# An exploration of course and cohort communication spaces in Discord, Teams, and Moodle

**Eva Heinrich, Heather Thomas, Ella R. Kahu**
Massey University

This research examined the impact of supplementing a learning management system, Moodle, with communication tools, Discord and Teams, to support communication in blended and distance undergraduate courses in computer science, information technology, mathematics and statistics at a New Zealand university with well-established use of Moodle. Nineteen students participated in semi-structured interviews. Findings show that adding Discord or Teams increases information and knowledge exchange and helps students to connect with peers and teachers in their courses. Teams was beneficial particularly in settings with formal group work. Discord, which enables both students and staff to set up additional communication channels that are not restricted to course enrolments, was instrumental in connecting students across year levels with peers and alumni. This enabled discussions on course selection, career options and disciplinary topics beyond the course curriculum. Importantly, these beyond-course communication spaces nurtured belonging to wider discipline and study communities. The research establishes the importance of the increased levels of communication by highlighting the effects on student learning and connections to others. Looking beyond the specific tools, the level of formality and the degree of student co-ownership are identified as key factors in supporting the within- and beyond-course communication spaces.

*Implications for practice or policy:*

- Learning management systems provide valuable course support but do not meet all learning and teaching communication needs, partly due to their formal and university-controlled nature.
- Educators and students benefit from using strong chat tools with improved information and knowledge exchange.
- Both educators and students experience enhanced belonging when using collaboration and chat tools.
- Students value Discord's informality and student-led characteristics.
- Educators who use Teams to support formal group work must carefully manage integration with Moodle.

*Keywords:* communication spaces, informal communication, learning communities, Discord, Teams, belonging

## Introduction

Communication forms an integral part of learning and teaching. The quality and character of communication tools and their adoption influence both immediate and long-term academic and social outcomes. Given the fast pace of change in information technology, and the major shifts towards online learning resulting from the COVID pandemic, research in this area is of high importance.

The term *communication space* was suggested by Healey et al. (2008) as a broad means of thinking about human interaction in online environments. Using the analogy of a physical location such as a stadium, the authors pointed out that use for different purposes (sports events, concerts, religious gatherings) results in widely different social norms (e.g., affecting appropriate behaviours regarding forms of communication: cheering, singing, being silent). Only by considering all these possible uses and implications can design issues (such as lighting or safety measures required for the various events held in a stadium) be adequately addressed. The authors further suggested that understanding communication in online environments requires different considerations from the place and space perspective situated in the physical world. The ability and desire for keeping distance or being close and supporting one other are different online and across individuals and occasions. These aspects of interpersonal closeness and mutual involvement,

referred to as being-with by the philosopher Martin Heidegger, are an important aspect of human interaction and sit at the core of considerations around communication spaces (Healey et al., 2008).

Information technologies and their use in learning and teaching have developed considerably since Healey et al.'s (2008) publication. Saplacan (2020) has discussed the combination of tools such as learning management systems (LMSs), email, social media and subject specific tools (e.g., a statistics platform or a programming environment) in the higher education context. These tools form digital learning environments and create common information spaces where information and knowledge are exchanged in support of teaching and learning. While common information spaces, with their focus on information creation, sharing and maintenance, are different from communication spaces, Saplacan (2020) pointed to overlaps – common information spaces may include communication spaces.

This research looked at digital learning environments formed by Moodle (https://moodle.org/), Discord (https://discord.com/) and Teams (https://www.microsoft.com/en-us/microsoft-teams/group-chat-software). It builds on Saplacan's (2020) study to support investigation of the different tools and their combinations in the contexts of higher education and contemporary technologies. The overlaps between the concepts of common information spaces and communications spaces allow us to link to the work of Healey et al. (2008), investigating the effects on being-with, on bringing students and staff together. This led to the following research questions:

- RQ1: What characterises Moodle, Discord and Teams and the digital learning environments they form?
- RQ2: What communication spaces arise and how do those impact on being-with, on bringing students and staff together?

To address these questions, we describe the institutional context of the research, briefly overview the communication features in Moodle, Discord and Teams and review the literature on the use of those tools. After describing our research methodology, we present and discuss our findings, conclude and look towards future work.

## Background

Our university has taught in both on-campus and distance teaching modes since before the onset of COVID. These deliveries are increasingly closely related, with shared LMS sites and full access to resources by students of either study mode. Moodle has been the LMS for many years, and staff and students are familiar with its discussion forum and private communication tools. In times of COVID restrictions, our on-campus students temporarily switch to study in distance mode.

