

Discord Connects: Fostering Social Presence in Higher Education

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Abstract

Student engagement in online and blended learning environments depends on fostering social presence, yet institutional communication tools can fail to support the informal and dynamic interactions that build a sense of community. While Learning Management System discussion boards provide structured communication, students increasingly turn to external platforms such as Discord, which can offer more effective opportunities for collaboration and engagement. Despite growing interest in student-led communication tools, research comparing their effectiveness with institutional platforms remains limited. This study examines the role of Discord in fostering social presence in a first-year university game design course over six years, comparing its use from 2018 to 2022 with Canvas Discussions in 2023. A longitudinal case study including content analysis of over 1300 online interactions was conducted to investigate student engagement and the presence of social indicators across both platforms, with illustrative examples included to demonstrate how these indicators manifested in practice. Findings indicated that students posted more frequently and demonstrated significantly higher indicators of social presence when using Discord, whereas student posts on Learning Management System discussion boards showed limited to no indicators of social presence. The analysis also revealed how the nature of social presence shifted over time, shaped by platform features and influenced by external factors such as the COVID-19 pandemic. These results suggest that informal, student-oriented communication platforms may be more effective than institutionally controlled Learning Management System discussion boards in promoting interaction and community building in online learning. The study contributes to discussions on digital pedagogy by highlighting the role of platform selection in shaping student engagement and social presence in higher education.

Keywords: Social presence, Community of Inquiry, Discord, Canvas, longitudinal case study, blended learning.

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Student engagement in online and blended learning environments depends on fostering social presence, yet in our experience, institutional communication tools often fail to support the informal and dynamic interactions that build a sense of community. While Learning Management System (LMS) discussion boards provide structured communication, students within our institutional context increasingly turn to external platforms such as Discord, which can offer more effective opportunities for collaboration and engagement. Our interest in the online community platform Discord as a medium for student discussion was piqued by research carried out separately by members of our research team, which consists of teaching and research staff associated with the course over the period of the study. For several years, our university's introductory game design course *SGD100* had an embedded Alternate Reality Game (ARG) in its curriculum and game-based learning researchers investigated the course to determine the impact of the game on engagement and learning. Though Discord was not the original focus of these studies, student feedback and observations highlighted its role in supporting participation, which spurred our interest in examining the platform's potential to impact social interaction in the course.

To further understand the potential of Discord as a driver of social participation in learning, we conducted a six academic year longitudinal quantitative study. The Community of Inquiry framework (Garrison, Anderson, & Archer, 1999) is widely used in studies exploring online and blended learning contexts (for example, Martin et al., 2022; Meech & Koehler, 2024) for analysing written transcripts. While the framework encompasses three presences (social, teaching, and cognitive) necessary for a full educational experience, we focused on social presence to limit the scope of the study and address our primary interest in learning how communication platforms affect social interactions in higher education. Garrison describes social presence as “the ability to project oneself and establish personal and purposeful relationships” (2007, p.63).

Online community platforms are an important component of online and blended learning. We explored Discord as a digital platform and its evolution in higher education from a student backchannel to a more central communication tool, particularly during the COVID-19 pandemic and compared students' use of Discord with the Canvas LMS Discussion Boards. Our aim was to determine how Discord impacted social presence in the multiple iterations of this course. We hypothesised that Discord would be found to be a tool that was engaging students and increasing social presence in a post-pandemic world. Our findings suggest that informal, student-oriented communication platforms such as Discord may be more effective than institutionally controlled LMS discussion boards at promoting student interaction and building an online community of learning.

In recent years, informal communication platforms have become increasingly prominent in higher education, driven by their capacity to facilitate peer-to-peer interaction, foster a sense of belonging, and support collaborative learning beyond formal class time (Kahu, Thomas, & Heinrich, 2024; Vladioiu & Constantinescu, 2020). Tools such as Discord, WhatsApp, and Slack allow students to create dynamic, student-led spaces that complement formal learning management systems by enabling real-time, multimodal, and socially rich interactions (Fiester & Green, 2016; Harunasari & Halim, 2019). However, their integration into educational contexts presents several challenges. First, because these platforms operate outside institutional systems, they raise concerns about oversight, data privacy, and alignment with university policies (Crookes, 2019; Kahu et al., 2024). Second, effective participation often requires a degree of prior familiarity with platform conventions, which can disadvantage students with less digital literacy or experience (Rinekso &

Muslim, 2020). These opportunities and risks underline the importance of understanding how informal platforms can be purposefully leveraged to enhance social presence while maintaining accessibility, equity, and institutional safeguards.

Literature Review

The importance of social interaction for learning in higher education has been widely recognised, but replicating the classroom sense of community can be challenging in online learning situations. One influential model for understanding online and blended learning is the Community of Inquiry (CoI) framework, developed by Garrison, Anderson, and Archer (1999). This framework proposed that effective online learning occurs through the interaction of three core elements: cognitive presence, teaching presence, and social presence. Cognitive presence refers to the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse. Teaching presence involves the design, facilitation, and direction of cognitive and social processes to achieve meaningful learning outcomes. Social presence, the focus of this study, is defined as the ability of participants to identify with the community, communicate purposefully, and develop interpersonal relationships by projecting their personal characteristics into the online environment (Garrison, 2007). Social presence is particularly crucial in online learning because it can help reduce feelings of isolation, foster peer interaction, and contribute to overall engagement and satisfaction.

Armellini and De Stefani (2016) argued that social presence plays an increasingly central role in online education, especially as informal and community-based platforms gain popularity. They contended that social presence not only facilitated interaction but also acts as a mediator that enhanced both cognitive and teaching presence. Similarly, Bentley, Secret, and Cummings (2015) highlighted the centrality of social presence in fostering authentic communication and building a sense of community in online learning, particularly in disciplines that rely on interpersonal connection. In this sense, supporting social presence is not merely a matter of increasing student comfort, it has implications for deeper engagement with content and more effective teaching practices. Building on this recognition of social presence as a core element of online learning, other researchers have proposed extensions to the CoI model to capture more nuanced dimensions of social presence. Whiteside (2015) introduced the Social Presence Model (SPM), which included emotional expression, interaction intensity, and instructor involvement as key components of online engagement. SPM builds on CoI by highlighting how affective tone and informal discourse contributed to the formation of connected learning communities.

The value of these theoretical contributions is further supported by large-scale empirical evidence. A meta-analysis by Richardson, Maeda, and Swan (2017) found that social presence had a significant positive effect on both student satisfaction and perceived learning in online environments. Similarly, Martin, Wu, Wan, and Xie (2022) analysed over a hundred studies using the CoI model and concluded that social presence consistently correlates with favourable learning outcomes in both online and blended learning contexts. These findings reinforced the importance of understanding how social presence is shaped by different communication tools and environments. Tu and McIsaac (2002) provided early empirical evidence that social presence strongly correlated with interaction frequency and satisfaction in online learning. Their work highlighted that social presence is not merely a social construct but a significant determinant of learner participation and retention. Kehrwald (2008) further argued that in text-based online environments, social presence is

often inferred through subtle cues such as timing, tone, and narrative style rather than explicit statements.

