any emerging themes. N-Vivo helped to transcribe audio files and to explore trends, identify themes and make conclusions from large amounts of subjective, rich and in-depth information (Wong, 2008).

In addition to interviews, I gathered baseline data on student engagement with discussion forums from the previous academic years' LMS, alongside ongoing data throughout the intervention. Data collected from the LMS was analysed using Wilson *et al.*'s (2007) active learning index and the CoI theoretical framework (Garrison *et al.*, 2000). This data provided insights into the weekly posts, views, and meaningful engagement from all students on the module in the discussion forums from both before and after the pedagogical intervention. Collecting qualitative and quantitative data provided a broader context of the issue (Salkind, 2010).

ETHICS

Ethics was guided by the British Educational Research Association (BERA) guidelines for educational research (BERA, 2018). It was integrated into every stage of the research process and was subject to modification as unanticipated issues emerged. Coughlan (2019) states that the complex, contextual nature of action research which evolves through cycles of reflection brings forth ethical dilemmas. It was vital that I maintain a critically reflective stance throughout, continually questioning my values, beliefs and motivation and whether these are in my participants' best interests (Coughlan, 2019).

I drew upon Brookfield's (1998) critically reflective theory, examining my assumptions through four distinct and interconnecting lenses: my own autobiography as a learner and teacher, the lens of my students' eyes, the lens of my colleagues' experience and the research literature. I kept a reflective journal throughout the process; this helped me to identify any changes in my thought process and practices. Interviews and reflective learning journals provided me with access to students' experience. To reflect upon my colleagues' experiences, I identified 'critical friends' with expertise in online learning, consulting them on an ongoing basis to monitor my practice and test the validity of my emerging claims (McNiff, 2017).

Voluntary consent was sought from all participants. Nehls *et al.* (2015) state that while the consent documentation is the same for videoconferencing software, the procedures for informed consent should be approached differently when using online interviews. In line with their recommendations, I sent consent documentation in a Word file in an email prior to the interview and reviewed this documentation, gaining verbal consent before the interview started. At this point I made it clear that the participant could withdraw at any stage. It was made abundantly clear that participation in this

study was optional and not part of their university work or any assignment. In line with the university's ethical requirements, all identifiable data has been removed to maintain participants' anonymity.

RESULTS AND DISCUSSION

The data from LMS, interviews and reflective diaries revealed three main themes: the vital importance of support from peers and how the interventions improved critical thinking and meaningful engagement.

MEANINGFUL ENGAGEMENT WITH FORUMS

Data analytics revealed a significant increase in views, posts and meaningful engagement with the forums after the previously stated interventions were put in place when compared with baseline data (see Figure 1). After the intervention, weekly posts increased by 51 percentage points and views by 63 percentage points. Meaningful posts were analysed using the Active Learning Index (Wilson *et al.*, 2007). To be considered a meaningful post, students must: answer prompts using citations to support; reflect on misunderstandings; pose questions to extend the discussion; provide feedback to their peers or share insights. As can be seen in Figure 1, before the intervention 2% of posts were meaningful, whereas after the intervention 90% of posts were meaningful. This demonstrates an 88 percentage point increase in meaningful posts. This intervention, therefore, may be one potential solution to Champion & Gunnlaugson's (2017) call to action around pedagogical strategies to encourage meaningful engagement in discussion forums.

THE IMPORTANCE OF SUPPORT FROM PEERS

The first discussion forum included a reflective prompt inviting students to share a GIF which most clearly represents their initial feelings about the module. In interviews, students reflected that, as the
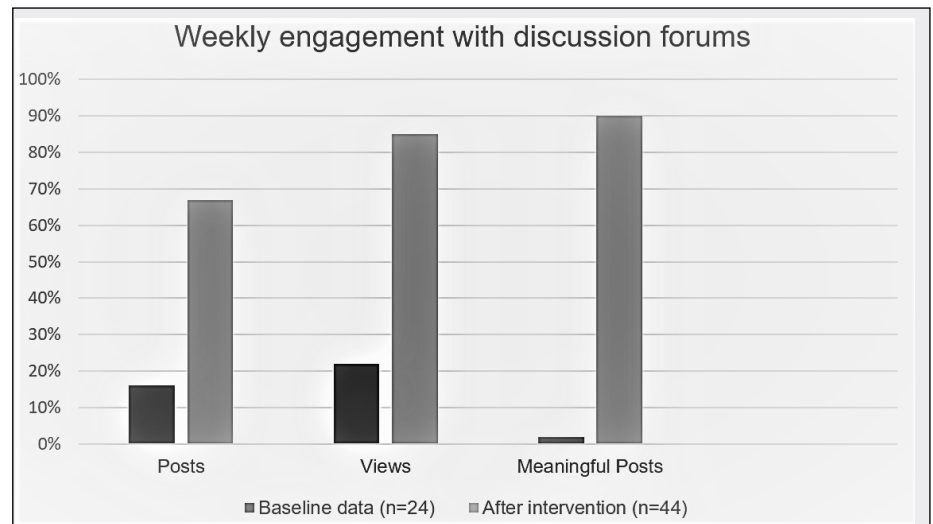

Figure 1: *Students' weekly engagement with the discussion forums, comparing baseline data with data collected after the intervention.*

GIFs were expressive, it made their peers' emotions more tangible and encouraged them to want to get to know them better. This correlates with research which shows that students find it difficult to express themselves in text-only environments and that emojis or GIFs can help with this transition (Garrison, 2009). The visual and contextual cues afforded by GIF icebreaker activity enabled students to express themselves and transition to the text-only environment; this encouraged them to develop relationships with each other.