Our research context is computer science and information technology (CSIT) courses, where staff introduced Discord in 10 courses to complement the Moodle forums at the start of 2019. Course-specific as well as cohort-wide communication channels were set up. Informal observations showed Discord as highly successful, used by students from both on-campus and distance cohorts to chat about course, study and life matters. A CSIT community developed organically, with students supporting each other within and across courses, and recent graduates remaining part of the community (towards the end of 2021, the CSIT Discord community had over 900 members). Staff take an active role in the course-specific channels, answering questions and commenting on course matters. Staff are also present in the cohort-wide channels. In most courses, interaction via Discord exceeds that on Moodle forums, with staff using the Moodle forums mainly for sending out formal messages. Triggered by student demand, Discord was introduced in mathematics and statistics courses.

Our university's information technology infrastructure is based on Microsoft technologies. In this context, discussions arose at university level as to whether Teams should be used to support student learning. In Semester 1 of 2021, several of the CSIT courses took part in a trial using Teams in conjunction with Moodle. The approaches varied: one course largely replaced the Discord channels with Teams channels; one course used the Teams site for collaboration between student groups; and a third course used Teams to conduct and record lectures and provide access to course material. All courses used Moodle in parallel with Teams.

## Communication features in Moodle, Discord and Teams

Moodle's primary communication tools are forums where discussions are organised into separate threads showing the initial post and subsequent replies. All courses have an announcement forum for teaching staff to broadcast messages, with read-only access for students. Teachers then add additional discussion forums. Moodle forums have a 30-minute notification time delay to allow editing of posts. The large editing area suggests a style of posting that starts and concludes with greetings, which gives messages a certain level of formality, quite different from modern chat-based systems (Figure 1). In addition, the Moodle dialogue tool facilitates individual student-teacher dialogues.

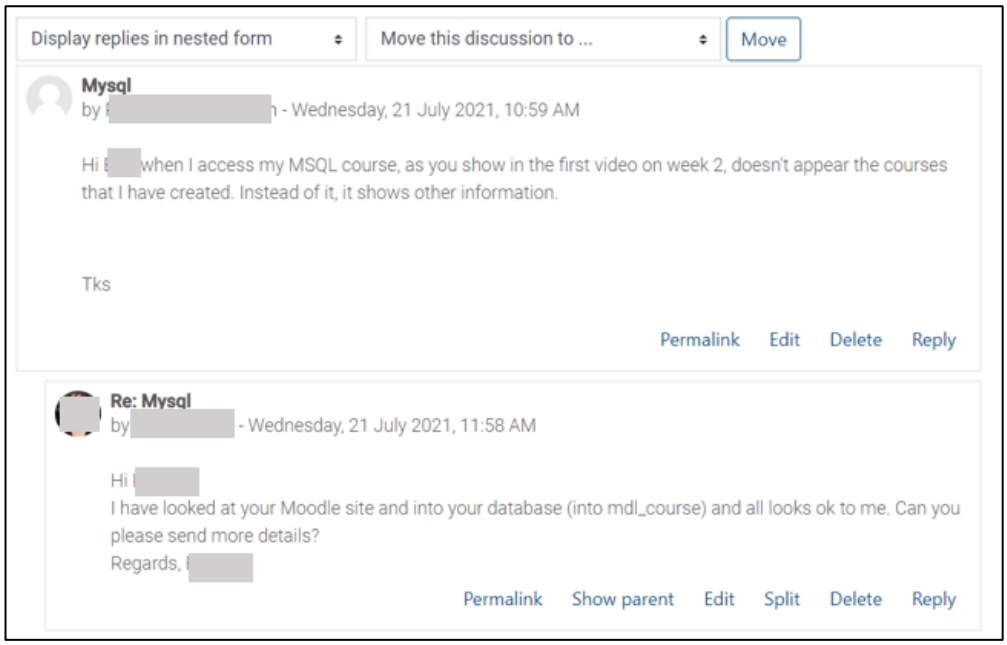


*Figure 1.* Moodle forum example

Discord is an instant messaging system originally released in 2015 to support fast communication among online gamers. Anyone can set up a server to start a community. Within a server, communication is structured via channels (Figure 2). Students choose their own display names and join the channels they are interested in. To post a message, one simply starts typing. Options allow attaching images or files and tagging individuals or groups. Messages within a channel are displayed in chronological order. There are also voice channels, video options and direct messaging.