Online and blended learning in higher education have grown considerably since the COVID-19 pandemic-induced lockdowns. This underscores the need to develop new methods of communication that help students to feel part of a community of learners, to make connections and develop a sense of belonging like what they would experience in a traditional classroom setting. Discord launched in 2015, primarily as a tool for gamers. With 154 million active monthly users as of January 2023 (Ceci, 2024), Discord is one of the platforms that has emerged as a significant tool that may be used to support learning. Kruglyk et al. (2020) examined the use of Discord as an online learning environment during the pandemic and found that nearly 80% of students were in favour of using Discord for learning. The study described Discord as low-cost, flexible, and convenient. It placed minimal load on the user's computer or internet. It supported multimodal communication (text, images, audio), and it allowed both group and private conversations. Importantly, it could be customised by instructors to suit their pedagogical needs. Constantinescu (2020) reported that Discord helped students communicate with peers and alumni, enhancing their integration into the learning environment. These studies point toward Discord's potential to foster social presence, particularly in the affective and cohesive indicators within the social presence dimension of the CoI framework, through informal tone, peer support, and flexible interaction patterns.

Ghazali (2021) applied the CoI framework directly to the design of Discord-based classes during the pandemic, aiming to overcome the isolation students experienced in lockdowns. While initial attempts used Google Meet and WhatsApp, a lack of social presence was identified. Ghazali replaced these with Discord, creating activities tailored to each CoI element. For example, students were randomly placed in voice channels to promote peer interaction and social presence. Students reported that the platform made classes feel more relaxed, fun, and motivating due to the presence of peers. This example illustrates how deliberate instructional design using informal tools like Discord can support social, cognitive, and teaching presence. While Ghazali transitioned to Discord, Rinekso and Muslim (2020) reported positive outcomes using WhatsApp, a platform already familiar to students. Most discussion in their study was facilitated by students themselves, highlighting how existing student digital habits influence engagement and presence. This aligns with the CoI model's emphasis on learner autonomy and the centrality of perceived relevance in fostering meaningful engagement. In our own context, Discord was selected not only for its communication affordances but also because it is widely used in the game development industry and already familiar to many students, allowing us to leverage their existing communication practices to support engagement.

After the period of emergency remote learning (Hodges et al., 2020), Banson and Hardin (2022) examined how the use of Discord impacted students' academic performance and ability to connect with their classmates. They found that students had positive experiences with Discord and perceived it as a helpful communication tool that helped them to feel a sense of belonging in the class. The students appreciated the ease of use, quick response times, and social aspect of Discord, evidenced by 75% of students reporting that they were highly comfortable with Discord and 20% of students using the class Discord platform at least daily. These outcomes suggest strong interactional and affective presence, reinforcing the value of Discord in informal learning communities.

Unlike formal communication tools embedded in LMSs such as Canvas Discussions, Discord is one of many tools that can act as a student backchannel. Backchannels are digital platforms that enable secondary, digital conversations to occur alongside primary educational activities, enhancing student engagement and participation (Fiester & Green, 2016). In contrast to a front channel which is the primary method of communication in a learning space, backchannels facilitate parallel online discussions that complement traditional classroom interactions. They offer a space for students to ask questions, express opinions, and provide feedback without the fear of embarrassment, promoting a more inclusive learning environment (Harunasari & Halim, 2019).

The technologies used for student backchannels have varied and along with Discord include TodaysMeet, Backchannel Chat, GoSoapBox, Mentimeter, Pear Deck (Harunasari & Halim, 2019), Padlet, Skype, Google Hangouts, and chat features in video conferencing tools like Zoom (Fiester & Green, 2016). Prior to the pandemic, backchannels were primarily used to break the passivity of traditional lecture formats, encouraging active student engagement (Baron et al., 2015). These platforms addressed challenges posed by large class sizes and diverse student needs, providing a medium through which students could engage with content and peers. The adoption of backchannels in higher education has been positive, with studies showing that they significantly increase participation among students, and provide immediate feedback to lecturers, thereby enhancing the overall learning experience (Kassner & Cassada, 2017).

However, there are potential downsides to the use of Discord in a formal education setting. Crookes (2019) points out that the platform has been associated with criminal activities and criticised for the sharing of non-consensual pornography and violent imagery. Despite the positive response to Discord in Banson and Hardin's (2022) study, the researchers also noted that students lost interest in reading the Discord when it was overwhelmed with irrelevant comments, and that the use of Discord for non-class related activities was distracting for some students. These findings speak to a tension within the CoI framework: While informality may promote social presence, a lack of teaching presence or moderation may undermine learning goals. Therefore, educators must weigh the benefits of informality with the need for structured facilitation.

More recently, Kahu et al. (2024) considered the potential of Discord as a learning support in higher education. In response to the shift towards digital communication platforms during COVID-19, the researchers proposed the formalisation of informal backchannels into Learning Commons Communication Tools. These tools could offer structured support, improved accessibility, and consistent application across educational settings. However, Kahu and colleagues stress that formalisation should not erode the flexibility that makes these platforms effective. The challenge is to balance institutional oversight with the peer-led, community-oriented affordances that promote social presence in student-driven platforms.

While the literature confirms Discord's value in fostering student engagement, it rarely addresses how the platform's features map onto CoI's full spectrum of social presence indicators, or how these indicators compare longitudinally with institutional tools like Canvas. Furthermore, few studies have examined platform use across multiple learning conditions over time. This study addresses that gap by investigating how Discord, as a student-preferred platform, influenced social presence in a first-year game design course. The central research question guiding this study is:

How has the use of a popular server-based chat communication platform, Discord, impacted social presence in multiple iterations of a blended learning course?

This question was supplemented with the following sub-questions:

In what ways did the use of Discord impact social presence over the years 2018-2022?

How was social presence impacted using Discord compared with the use of the Learning Management System (Canvas Discussions) in 2023?

Context

This research focused on the course, *SGD100 Introduction to Game Design* that used Discord as an informal communication platform and backchannel for students between 2018-2022, examining its use before, during, and after the pandemic. The course was a 12-credit point (one quarter of a full-time load) first-year game design course for students interested in becoming game designers and developers. The course took place over a 13-week teaching semester with an additional two weeks for assessment. The course is part of a Bachelor of Design degree at a regional Australian university with a student population of 12 450 in March 2022 ([institution redacted], 2023). Studies in game development attract and nurture a significant number of students who have disabilities as well as young male students (currently underrepresented in this University's cohort, which in 2020 was 68% female). Students with disabilities are more highly represented in the game design cohort at nearly 18% (compared to 6.5% in the general university population); the game design cohort tends to be predominantly young, male, and full-time (USCBI data cited in Stieler-Hunt, Hargraves, & Elsom, 2021).

The course was initially delivered face-to-face but shifted to blended and online formats during the pandemic. In 2023, the course transitioned to the institution's LMS Discussion Boards, providing a point of comparison between a student-driven external platform and a formal, institutionally controlled tool. This timeline provided a natural opportunity to explore how Discord shaped social presence under varied learning conditions, ranging from pre-pandemic face-to-face delivery to post-pandemic blended and online adaptations. Examining these shifts allowed us to consider not only how students used the platform, but also how different teaching contexts may have influenced their engagement.

To understand how Discord functioned in practice, it is also important to describe how the servers were set up and managed across different years. In 2018 and 2019, *SGD100* shared a Discord server accessible by all students in the Game Design program at our university. We thought that having a shared server would encourage a sense of belonging for the entire game design cohort starting from first year through to the final year students. However, it became difficult for staff to manage as it was unclear precisely which staff members were responsible for which parts of the server. The shared server also had "bots" which were designed to moderate profanity and check language for inclusivity, as well as a "levelling up" system. At the end of 2019 we shut down the shared server due to a conflict that occurred in one of the common areas of the server. From 2020–2022, the course coordinator for *SGD100* created a new "server" for each course cohort. Bots were not used in these servers. This enabled the course coordinator to know exactly who was in the server

and made it easier to identify anyone not meant to be there. It was also clear who was responsible for conduct, and what was determined to be acceptable conduct, inside the server. The downside of this was that there was less fraternising between students in other years and students who were further along in their studies could not take on an informal role of helping other students.