I provided clear guidance on the time that I would respond to the forums, emphasising that students would be each other's main source of support. One student commented that the fact that the forums were more student-led gave her more confidence to participate, to answer others' questions, to share insights and to make mistakes. Research by Le Voguer *et al.* (2020) shows that removing hierarchies of power increases participation from undergraduate students. In this case, the absence of a hierarchy appears to have created a stronger drive from students to engage meaningfully in the discussion forums and to guide each other towards the learning objectives. This demonstrates the effectiveness of tutors playing a facilitator role in discussion forums, rather than that of an expert. Leslie (2020) posits that dominant tutor

presence on forums can become a barrier to participation, with students left waiting for them to respond.

I defined clear ground rules for respectful interactions on the forums. Every forum included a disclaimer which stated:

> *Please ensure to keep your tone polite and respectful in all online communications. I will not tolerate the following and it will be immediately reported to your programme leader: abuse including bad language, cyberbullying, personal attacks, racism, anti-semitism, sexism, sexually explicit posts, homophobia, transphobia, or harassment.*

Students reflected that the discussion forums had a supportive and friendly tone which provided a sense of community and belonging. This sense of community appeared to encourage open dialogue between students, and a space where they would return to gain additional support. In addition to discussing the module content, the students used the forums to reflect on their academic skills and support each other by suggesting coping strategies. The threads which gave support around academic skills were student-initiated and -led. The students took charge and began to participate and facilitate each other in different ways than prescribed by the tutor. The interventions had proved successful at creating a

'social presence', a space where students developed relationships with their peers (Garrison *et al.,* 2009).

Students were expected to provide one piece of feedback to a peers' post and were given a small incentive to participate. This expectation was communicated to them in their module guide and detailed in their assessment guidance. While acknowledging it was an additional workload, students noted how the expectation to comment on a peers' post provided many benefits. Students revealed that the fast response rate provided a space in which they felt like they were supported by their peers. Another student confirmed that the impetus to post on the forums helped in getting her to post imperfect things, which was scary at the beginning but helped her to work through ideas and '… understand what I didn't get at first through asking questions'. The LMS analytic data from this module shows an increase in participation rates as the weeks go on. Previous research has shown that participation rates usually drop after the first few weeks, which is caused by students' receiving no responses (Gikandi *et al.* 2011). This suggests that the expectation to provide feedback to one peers' post could be an important part of encouraging dialogue and overall satisfaction with discussion forums.

IMPROVED CRITICAL THINKING

Students were given a framework on how to provide quality feedback to their peers using the '3Cs and Q model' (compliment, comment, connect and question) (Lieberman, 2019). The students expressed that the feedback they received from their peers had helped them to improve their writing and prepared them for their assignments. They appreciated that feedback was timely, targeted towards them and noted the use of sensitive language in the constructive criticism from their peers. Students mentioned that providing feedback to others had inspired them to reflect upon the strengths and weaknesses in their own

writing. Research completed by Mostert & Snowball (2013) indicates that 72% of students agree that the most useful part of peer assessment was giving feedback. Indeed, the benefits of providing feedback, as opposed to receiving it, are echoed in numerous studies (Chambers *et al.*, 2014; Mulder *et al.*, 2014). Jackel *et al.* (2017) propose that peer assessment, such as providing feedback on a discussion forum, encourages critical reflection in students, a skill that is vital in higher educational settings.

I provided open-ended discussion prompts that linked to the weekly readings and course learning outcomes. Students suggested that understanding that the questions were directly linked to the learning outcomes made the tasks feel more meaningful. The open-ended questions gave them access to their peers' thinking process on the topics, which made the concepts more engaging. Discussion enables students to engage with a range of differing viewpoints and to learn from each other (Brookfield & Preskill, 2005). Respecting and accepting other's perspectives is part of meaningful and critical engagement (Hajhosseini *et al.*, 2016). The extended time afforded by asynchronous forums allows students to ruminate on their peers' ideas and to provide meaningful responses (Hawkes, 2006; Gao *et al.,* 2013). Seeing other students' posts over an extended period permitted students to engage meaningfully and critically with the concepts from the module.

CONCLUSION

Discussion forums are one of the primary ways to encourage collaboration in distance learning classes. However, a review of the literature indicated that conversations in this space are superficial and that limited pedagogical strategies are available to support critical thinking or meaningful engagement (Champion & Gunnlaugson, 2017). This study addresses that gap, presenting pedagogical interventions which increased student participation by 51 percentage

points, views by 63 percentage points and meaningful engagement by 88 percentage points.

Feedback from students indicates that the interventions provided a sense of community, a place where the students felt they wanted to return to and were comfortable to engage meaningfully in discussion. Students confirmed that the use of GIFs helped them to transition to the text-only environment and encouraged them to develop relationships with each other. The supportive and friendly tone within the forums meant that students felt comfortable to ask questions and make mistakes. The absence of a hierarchy created a stronger drive from students to engage and support one another. Students took charge and began to support each other in different ways than prescribed by the tutor.

Students revealed that posting on the forums helped to clarify their thoughts on difficult concepts. The expectation to provide feedback to one peers' post was an important part of encouraging dialogue and overall satisfaction with discussion forums. This ensured students received quick responses, which meant they returned to the forums. Students expressed that the feedback that they received from both peers and the tutor helped them to improve their writing and prepared them for their assignments. Overall, students noted that the discussion forums were time-consuming, but worth it. The interventions I put in place provided a supportive space which they could revisit and in which they could engage critically with the concepts from the module.

Due to the small sample size, it is not possible to generalise the findings of this study. Nevertheless, it does provide interesting insights into how to encourage students' critical engagement in discussion forums and addresses a gap in the research literature. Further research could include replicating these interventions on a larger scale across multiple courses to test their efficacy. ■

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