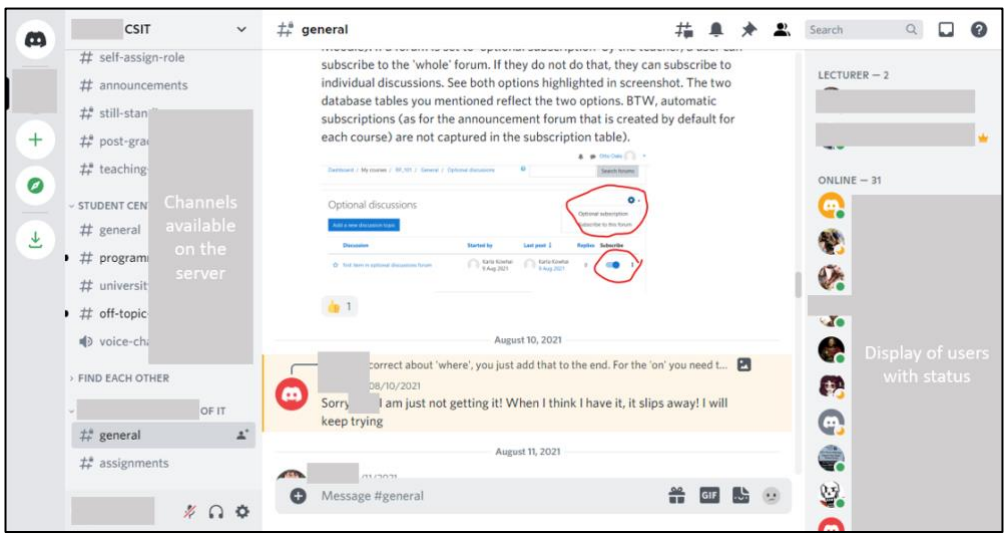


*Figure 2.* Discord example

Launched in 2017, Teams is Microsoft's education platform, increasingly offering features common to LMSs. There are communication channels shared by all team members and some associated with sub-groups. The text-based communication interface looks like a mixture of discussion forums and chats (Figure 3). Conversations are threaded, with longer posts and multiple replies truncated in the display. Teams also offers one-on-one communication access to shared files and online meeting options. While we have accessed Teams via our university's site licence, access is free in higher education settings (Microsoft 365, n.d.).

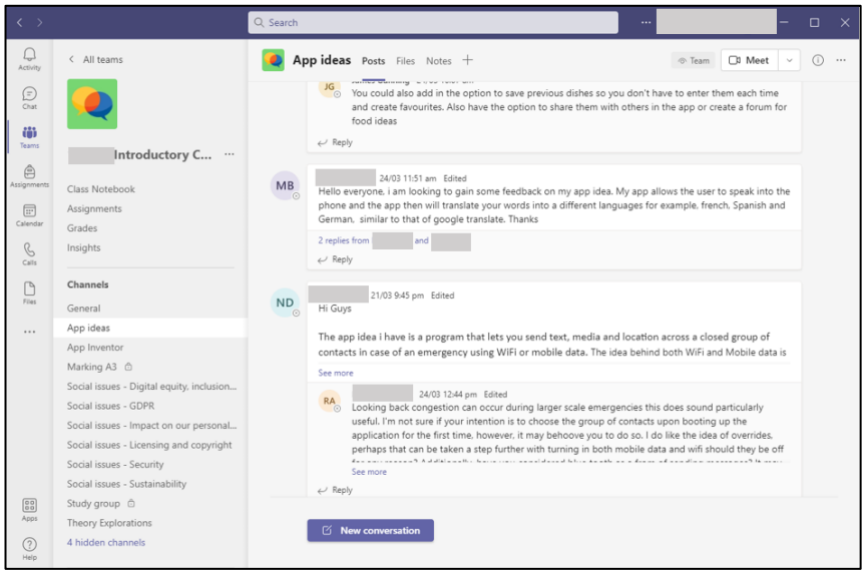

*Figure 3.* Teams example

## Literature

Combining LMS with other tools is common (Saplacan, 2020). The inclusion of social media tools has been discussed, for example, by Willems et al. (2018), who urged the development of appropriate guidelines for the use of social media tools. Tools and their uses evolve rapidly, and research on Facebook and Twitter has been followed by newer work on Instagram, Pinterest, Snapchat and WhatsApp (Manca, 2020). We specifically focused on recent articles on the use of Discord and Teams in higher education. The use of LMS forums is well-established in higher education. While questions remain on how to use forums effectively (e.g., Lima et al., 2019), we are not reviewing forum use here for the sake of brevity.