To maintain clarity and accountability on each server, the coordinator required students to change their nickname to match their university records, with any unrecognised names removed. Communication was intentionally limited to text-based channels, rather than audio or video, so that every interaction could be reviewed if needed and inappropriate behaviour could be addressed transparently. Alongside these spaces, a dedicated “rules” channel set out the expectations for participation. Here, students were reminded to use their real names, approach the space as a professional environment, and interact with kindness and inclusivity. The channel also linked directly to the university’s student code of conduct and presented 15 rules of netiquette, reinforcing shared standards of online behaviour. These guidelines not only clarified what would happen if a student made an inappropriate comment but also framed Discord as an extension of the classroom, a professional yet supportive community space.

The Course Coordinators had Discord on their computer, phone, and tablet and received notifications in real time as students posted. If a post was inappropriate, depending on the severity, the course coordinator would:

- Send the student a private message asking them to edit or remove the post.
- Remove the post immediately and communicate with the student.
- Remove the student from the server immediately for severely inappropriate posts.

To date, we have never had to remove a student from the server and there are very few inappropriate posts made; usually some non-inclusive language is flagged in the early parts of the semester.

From 2018–2021 we were running an alternate reality game (ARG), *Against The Authority* (Stieler-Hunt, Hargraves & Elsom, 2021; Hargraves, 2023), within the class and, at different times, we had two researchers exploring the impacts of that game on the students. The game is not the focus of this study. However, we acknowledge that the game may have driven some of the traffic on the server. The ARG involved the researcher or the course coordinator posting to the server as fictitious game characters. These posts were often giving students feedback on game design concepts or their game designs. This research treats game character posts as tutor posts. The iterations of the course were:

- 2018–2019: Traditional delivery (face-to-face) with ARG and Discord.
- 2020–2021: Hybrid delivery (face to face and online due to COVID-19 lockdowns), continuing both ARG and Discord.
- 2022: Traditional and online delivery with Discord and without the ARG.
- 2023: Traditional and online delivery with Canvas LMS Discussion Boards instead of Discord and without the ARG.

Methodology and Methods

Research Design and Approach

This longitudinal case study analyses social presence in an online learning environment using content analysis. A case study approach is an empirical inquiry that investigates a phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clear (Cohen et al., 2018, Yin, 2018). Whilst case study may not be representative, the data is “illustrative and illuminating, ... strong in reality [and] ... recognize[s] the complexity and ‘embeddedness’ of social truths” (Cohen et al., 2018, pp.378–379). The case is the communication platform in *SGD100 Introduction to Game Design*. Hence, case study was well suited to this research because the boundaries between the communication platform and the learning environment were not clear-cut and the complexity was acknowledged. This design allowed for a detailed investigation of social presence dynamics within a specific educational setting, while illustrative examples are included to demonstrate how indicators of social presence were coded in context. The study provides a comprehensive examination of student engagement in a serious game design course, *Introduction to Game Design (SGD100)* at [Institution Redacted] over six years (2018–2023).

A content analysis design (Cohen et al., 2018; Maier, 2017; Miles et al., 2014) allowed for a nuanced exploration of how social presence evolved as the course transitioned between in-person and online formats across different communication platforms. Initially, the course relied on Discord as the primary communication tool, chosen for its popularity within the gaming community and its relevance to professional practices in game design. However, in 2023, Discord was replaced by Canvas Discussions, enabling a natural comparison of the platforms’ effectiveness in supporting social presence. By tracking and analysing these transitions, the study observes how the shift to an online-centred delivery has influenced the nature and frequency of social presence behaviours among students.

Conceptual Framework

This study applied the Community of Inquiry (CoI) framework (Garrison, Anderson, & Archer, 1999) as an analytic lens with a focus on social presence, as outlined in the Literature Review. To operationalise this construct, we used Rourke et al.’s (1999) coding scheme, which categorises social presence indicators as affective, interactive, or cohesive. These categories capture emotional expression and self-disclosure (affective), reciprocal communication such as questions or acknowledgements (interactive), and markers of group belonging such as greetings and inclusive pronouns (cohesive). Together, they provide a structured way to compare how Discord and Canvas supported the development of community through student interactions. Later refinements to the social presence indicators (Aykol & Garrison, 2019) using learning climate and risk-free expression were not applied as the available data did not support such analysis.

Methods

Ethics approval was received from the University of the Sunshine Coast Human Research Ethics Committee (approval number A231918). This study analysed text-based course communications for evidence of social presence over a six-year period in the delivery of the undergraduate course SGD100: Introduction to Game Design at the University of the Sunshine Coast. From 2018 to 2022, students used the Discord platform for informal course communication and community building, while in 2023 the course transitioned to using the Canvas Discussions tool exclusively. The study was designed post

hoc and emerged from earlier independent investigations by two researchers into the use of an alternate reality game (ARG) embedded within the course (Stieler-Hunt, Hargraves & Elsom, 2021; Hargraves, 2023). During these investigations, one researcher noted that student interviews highlighted Discord as a positive contributor to their learning experience and sense of connection. These quotes from interviews with student research participants demonstrate this:

- I find that if it's just Zoom, then it's like this call, it's like a class you just rock up to, but Discord ties that together where people are talking, and the team can still chat outside of actual calls.
- It was good to continue conversations that otherwise, you know... you would only see people for three hours a week and then you won't be able to talk to them until the next time and you'd forget everything.
- I was very comfortable with Discord. It's my main social media platform I use.

To understand further, the research team initiated a retrospective analysis of student communications to explore the potential role of Discord in supporting social presence. The decision to focus on social presence was informed by its status as a well-established predictor of student engagement, satisfaction, and persistence in online and blended learning environments. By centering on social presence, we aimed to investigate how platform choice shapes students' capacity to form meaningful connections and sustain engagement in higher education.

As outlined in the Conceptual Framework, we drew on the coding scheme established by Rourke et al. (1999). Table 1 presents the three categories of social presence (affective, interactive, and cohesive) alongside their indicators and examples, with verbatim excerpts from our dataset illustrating how these categories were operationalised. Weeks 2 and 6 of each semester were selected to maximise relevance and data continuity, following Rourke et al. (1999), who similarly used discrete weeks of data as indicative of broader conversation patterns. Week 2 generally captures high levels of student engagement as course activities commence, while week 6 reflects a more stable stage of participation once group dynamics have formed and is less affected by external disruptions. This sampling strategy allowed us to compare interaction patterns across platforms and cohorts while maintaining consistency.

Table 1

How We Used Rourke and Colleagues (1999) Social Presence Categories and Indicators

Category	Indicators	Examples from Rourke	Examples from this study (verbatim)
Affective	Expression of emotion*	“I just can't stand it when... !!!!” “ANYBODY OUT THERE!”	“Yes <name> lol” “Will give it a go!! Thanks a bunch”

	Use of humour	“The banana crop in Edmonton is looking good this year”	In reply to a student asking for how to self-treat insomnia: “throw your phone out the window (accompanied by a funny image)”
	Self-disclosure	“Where I work, this is what we do...” “I just don’t understand the question”	“im not too sure if this is correct. Litteraly basing my experience of baseball on wii sports”
Interactive	Continuing a thread*	Software dependent e.g. “Subject: Re” “Branch from	In reply to a message about where something is located, “<student tagged> It should be at D block, or more specifically room DG.40” Exchange between two students (the second two messages in this exchange are examples of replies): Student 1: “you think it'd be worthwhile making a google docs we can all chip into?” Student 2: “”ll make one now” Student 1: “Cheers”
	Quoting from other messages*	Software dependent e.g. “Martha writes:” Or text prefaced by less-than symbol <.	
	Referring to explicitly to others’ messages*	“In your message you talked about Moore’s distinction between...”	
	Asking questions	“Anyone else had experience with WEBCT?”	“for Video 1- does anyone think it sounds like she's describing a game?”
	Complimenting, expressing appreciation	“I really like your interpretation of the reading.”	“again, thank you so much” “you've saved me a trip to the ER”

	Expressing agreement	“I was thinking the same thing. You really hit the nail on the head.”	“Yea, now that i'm reading my response I can see how I would have described the game in too much detail. The quote you pulled from the interview I posted seems like a more reasonable and adequate pxg.”
Cohesive	Vocatives*	“I think John made a good point.” “John, what do you think?”	“<Student name> there is a doc that gives you a list of serious games. I think it means that games that doesn't just do entertainment e.g. Pokemon Go while it was a game it got people moving around.”
	Address or refers to the group using inclusive pronouns	“Our textbook refers to...” “I think we veered off track...”	“Hi, I'm still sorting out responding to the latest news and the ice breaker game we made”
	Phatics, salutations	“Hi all” “That’s it for now” “We’re having the most beautiful weather here”	Tutor: “Thanks for kicking us off <Name>. Nice observations!”

Messages were exported from Discord using Discord Chat Exporter (hypercavs, 2022) extension for Chrome web browser, while Canvas posts were manually compiled. Coding of these messages was undertaken in Excel with one spreadsheet for each year. Each message was coded into one or more of the three social presence categories (affective, interactive, or cohesive) if it demonstrated relevant indicators, allowing for multiple classifications within a single message where applicable. Coding at the category rather than indicator level provided a consistent basis for comparison across platforms.

Two coders independently read the full content of each message and made a binary judgment (“yes” or “no”) as to whether it demonstrated one or more of the three categories. A “notes” column was used to record uncertainties and highlight which indicators seemed most relevant, although indicators themselves were not formally coded. Inter-rater reliability was assessed through initial double-coding, which demonstrated a high level of agreement. Discrepancies were resolved through discussion in research meetings until consensus was reached, following established practices for content analysis. To support consistency, the research team also established shared clarifications for how the categories would be applied in practice:

- **Affective – Expression of Emotion:**

Exclamation marks and other emphatic punctuation were interpreted as emotional expression. Posts were also coded as affective when emotions were directly named (e.g., “annoyed,” “fun”)

- **Interactive – Continuing a Thread, Quoting from Other Messages, Referring Explicitly to Others’ Messages:**

Indicators such as continuing a thread, quoting messages, or explicitly referring to others’ posts were treated collectively, as they often overlapped and were difficult to distinguish reliably. Because the Discord export did not retain reply to metadata, coders inferred interactivity from textual and contextual cues (e.g., direct references to earlier messages).

- **Cohesive – Vocatives:**

Posts were coded as cohesive when participants were addressed directly by name. In some cases, contextual interpretation was required to determine whether a reference was directed at a specific individual.

Across the six years, a total of 1,339 posts were coded. The dataset included four years (2018–2021) of Discord use in combination with an interactive ARG activity, one year (2022) of Discord use without the ARG, and one year (2023) of Canvas use without the ARG. In contrast to Discord, where students could freely initiate conversations, Canvas Discussions were structured around instructor-created threads. Students participated by replying to these posts rather than starting new discussions themselves, which may have influenced both the volume of posts and the types of social presence indicators observed. Table 2 summarises the participants and posting activity across these iterations.

Table 2

Summary of Participants and Data Collected

Year	Student communication platform	Interactive ARG included?	Number of students in cohort	Number of tutors	Number of posts in Weeks 2 & 6
2018	Discord	Yes	17	1	45
2019	Discord	Yes	41	1	347
2020	Discord	Yes	37	1	147
2021	Discord	Yes	75	3	554
2022	Discord	No	71	2	218
2023	Canvas	No	22	2	28

The primary data source for this study was student and teaching staff communication via Discord and Canvas Discussion Board. Interview data from separate

studies are used selectively to illustrate and contextualise these findings but were not part of the dataset for analysis. Validity of the content analysis was achieved with at least two of the research team analysing each online post and differences resolved with team discussion (Cohen et al., 2018; O’Leary, 2017). Reliability was achieved through research team discussions to ensure close adherence to the theoretical framework (Miles et al., 2014; O’Leary, 2017). The necessity to infer meaning (Yin, 2018) from online posts is potentially a limitation of this study.

Results

After coding the contents of each of the SGD100 posts from weeks 2 and 6 for the years 2018 to 2023, the data was collated and analysed to identify trends. The analysis began with examining the number of posts made each year, followed by assessing how many of those posts demonstrated social presence, and concluding with an exploration of the most dominant categories of social presence.

Number of Posts

Table 3 presents, for each year, the platform used, the cohort size, the number of tutors, and detailed posting activity during weeks 2 and 6. This includes the total and mean number of posts by students and tutors, the number of unique students who posted, and the maximum posts made by an individual student.

Table 3

Messages Posted by Students and Tutors in Weeks 2 and 6 for SGD100 Between 2018 And 2023

Year		2018	2019	2020	2021	2022	2023
Platform Used		Discord	Discord	Discord	Discord	Discord	Canvas
Number of Students in Cohort		17	41	37	75	71	22
Number of Tutors		1	1	1	3	3	2
Weeks 2 & 6	Number of Student Posts	20 47.62%	216 65.85%	69 46.94%	446 80.51%	192 88.07%	9 32.14%
	Number of Tutor Posts	22 52.38%	112 34.15%	78 53.06%	108 19.49%	26 11.93%	19 67.86%
	Mean Number of Posts per Student	1.18	5.27	1.86	5.95	2.70	0.41
	Mean Number of Posts per Tutor	22.00	112.00	78.00	36.00	8.67	9.50

Number of Students Posting	4 23.53%	28 68.29%	11 29.73%*	38 50.67%*	33 46.48%	7 31.82%
Number of Students not Posting	13 76.47%	13 31.71%	26 70.27%	37 49.33%	38 53.52%	15 68.18%
Maximum number of posts by an individual student	15 75.00%	52 24.07%	19 27.54%	123 27.58%	31 16.15%	2 22.22%

* At the time of download some students had left the server and were now identified as DeletedUser. It is unknown how many students DeletedUser represents. For the purposes of this analysis, these have been listed as one user.

Comparing the Use of Canvas with Discord

Before turning to coded data, it is useful to note key functional differences between Discord and Canvas. These affordances shaped how students interacted and may help explain the variation in social presence across platforms. Table 4 summarises these features.