### Discord

The COVID-related switch to remote teaching has prompted a search for new tools. Educational developers and technology commentators have highlighted Discord as a viable option. Brooks (2021) outlined the communication support Discord can provide. Ahlquist et al. (2021) discussed Discord in the context of campus communities, whereas Fust (2020) focused on Discord for overcoming Zoom fatigue. Discord itself provides resources on teaching (Locke, 2020) and recommendations on how to overcome challenges to safety (Discord, n.d.a). According to Discord (n.d.b), more than 200 colleges and universities use Discord to build communities and connect students and staff. Many of the references to Discord use in higher education relate to COVID emergency teaching. Only a few applications of Discord, such as those by Lacher and Biehl (2019) and Vladoiu and Constantinescu (2020), stem from pre-COVID times: Lacher and Biehl (2019) used Discord to support text-based communication among virtual software development teams; Vladoiu and Constantinescu (2020) concentrated on building a community space for voluntary exchange between students from different study years, inclusive of alumni, and also discussed the potential of using Discord bots to automate links to teaching material or record attendance in tutorials. While many Discord applications are situated in CSIT contexts (e.g., Gama et al., 2021; Kruglyk et al., 2020; Lacher & Biehl, 2019; Vladoiu & Constantinescu, 2020), use also occurs in chemistry (Danjou, 2020) and physics (Toggerson, 2021). Several authors have reported students having prior familiarity with Discord (e.g., Lacher & Biehl, 2019) and those who know Discord from gaming contexts find the transition to classroom

use easy (Gama et al., 2021). Toggerson (2021) wrote that students had already set up a Discord server to support learning before Discord was officially adopted in the course. According to Lacher and Biehl (2019), students initiated the use of Discord in additional courses.

Several features contribute to Discord's popularity. Discord is available across all major computing platforms on desktop computers and mobile devices. Comparing Discord to Slack, Skype and TeamSpeak, Vladoiu and Constantinescu (2020) highlighted Discord's strengths, including low hardware requirements, intuitive features and the ease of concurrent access to multiple communities. Kruglyk et al. (2020) compared Discord to Skype, TrueConf and Google Hangouts, highlighting Discord's low system requirements and availability across platforms. Further, it is easy to invite students to join a Discord community. Lacher and Biehl (2019) and their students found Discord easy to use and appreciated the anywhere and anytime access afforded by the mobile app. Toggerson (2021) reported moving to Discord after failing to reach high levels of student engagement with Slack. Setting up a Discord community is free of charge. While there is a subscription model that offers additional features, using the free version is common (see, e.g., Kruglyk et al., 2020; Toggerson, 2021).

While the use of Discord varies greatly across the literature and depends on teaching contexts and maturity in terms of learning technology use, the strength of Discord in facilitating communication is a common feature. Our institution has a mature basis of learning technology use, supporting our combined distance and blended cohorts. We therefore used Discord as complementary to our LMS. We did not find reports of Discord use in closely comparable settings.

### Teams

Teams was launched as a business communication and collaboration platform. Since COVID, there has been heightened interest in Teams from higher education institutions, with learning and support units developing resources and recommendations to guide uptake. For example, the University of Bristol (2002–2021) creates Teams sites for every course by default and is currently exploring suggestions for their use. Features commonly praised are the synchronous and asynchronous text-, audio- and video-based communication tools, the file-sharing capabilities and the integration with Microsoft applications.

Microsoft sees Teams as part of a wider suite of collaboration and productivity tools, led by a strong focus on security (Kalberer et al., 2021). While integration with conventional LMSs is supported, features such as assessment tools have been added to Teams, suggesting a potential pathway towards replacing the LMS. However, at this stage, higher education institutions with well-embedded LMS use seem hesitant (e.g., Center for Instructional Design & Technology Support, n.d.; Learning and Teaching Hub @Bath, n.d.).

Most of the large number of articles mentioning Teams in higher education contexts focus on COVID-related emergency teaching yet lack details on its use. Other articles describe Teams characteristics but fail to provide data-based analysis. For example, Kashoob and Attamimi (2021) report on using Teams and Moodle to support language learning. The article introduces both platforms in detail but does not specify how they are used in teaching. Çankaya and Durak (2020) describe the features of Teams and make suggestions on teaching use, addressing aspects such as team setup, access rights and interaction formats, yet do not move beyond suggestions. While there is widespread interest in using Teams to support learning and teaching, there is little solid research-based evidence of its use, leaving us with limited evidence to compare to our use of Teams in conjunction with Moodle.