Table 4

Comparing Features Offered by Discord with Canvas Discussions

Feature	Discord	Canvas Discussions
<i>Real-time Communication</i>	Yes, supports real-time text, voice, and video chat.	No, discussions happen asynchronously via posts and replies.
<i>Threaded Discussions</i>	Yes, supports threads to organise conversations within channels, but can get chaotic in large groups.	Yes, discussions are neatly threaded under posts for organised conversations.
<i>Multimedia Support</i>	Yes, supports embedding of media and links within posts.	Yes, supports embedding of media and links within posts.
<i>Emoji, Stickers and GIF Support</i>	Yes, natively supported and custom support is available through paid services.	No
<i>Voice & Video Integration</i>	Yes, built-in voice and video chat for instant communication.	No
<i>Notifications</i>	Yes, customisable notifications for specific channels or servers.	Yes, but it is platform-wide, not customisable by specific posts.
<i>File Sharing</i>	Yes, but with limitations based on server settings.	Yes

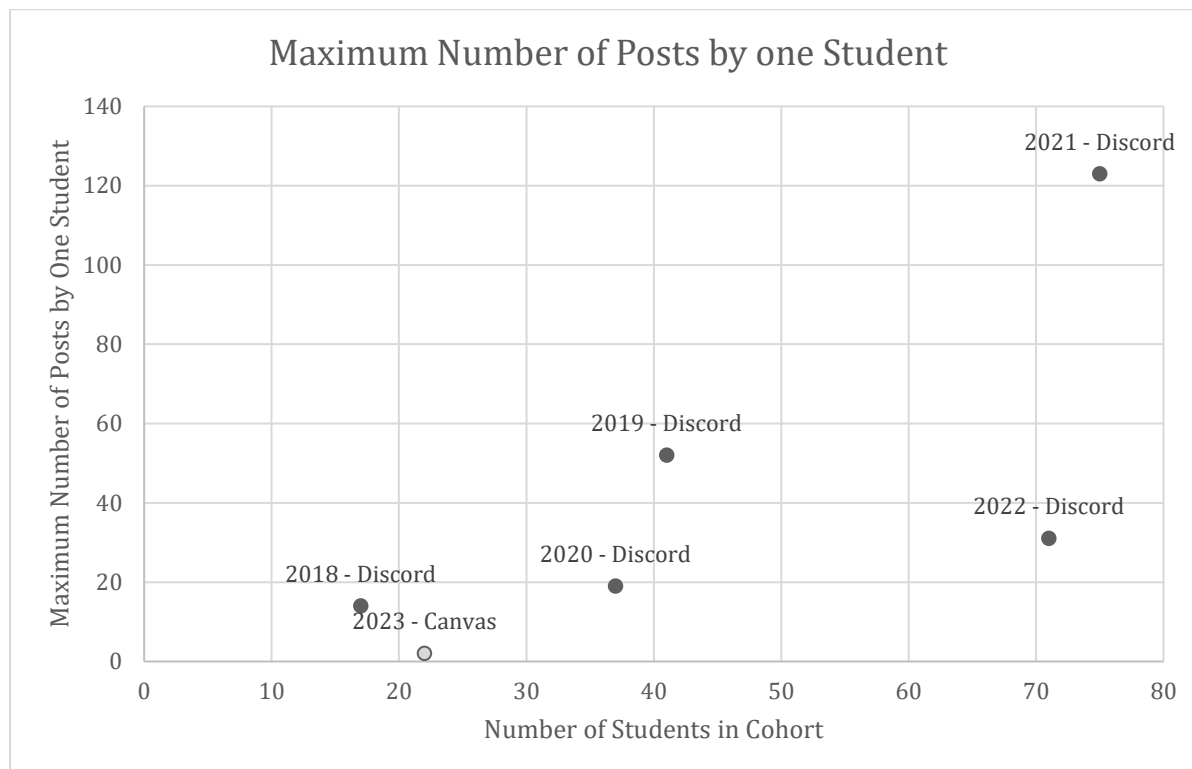
<i>Roles & Permissions</i>	Custom roles and permissions can be assigned per server/channel.	Limited to standard student and instructor roles with access permissions.
<i>Search Functionality</i>	Yes, but lacks organisation in large channels.	Yes, but it is easier to search by topic.
<i>Privacy</i>	Yes, but user data is collected by Discord.	Yes, typically within a secure, academic environment.
<i>Mobile & Desktop Access</i>	Yes, available via mobile and desktop apps.	Yes, available via mobile and desktop browsers, but there is no dedicated app for discussions.
<i>Learning Analytics</i>	No	Yes, tracks participation and engagement through the Canvas LMS.
<i>Integration with Other Tools</i>	Yes, it easily integrates with other tools via bots, webhooks, etc.	Limited, integrates with Canvas's suite of educational tools, but more restricted.
<i>Access Control</i>	Highly customisable access to different channels based on roles.	Access is usually limited to the course and assigned by the instructor.
<i>Moderation Tools</i>	Advanced moderation features with bots and manual controls.	Limited moderation features, managed by the instructor.
<i>User Community</i>	Highly active and engaging, especially for casual or community-based interaction.	Focused on academic discussion with formal and structured participation.
<i>Anonymity</i>	Users can choose their display names and remain somewhat anonymous.	Linked to the student's institutional profile, offering no anonymity.
<i>Collaboration Features</i>	Supports screen sharing, live streaming, and other collaborative tools.	Primarily text-based discussion with limited real-time collaboration.
<i>Data Storage/Archiving</i>	Messages stored indefinitely unless deleted.	Discussions are archived within the course, easily accessed for academic purposes.
<i>Customisation</i>	Highly customisable with bots, emojis, and themes for each server.	Limited customisation, with standard formatting for posts.

<i>Onboarding and Learning Curve</i>	Can have a steeper learning curve for users unfamiliar with its layout.	Low learning curve, straightforward, and integrated into the LMS.
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As indicated in Table 3, in 2018 – 2022 when Discord was used, the mean number of student posts (ranging from 1.18 – 5.95 posts per student) was greater than the mean number of student posts (0.41) in 2023 when Canvas Discussions was used. The increase in the mean number of student posts could have been caused by a “network effect” where more people create more posts, generating more opportunities for responses (Swann 2002). Therefore, the use of Discord in 2018 (student enrolments = 17) was compared with the use of Canvas in 2023 (student enrolments = 22). Given that Discord has grown in popularity since 2018 and the slightly smaller number of enrolments in 2018, this comparison would give the 2023 Canvas Discussions an advantage. However, the mean number of posts per student (1.18) when using Discord in 2018 was still higher than when using Canvas Discussions in 2023 (0.41). Therefore, based on this limited data set, it appears that there will be more posts from students when Discord is used rather than Canvas Discussions. Excluding 2020 (when there was a move to emergency remote learning) the percentage of students who posted grew each year in Discord. When Canvas was the collaboration tool 30.43% of enrolled students posted whilst in Discord it varied between 23.53% and 68.29% of students who posted.

Domination by a Single Student

In 2018 the Discord server seemed to be dominated by one student. Three-quarters of student posts (15 posts) in weeks 2 and 6 in 2018, were made by one student (See Table 4). This level of domination did not occur in other years with the most posts from one student ranging from 16.15% (31 posts) in 2022 and 27.58% (123 posts) in 2021, even though the actual number of posts by an individual student increased from 18 in 2018 to 123 in 2021. There also appeared to be a network effect (Swann, 2002) in the data; in four of the five years that used Discord, the maximum number of posts by one student was higher when the student population was higher (see figure 2). The exception to this was 2022, and it may have been due to a change in teaching staff or that the ARG used in the classroom was discontinued.

Figure 2*Maximum Number of Posts by One Student*

In 2023, student participation in Canvas Discussions was limited, with the highest number of posts by a single student being two (see Table 4). Other indicators also suggest lower levels of engagement on this platform. One possible explanation is the absence of instant notifications, a feature available on Discord that facilitates real-time conversations. Without this functionality, interactions on Canvas may have been less dynamic and immediate.

Pandemic Effect

In south-east Queensland, 2020 was the year most disrupted by the COVID-19 pandemic; classes were converted to emergency remote learning. Table 4 shows that in 2020 there was a lower number of mean posts per student than the other years that used Discord, except 2018 which is when Discord was first introduced. However, 2020 still had more mean posts per student than when Canvas was used in 2023. Further, in 2020 the tutor was responsible for 53.06% of posts (students were responsible for 46.94% of posts), which is greater than the percentages for 2019, 2021 and 2022 when the percentage of posts by tutors ranged from 11.93% to 34.15%. This may indicate that when students are in distress, their studies will become less important than their personal situation; and despite being a useful tool, Discord is not a “silver bullet” that can “fix” all student engagement issues.

Posts Coded as Demonstrating Social Presence

In Discord, most student post content was coded as demonstrating one or more categories of social presence. In 2018, 60% of student posts demonstrated one or more categories of social presence, whilst from 2019-2022 the percentage of student posts demonstrating one or more categories of social presence varied between 84.06% and 97.53%. Even in 2020, during the pandemic, when the number of posts was considerably

lower, 84.06% of student posts still demonstrated a social presence (See Table 5). However, in 2023, when the collaboration tool was changed to Canvas, none of the student post content was coded as demonstrating social presence. One possible explanation is that students perceived Canvas as a formal, institutionally controlled platform rather than a social medium, in contrast to Discord, which they associated with informal peer interaction.

Figure 3a–f shows the distribution of posts coded for social presence by individual students between 2018 and 2023. Generally, most students either made no posts or made a small number of posts (between one and ten) with content demonstrating social presence in weeks 2 and 6. In 2019 there was one student who made 51 posts with social presence and in 2021 there were three students who dominated the posts: one student made 60 posts demonstrating social presence, one 105, and one student made 121 posts demonstrating social presence. (Note that the 105 posts demonstrating social presence were made by DeletedUser. The course coordinator believed that may have been only one student as she was very aware that year that one student who regularly maintained their presence on Discord dominated the posts. There may, however, have been more than one student who deleted their username.)

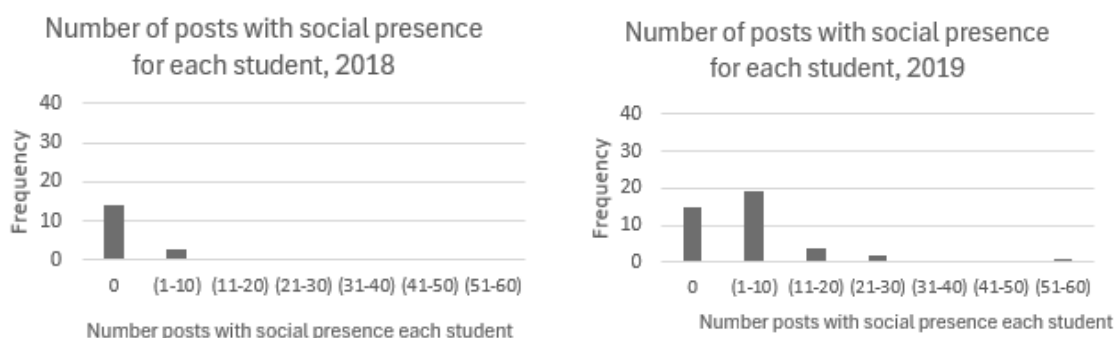
Table 5

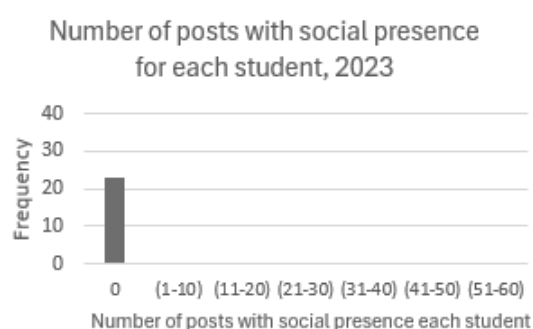
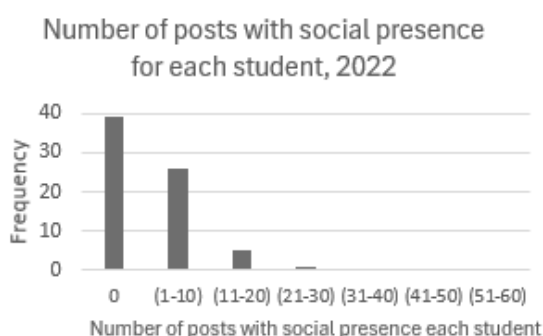
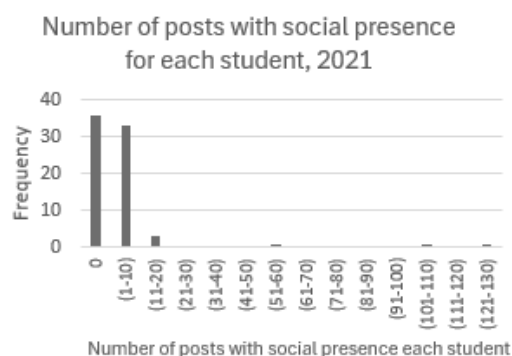
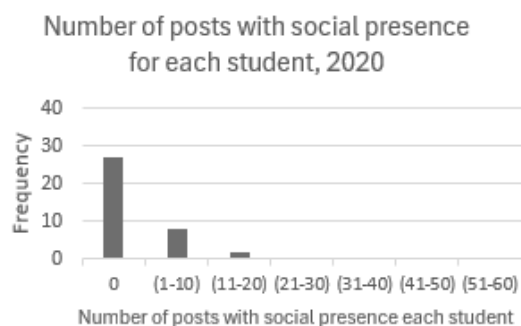
Number of Students with No Posts Coded as Demonstrating Social Presence

	2018	2019	2020	2021	2022	2023
Number of students who did not upload a post with social presence	14 82.35%	15 36.59%	27 72.97%	36 48.00%	39 54.93%	22 100%
Number of students who did not post	13 76.47%	13 31.71%	26 70.27%	37 49.33%	38 53.52%	15 68.18%
Number of students in cohort	17	41	37	75	71	22
Number of student posts	20	216	69	446	192	9
Number of student posts with social presence	12 60.00%	210 97.22%	58 84.06%	435 97.53%	188 97.92%	0 0%

Figure 3a-f

Number of Posts with Social Presence Made by Each Individual Student for Each of the Years 2018 to 2023





As shown in Table 6, all years that used Discord showed that student posts were more likely to be coded as demonstrating social presence. In 2018, 60% of posts were coded as demonstrating at least one social presence category whilst in all subsequent years, except the year most affected by the pandemic, more than 97% of student posts were coded as demonstrating social presence. In 2020, the year most affected by the pandemic, this dropped to 84.06%, which is still reasonably high. In stark contrast, in 2023 when Canvas Discussions was used, no student posts were coded as demonstrating social presence.

Table 6

Student Posts Coded as Demonstrating Social Presence, Maximum Posts Coded Per Individual Student, and Mean Number of Posts Coded Per Student

Year	2018	2019	2020	2021	2022	2023
Number of student posts coded as demonstrating social presence	12 60.00%	210 97.22%	58 84.06%	435 97.53%	188 97.92%	0 0.00%
Number of student posts not coded as demonstrating social presence	8 40.00%	6 2.78%	9 13.43%	10 2.23%	4 2.08%	9 100%
Maximum number of posts coded as demonstrating social presence by an individual student	9	52	16	121	29	0

Mean number of posts coded as demonstrating social presence per student	0.71	5.12	1.57	5.80	2.65	0
SD	0.815	2.235	1.235	2.392	1.616	0
Number of students	17	41	37	75	71	22

Considering Student Social Presence Posts with t-Tests

To determine whether there were significant differences between the mean number of posts per student each year t-tests were conducted. Table 7 shows that the mean number of posts per student were significantly different each year except between 2019 and 2021 (at the 95% significance ($|t| > 2.0$)).