## Methodology

To address our research questions, we explored the case of CSIT, mathematics and statistics programmes and their use of Moodle, Discord and Teams at our institution. While individually grounded in different theoretical perspectives, we approached this research from a pragmatist viewpoint. Semi-structured interviews were used to gain a deep understanding of students' views and perspectives. One of us (Thomas), had no connection with the target study programmes, so conducted the interviews and prepared the transcripts, removing all potentially identifying details such as names and project details. The students chose or were allocated pseudonyms. Another of us (Heinrich) was an academic in CSIT, and therefore only had access to the anonymised transcripts. Following a risk assessment, we registered the project with our university's ethics committee as a low-risk notification.

We called for participants in several ways. First, we emailed students (around 140) who took one of the courses participating in the Teams trial, knowing they would also have experienced Discord in parallel or past courses. We then posted messages in a CSIT Discord community channel and asked colleagues in mathematics and statistics to inform their students of our research. We interviewed all 19 respondents, with whom we could make arrangements, in mid-2021. The first of the open-ended interview questions focused on the participants' study backgrounds (courses taken, distance or on campus, part- or full-time), life circumstances (e.g., work and care responsibilities) and their exposure to Discord and Teams. Then we asked students about the strengths and weaknesses of the tools and their use in combination, communication with peers and teachers and the impact on interpersonal closeness and mutual involvement, communications topics and the impact of the tools on information and knowledge exchange. Final questions addressed tool use beyond course duration, anonymity versus visible identity and experience with social media tools. The interviews took about 30 minutes each.

Coding was completed using NVivo. One of the us took a structured approach to coding with a predefined scheme focusing on tool use and characteristics. The other two of us coded both inductively and theoretically, using Braun and Clarke's (2006) guidelines for thematic coding. Individual coding was followed by combining all codes, discussing and re-reading interview sections. From these analysis processes, two major ideas emerged: the nature of the communication spaces created by the tools (the focus of this article), and the impact of the communication on the students' engagement and learning (see Kahu et al., 2022).

Most of our participants study full-time in distance mode, and most have experienced both Discord and Teams in their courses (see Table 1). They have busy lives and juggle study and outside commitments, making technology-supported course communication essential to their studies.

Table 1
*Participant summary*

| **Participant** | **Study (major)** | **Year level** | **Study status** | **Study mode** | **Discord and/or Teams usage** | **Life circumstances (health, work FT[a] or PT)** [b] |
|---|---|---|---|---|---|---|
| Amy | Statistics | 3rd year Previous degree | PT | Mixed | Both | Health issues |
| Beaux | CSIT[c] | 3rd year Previous degree | FT[c] | Mixed | Both | Health issues, carer |
| Ben | CSIT | 2nd year | PT | Distance | Both | Health issues |
| CJ | CSIT | 1st year | FT | Distance | Both | Carer |
| Dixie | CSIT | 1st year | PT | Distance | Discord | FT |
| Eddy | CSIT | 1st year | FT | On campus | Both | PT |
| Jennifer | Maths & CSIT | 1st year | FT | Distance | Discord | PT |
| Jenny | CSIT | 3rd year | FT | Mixed | Both | PT |
| John | Aviation | 3rd year | PT | Mixed | Teams | FT |
| Kate | CSIT | 2nd year | PT | Distance | Both | Carer, PT |
| Lily | CSIT | 1st year | PT | Distance | Both | Carer, FT |
| Noku | CSIT | 3rd year | FT | Distance | Both | Carer, FT |
| Optisailor | Earth Science | 1st year | FT | On campus | Teams | none |
| Rabbit | CSIT | 2nd year | FT | On campus | Both | none |
| Sam | CSIT | 2nd year | FT | Distance | Both | PT |
| Sandra | CSIT | 3rd year | FT | Distance | Both | Carer |
| Stephan | CSIT | 3rd year | PT | Distance | Both | FT |
| Stevie | Maths & CSIT | 2nd year | PT | Distance | Both | PT |
| T | CSIT | 1st year | FT | Distance | Both | none |

*Note*. [a]FT = full-time; [b]PT = part-time; [c]CSIT = Computer Science and Information Technology

## Findings

We report on the data collected in sections related to the research questions:

- Responses related to individual tools and tool combinations (RQ1)
- Responses related to information and knowledge exchange (RQ1)
- Responses related to interpersonal closeness and mutual involvement, being-with (RQ2).