Table 7

Comparing the Mean Number of Posts with Social Presence Per Student Each Year

Year	Mean no. Posts per student	SD	t-test with 2018	t-test with 2019	t-test with 2020	t-test with 2021	t-test with 2022	t-test with 2023
2018	0.01	0.815		11.01	3.04	15.00	7.05	-3.57
2019	5.12	2.235	-11.01		-8.80	1.52	-6.21	-14.67
2020	1.57	1.235	-3.04	8.80		12.35	3.87	-7.72
2021	5.80	2.392	-15.00	-1.52	-12.35		-9.37	-21.00
2022	2.65	1.616	-7.05	6.21	-3.87	9.37		-13.81
2023	0	0	3.57	14.67	7.72	21.00	13.81	

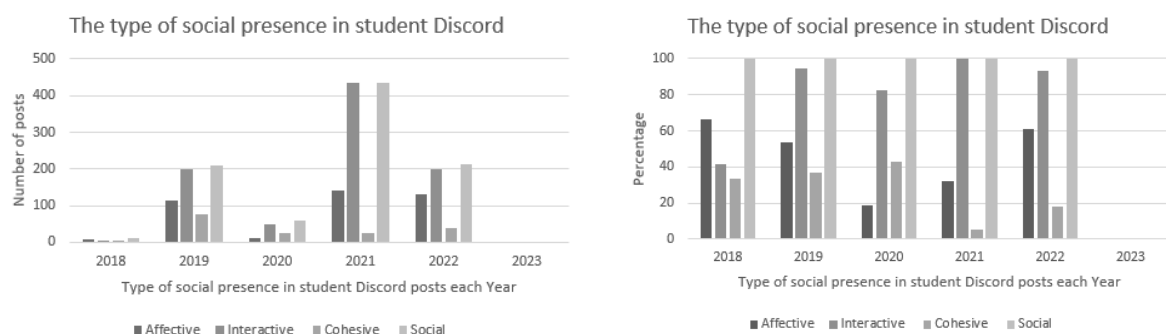
Most posts with social presence were seen in 2019 and 2021 which are not significantly different to one another. All other values are significantly different to 2023. There was a noticeable decrease in 2020 which could be related to the impact of the COVID-19 pandemic.

Categories of Social Presence

The occurrence of social presence was coded according to affective, interactive, or cohesive categories. There may have been more than one category relevant to the content of each post. In all but 2018, where 41.67% of the student posts were classified as interactive, the most prominent category was interactive which varied between 99.77% in 2021 and 82.76% in 2020. Prior to the pandemic the affective category was prominent (in 66.67% of posts in 2018 and 53.81% in 2019). The affective category was only evident in 18.97% of posts in 2020 and then increased to 32.42% of posts in 2021 and 61.03% of posts in 2022. Generally, the cohesive category was the least, varying between 5.52% of student posts in 2021 to 36.67% of student posts in 2019. During the pandemic (2020), the cohesive category was the highest in student posts with social presence at 43.1%. These are shown in Figure 4 and Table 8.

Figure 4a-b

The Numbers (A) and Percentages (B) of the Different Categories of Social Presence in Student Discord Posts for the Years 2018 To 2023.

**Table 8**

The Different Categories of Social Presence in Student Discord Posts for the Years 2018 To 2023

Year	2018	2019	2020	2021	2022	2023
Affective	8 66.67%	113 53.81%	11 18.97%	141 32.41%	130 61.03%	0
Interactive	5 41.67%	199 94.76%	48 82.76%	434 99.77%	198 92.96%	0
Cohesive	4 33.33%	77 36.67%	25 43.10%	24 5.52%	39 18.31%	0
Social	12	210	58	435	213	0

Summary

Comparing the use of Discord as a discussion platform for a first-year game design university class with Canvas Discussions revealed that students posted more often in Discord and their posts were more likely to be coded as demonstrating social presence, particularly in the interactive category. The pandemic had a noticeable negative impact on the percentage of students who posted to Discord, suggesting that personal circumstances take precedence when students are in distress. This indicates that an online discussion tool alone is unlikely to resolve all engagement challenges

Discussion

There are benefits to being part of an online learning community, even for those students who do not participate. Students benefit not only from asking questions, but from observing the interactions of their peers, learning from the answers they receive, and feeling comforted by the realisation that others face similar challenges. Rinesko and Muslim (2020) found that lurkers (those students who follow discussions but do not post) can gain significant value by learning from their classmates. This suggests that regardless of the format, increased discussion within a course can benefit the entire cohort.

Variations in social presence between Discord and Canvas Discussions may be influenced by students' perceptions of these platforms. Research by Kahu et al. (2024) suggested that students felt more comfortable asking questions on Discord, viewing it as an informal space, whereas Canvas Discussions was perceived as a more formal, institutional platform. Discord was perceived to be a social media, rather than a formal communication channel (Heinrich et al., 2022). Students were relieved of the burden of formulating questions in a formal manner. A "key strength of Discord was that it sat outside the institutional space" (Kahu et al., 2024, p.309), creating an environment where students felt equal to staff. Our findings of greater social presence in Discord aligns with these observations, suggesting that the perceived informality of the platform helps to encourage student interaction.

A significant difference between the way that Canvas and Discord are perceived is the control of the discussion space and its functionalities. Canvas Discussions has the same features as many external tools: students can respond to questions, teachers are available to join discussions, and students can work together, but it allows less user control than Discord. Discord allows users to set up private spaces to use the service as a backchannel, a feature that students value (Kahu et al., 2024; Rinesko & Muslim, 2020). Canvas does not have this feature, nor does it allow students to include participants from outside their course, an option they have in their private Discord channels. However, the difference appears to be more about perception than functionality, raising the question of whether an institutional platform could ever provide the level of student autonomy that an external tool can. Kahu et al. (2024, p.310) noted that "student familiarity with a tool was also important" suggesting that student preferences may be related as much to their familiarity with the tool, as to its technical capabilities.

The specific tool may be less important than the students' prior experience and comfort in using it. In our study, most students were gamers and so were already familiar with Discord through gaming. Likewise, Rinesko and Muslim (2020) investigated the use of WhatsApp for course discussion and attributed its success to students' existing use of the app for personal communication. Kahu et al.'s comparison of Microsoft Teams and Discord found that Discord offered "wider disciplinary community" (2024, p.304), but Teams did not, which they attributed to a lack of student familiarity with the platform. This suggests that Kahu et al.'s (2024) proposed Learning Commons Communication Tool (LCCT) may struggle to reach the same levels of engagement as the technology that students already use in their everyday lives.

Discord's community building potential may extend beyond the immediate course cohort. Previous studies found that there was value in including class alumni in the discussion space (Vladoiu & Constantinescu, 2020) and incorporating students from other courses, as well as industry professionals (Kahu et al., 2024). Heinrich et al. (2022) pointed out that using Discord in conjunction with their LMS facilitated communication within the course itself, in student subgroups, and in the broader disciplinary cohort. Our implementation of Discord was more limited, restricting the server to current class members after an earlier incident, but the platform still facilitated stronger community interaction than did Canvas. Teachers can participate on either platform. Heinrich et al. (2022) observed that students valued the presence of their teachers, and Rinesko and Muslim (2020) noted that engagement from teaching staff increased engagement. However, it appears that the key factor is not the use of Canvas Discussions themselves, but the visibility of teachers engaging within student-oriented spaces rather than restricting their

presence to institutionally controlled platforms.

While Discord offered benefits for social presence, it also had its limitations. Students who were unfamiliar with the platform often struggled with navigation and locating stored material, which could present challenges in accessing course information and raise equity concerns. Our students were required to use their real names to participate in the Discord server, and Canvas is automatically tied to the students' university log in, so anonymity was not possible, a feature that Squires and Rigby (2024) found valuable for student engagement. Our institution discontinued use of Discord because of concerns about oversight. These concerns show the challenges of balancing informal, student-led spaces with institutional requirements for equity, accessibility, and control.

The researchers found the Community of Inquiry and within it the concept of social presence with its three categories: affective, interactive, and cohesive, to be a useful framework for exploring and explaining what the teaching staff using Discord and Canvas Discussions intuitively understood about the nature of student participation in these spaces. The template provided by Rourke et al. (1999) is still quite relevant to current studies in this area, however, minor modifications such as those outlined in Table 2 may need to be made to account for software affordances. Other scholars have also suggested variations to CoI. Aykol & Garrison (2019) replaced the *interactive* category with *open communication*. Whiteside's (2015) Social Presence Model emphasises emotional expression, interaction intensity, and instructor involvement. These dimensions were evident in our Discord data, particularly through humour, emojis, and informal peer support, yet were less visible in Canvas. This suggests that platforms like Discord surface affective and stylistic markers of engagement that exceed CoI's original categories. Garrison (2007) critiqued the original framework explaining that the nature of social presence should change over the duration of learning, as the cohort moves beyond socialisation and towards collaborating on common goals. Our data did not enable this degree of analysis, but these findings show that when Canvas was used as the conversation space, there was no social interaction at all. The distinction is between the absence or presence of social interactions, rather than between the quality of those interactions. However, we acknowledge that social interactions rely on factors beyond platform design, and are shaped by pedagogical choices, facilitator presence, and current contexts. Our analysis focused on empirical observations and cannot claim a direct causal link between the communication platform and learning outcomes.

Limitations

This study has several limitations. One contextual limitation is that the participant cohort consisted largely of game design students, many of whom were already familiar with Discord through personal use. This disciplinary context may have inclined students to adopt and engage with the platform more readily than students from other fields, limiting the generalisability of the findings. The study also spanned multiple years under differing conditions, which weakened the control of variables. From 2018 to 2021, the course included an embedded Alternate Reality Game (ARG), which may have inflated the number of posts and social presence indicators in those years; this activity was discontinued in 2022. The pandemic years (2020–2021) introduced further variation, as student behaviour and emotional states were likely shaped by lockdowns, stress, and digital fatigue.

Cohort sizes also varied considerably, from 17 to 75 students, and the number of tutors ranged from 1 to 3, creating differences in opportunities for participation and potential network effects. The changing context across the years of this study means that these conditions cannot be reproduced and the research, which was applied retrospectively to existing data, is not replicable.

There were also analytic limitations. Only two weeks of communication data (weeks 2 and 6) were analysed each year. While this approach aligns with the precedent set by Rourke et al. (1999) in using discrete weeks as representative samples, it may not capture the full variability of engagement across a semester. Finally, there were technical challenges in comparing Discord and Canvas due to differences in how interactions were recorded. For example, data exported from Discord did not include “likes,” whereas Canvas posts did. However, in Canvas these likes were primarily used for voting or polling rather than as spontaneous expressions of engagement, making direct comparison between the two platforms problematic.

Conclusion

This study examined how the use of Discord, a popular server-based chat platform, impacted social presence across multiple iterations of a blended learning course. Between 2018 and 2022, when Discord was employed, student posts were consistently coded as demonstrating social presence, with particularly high levels in 2019, 2021, and 2022. Even in 2020, when engagement declined during the disruption of the COVID-19 pandemic, many posts still demonstrated social presence. Most posts fell into the interactive category, highlighting the capacity of informal, student-oriented communication platforms to facilitate peer exchange and sustain engagement over time.

In 2023, when the course transitioned to Canvas Discussions, no student posts were coded as demonstrating social presence. This contrast suggests that informal, student-oriented platforms provide stronger opportunities for interaction and community building, whereas institutionally controlled discussion boards appear less effective in supporting engagement. At the same time, the longitudinal data show that platform choice alone is not sufficient. Broader contextual factors, such as the pandemic, cohort size, and disciplinary culture, also shaped participation and levels of social presence. Taken together, these findings highlight both the potential and the limitations of Discord and underscore the importance of platform design and context when fostering social presence in blended learning environments.

When compared with Canvas Discussions, this research found that Discord increased both the total number of student posts and the number of posts coded as demonstrating indicators of social presence, consistent with the absence of such indicators noted above, which raises concerns about its effectiveness in fostering a sense of belonging between students. Discord posts coded as demonstrating social presence were most often classified in the “interactive” category, suggesting that the platform is particularly effective in promoting student-to-student exchange. At the same time, Discord is not a panacea for creating strong social bonds. In 2020, the year most affected by the COVID-19 pandemic, the mean number of student posts was lower than in the preceding and subsequent years, though still greater than the mean number of posts when Canvas Discussions was used. These findings highlight both the potential and the limitations of Discord and support further research into the platform’s role in fostering social presence among university students.

Future Research

Future research could investigate whether similar outcomes could be achieved using institutional tools like Canvas Discussions when employed in the same informal way as platforms like Discord. This would help clarify whether the observed effects are a result of the platform itself or stem from students' familiarity with it. Additionally, it would be valuable to explore whether more experienced students, who are more accustomed to formal university communication platforms, are more likely to engage with these tools as they progress through their studies.

Beyond social presence, further work should also examine cognitive and teaching presence, exploring how these dimensions interact with one another across different platforms. Our observations suggest that teaching presence may be more visible in informal, student-oriented platforms because the higher volume of student contributions creates more opportunities for instructor responses. Similarly, the interactive exchanges facilitated by these platforms may offer greater scope for cognitive presence. However, these impressions were not formally analysed in this study and remain important avenues for future research.

While external communication platforms like Discord offer many benefits for building community and supporting peer interaction, they also pose risks related to bullying, harassment, and exclusion. Institutions must therefore consider how to manage these risks responsibly, including through clear behavioural guidelines, active moderation, and alignment with existing student conduct policies. Research into best practices for ensuring safety within informal online learning spaces would be valuable, particularly if universities increasingly adopt such platforms to enhance engagement.

Finally, because the students in this study were game design majors already familiar with Discord, it remains uncertain whether similar patterns of social presence would emerge in disciplines where students have less experience with such tools. Further research could investigate how varying levels of digital literacy, disciplinary culture, and prior exposure influence the effectiveness of informal communication platforms in fostering connection. These insights would support more inclusive and discipline-sensitive integration of platforms like Discord across higher education.

Declarations

Ethics Statement

This study was conducted in accordance with recognised ethical standards and approval was received from the University of the Sunshine Coast Human Research Ethics Committee (Approval number A231918). Informed consent was waived due to the retrospective nature of the research and the use of existing data. All data were generated and reported with respect for confidentiality and anonymity.

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Generative AI tools (e.g., Microsoft Copilot, ChatGPT) were used by some members of the author team, in accordance with our university's research ethics policy, to improve the readability and clarity of the manuscript. All intellectual ideas, arguments, and

interpretations are the authors' own. Data analysis, coding, and interpretation of results were conducted manually without the use of AI. All AI-assisted edits were reviewed and approved by the authors.

Conflict of Interest Statement

The authors declare no conflicts of interest related to the research, authorship, or publication of this article.

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