### Responses related to individual tools and tool combinations (RQ1)

Interviews asked about the text-based features of each tool. Moodle forums organise contributions into discussion topics, which is an advantage when looking for information on a specific topic, for example going back through course material. As Beaux said, "it is easy to find conversation threads". In contrast, Discord channels show messages as one continuous feed sorted by time instead of topics. Some participants saw this as a strength, with Kate saying, "if you spend some time away, you can easily go back and review what's been discussed", while others concluded that Discord makes it harder to keep up with the information flow "unless you are looking at it 24/7" (Optisailor), with both participants pointing to the effectiveness of the Discord keyword search. Teams uses a hybrid approach, showing first postings and their replies together (hiding details depending on length of a post and number of replies), ordered in sequence of the last reply. Kate said that it is "quite hard to follow the conversation flow", and Lily, while liking Teams in general, found the structure used in Teams confusing as "who you are replying to is not very clear". The perception of tools depends on expected purpose – chatting is different from discussing:

> The Team channels … are structured like thread rather than conversation, chats. … this kind of kills the instant part of the chat. It's no more a chat room. (Stephan)

Both Discord and Teams have communication features that extend beyond text-based exchange. Again, differences stem from the core purpose of the tools. Discord favours casual conversations, Teams supports meetings. Stevie found the Discord voice channels were "a casual way to just say, I'm available if you want to chat", which their group used in study sessions, supported by screen sharing. Sandra enjoyed the ease of switching to video conversations in Teams where "you can literally just press call on a group chat".

Discord can be extended by programming bots. Stevie pointed to using a bot "in the maths channel which lets us use LaTeX". Teams facilitates shared access to Office tools such as word processing. Noku's study group enjoyed this functionality, saying, "we both write something on that document, no matter where we are". Yet some of our participants found that Teams did not seamlessly integrate for concurrent multiuser access. As Beaux stated, "there is a big lag with using Microsoft Word [via Teams], so we just started using Google Docs". Despite this issue, Teams was praised for its ability to support group work, specifically in the context of courses in which lecturers set up separate channels for student groups. As Sandra said, "Teams is really useful for any course with group work".

Most participants felt that either tool could be learned with little difficulty, although they reported a variety of experiences. Neither Stephan nor T had experience with Discord. Stephan found it easy, "this is simple", whereas T struggled, "I didn't know what to do", supporting Sandra's opinion that students "really do need lessons". The need for basic orientation to tool use was apparent, as statements from some participants showed that they did not know about the tool features or about how to configure the tools for their preferences, for example, regarding message notifications. Discord's origins are in communication among gamers, while Teams is a corporate productivity tool. Those differences shine through many of the comments made and reflect where individuals feel more at home. For example, Rabbit explained the different approaches to direct messaging:

> In Discord, … I can just type someone, and it pops up straightaway … if I'm messaging people in Teams, you have … go into the direct messages tab and then …, almost like an email, type out who you're sending a direct message to, which is really annoying. (Rabbit)

Participants expressed clearly what they saw as the roles of the LMS and the purpose of an additional tool such as Teams or Discord. The LMS takes on the formal course role, housing course material and dealing

with assessments. As Stephan put it, "[Moodle] has a clear purpose for the university, that's where all the materials are, and the lectures are uploaded". Teams or Discord, with focus on communication, take on a supporting role. If this organisation is followed, students know which tool to use for which purpose. As Teams contains some functionality already covered by the LMS, creating a clear delineation between the tools is essential. This did not happen in one of the courses discussed, leading to Sandra's statement that "Teams and [Moodle] don't make any sense together". None of our participants spoke in favour of replacing Moodle with Teams.

Moodle appears formal, as described by Rabbit: "I've always viewed the forums almost as like official communication". Discord brings the informality of a social media approach, with Dixie comparing its use to that of "Messenger or WhatsApp". While Teams appears not as formal as Moodle, it does not reach the informality of Discord:

> Discord is a nice way to ask questions and interact with the other students. It's more of a social space … and it allows us to interact with the other students and the professors. And more, Teams is definitely more formal, but at the same time it's not [Moodle], it's trying to bridge into the social media space, even though it doesn't quite achieve it. (Sam)

Teams has rich features, many only recently developed. Rabbit described Teams as feeling "heavy" and said, "that obviously comes with it being more feature rich … it feels quite clunky to me". Stephan, who liked how Discord fulfils its purpose of providing a platform for conversations and connecting people, saw that "Teams has a completely different function". This portrays Discord as a simpler tool with less complexity than Teams. The extra functionality can get in the way and might be behind Kate's assessment that "obviously Discord is a lot more user friendly, as a student, than Teams".

### Responses related to information and knowledge exchange (RQ1)

Both Discord and Teams facilitate information and knowledge exchange. Jennifer talked about students "sharing notes and ideas and concepts", Stephan described collaborations around "doing a tutorial or an exercise", while others referred to seeking information before assignment deadlines. Participants were impressed with the quick responses. As Eddy said, "I asked the lecturer the question, the lecturer responded immediately". Jennifer referred to students responding to help, "everyone's always willing to help". The presence of teaching staff in the communication channels was welcomed. Amy referred to an experience with a student-only Discord server at another university where "people were behaving inappropriately". In contrast, having staff on the channels resulted in "advice given to be of a higher quality", "accurate and clear" information and students "behaving themselves well" (Amy). Like Amy, Rabbit noted the positive effects of staff presence:

> People are less likely to try and cheat for example, are less likely to be, like mean to each other. (Rabbit)

Discord and Teams were valuable for synchronous exchanges and quick responses, as indicated by Noku when talking about classmates in different time zones, "they will be up at midnight, they will just answer you". Yet, many of our participants study part-time, carry high lifeloads (see Table 1) and cannot continuously focus on their studies. They appreciated being able to review the interchanges. For example, Beaux had to take breaks due to health issues and found that "going back through and reviewing … was easy and organised". Kate, coming back to study after focussing on her part-time work for several days, said "it was really easy to kind of search to see if anyone had asked the question already", often finding that issues she needed input on had already been answered to her satisfaction.

The online tools complemented the on-campus study experience. Eddy described the value of being able to follow up after on-campus classes, saying, "then the other questions come up, so we immediately posted, we asked the lecturers on Teams". Stevie appreciated being able to get answers to questions quickly, without having "to wait for that scheduled time". Sam talked about "this moment in life where you wished you could just go back to previous conversations" and found it great to be able to search the online records. For students who could not be in the classroom, access to the tools and the lively exchanges provided a classroom like atmosphere. In the words of Stephan, "it's basically like being inside the classroom".

Participants reported that having the Discord or Teams channels lowered barriers to asking questions. Jenny referred to many students being shy and not willing to ask questions but found that the channels do "away with that kind of stigma". Amy appreciated being able to take time to carefully formulate questions and answers in online exchanges and was pleased to see that she was "not the only one who doesn't understand everything". Optisailor stated that the discussions helped students to understand material they were "having trouble with". T talked about a friend who did not participate in Teams and consequently struggled with the assignment tasks. T found that "Teams was essential, really, to the learning that took place in the class".

Discord and Teams both had a strong positive impact on information and knowledge exchange. Despite individual preferences and differing course contexts, both were seen as suitable tools, as confirmed by T, "I've enjoyed using both". On the other hand, Moodle did not work for encouraging course communication. Ben talked about the formality associated with Moodle forums, saying "it was sort of almost like sending an email, like very, very formal". Amy did not see Moodle forums as a good option: "it's not a place that I would choose to go for a discussion" and said, "there isn't really any engagement beyond what we absolutely have to do". The lack of uptake of Moodle forums was confirmed by Jennifer:

> There might be the occasional student who posts a question in the forums but it's all mainly on Discord now. (Jennifer)

Our participants also talked about interactions with wider groups of students and staff, beyond the confines of individual courses. This was supported by cohort-level Discord channels set up by staff or students. For example, mathematics students have set up the easy as pi server, frequented by students who "really love math" and "want to have fun and understand it" (Stevie). Kate enjoyed participating in the computer science programming channel, providing connections to advanced-level students as compared to being "isolated … to your individual course". Ben appreciated the input of the wider community into directions for further learning: "they've been able to point me in directions to learn it in my own time". Stephan reported that the connections established with others already in employment have assisted with finding jobs: "I've made a couple of friends from Discord, and that has been useful in my career". Noku was able to get guidance on courses from "those who have done it already".

The reports of exchanges beyond course boundaries were limited to Discord. Setting up servers and channels in Discord is easy and open to all. The server set up by staff in CSIT offers cohort channels in addition to course channels. Sitting outside university boundaries, participation is not linked to enrolment status or academic year, allowing the server to persist and members to retain access. This is different from traditional LMS configurations and different from the course channels set up in Teams for the courses our participants discussed. As CJ noted, this affects willingness to engage in communication:

> Basically, the Teams, I think, is actually getting shut down at some point so to me there's not much point in keeping conversations going. (CJ)

### Responses related to interpersonal closeness and mutual involvement, being-with (RQ2)

Our participants reported feelings of belonging due to the opportunities provided by the Discord or Teams channels. Eddy talked about "belong(ing) to a course" and looking forward to the new messages every day. Participants regarded the connections formed as important. Ben, who could not study on campus due to health issues, expected university study to be a "pure education experience … not with relationships and networking" but was able to "communicate with people and build connections". The COVID pandemic exaggerated the importance of connecting with others. John expressed concern about the changed student experience and referred to the Discord and Teams environments as "the closest thing to hanging out as normal". Beaux expressed the profound impact the communication channels had on her:

> I don't think I would have made it through the semester without that, I really don't because I was feeling so isolated. (Beaux)

As indicated in Table 1, many of our participants study via distance. Having the online communication channels particularly helped those students. Jenny referred to typically missing out on interactions, but now being able to "see interaction between classmates". Ben found that the online channels enriched distance study by allowing conversations and overcoming the feeling that "everything is very impersonal". Yet,

impact on on-campus courses was also reported. Amy, talking about on-campus courses, did not take part in discussions in the classroom but was willing to engage online: "in the case of the Maths Discord, I might engage on that". Connections reached across physical and virtual spaces.

Some students explained that they were not interested in connecting with others beyond the course requirements. Lily described herself as highly focused on her studies, saying "we are here to study, not to make friends" and referred to the differences between herself, a mature part-time student in work and raising a child, and young, full-time, on-campus students. Nevertheless, Lily made a friend over the communication channels by exchanging course-related messages.

Stephan explained the importance of the CSIT community channels as, "we can just talk with each other and network", while Jennifer said, "it is nice to chat with people who have done the same sort of thing". While not all felt at home, like Beaux who described the Discord channels as "the digital equivalent of a bar", others were pragmatic. Dixie emphasised the individual choice, saying "if you don't want to be involved outside of the official stuff, you don't have to". Ben talked about enduring friendships enabled by the community channels: "we've just met in those channels and have built friendships". Dixie described how the continuity of the platform enables to make connections beyond course boundaries, just like it is when studying on-campus and meeting the same students over the years:

> If I was on campus, I would continue seeing those same people throughout the rest of my study, we may take different 200-level papers, but I might see them again in a 300-level paper and we can catch up. And we can see each other, we can talk about how it's all going, you kind of need that with the support as well. (Dixie)

Neither Moodle nor Teams featured equivalents to the informal, enduring community channels on Discord. While setting up lasting channels would be technically possible, those platforms might struggle to achieve the right atmosphere – in Sandra's words, "I don't think Teams has that informal nature". CJ described Discord as more welcoming:

> It's not that I dislike Teams … I did find it quite useful. I just found it a bit more kind of cold in a way, it was just sort of very formal and … Discord to me just felt more like a messaging service, you're just chatting with, you know, students or friends, … it felt a bit warmer. (CJ)

Our conversations with participants touched on experiences with social media tools. Facebook was mentioned but did not seem to play an important role in the study experiences of our participants. Beaux, who compared Discord to a student pub, suggested a switch to LinkedIn to "facilitate professional conversations". John proposed using Discord and Teams community channels in parallel to separate the social from the study conversations. For others, the combination of Discord and Moodle functioned well:

> I think that it works well to give that sense of community and camaraderie that on-campus students would have. And I think that that's really important. (Dixie)

## Discussion

Drawing on the statements made by our participants, we suggest that both combinations, Discord + Moodle and Teams + Moodle, can form valuable digital learning environments, which, in terms of information and knowledge exchange as well as being-with, surpass what Moodle offers by itself. A major difference between the two combinations arose from the community channels available in the Discord environment, leading to the following communication spaces:

- Within-course communication
    - Communication open to all: Students and teachers in a course communicate via forums or chat channels; all can participate; the interactions largely focus on course matters.
    - One-on-one communication: Student-teacher or student-student exchanges take place via direct messaging features; it is confidential to the communication participants; communication between students and teachers is largely course-related; and there is a wider range of topics among students.

    - Communication in sub-group: Students in course work groups are assigned a dedicated communication space by the teacher for communication confidential to the group and the teacher; they arrange their own group communication spaces to support their course participation.
- Beyond-course communication
    - Cohort communication: This communication space open to all students and staff is aligned to a discipline area; it is independent from belonging to specific courses and used for a wide range of topics, such as discipline area beyond university, study, course and career advice, general topics beyond university or study-related interests.
    - Outside-university communication: This communication space is organised by students for topics and groups of their choice; there is no university or teacher involvement.

The tools we examined have different strengths in supporting the various communication spaces (see Table 2). In the within-course communication spaces, all three tools are in principle able to support communication. Teams showed strength in supporting groupwork linked to assessment. Its semi-formal nature and access to features such as online meetings and software tools was appreciated by participants. While Moodle allows setting up forums for student groups, we rated it lower due to the lack of support for chat-like communication. Discord provides strong support for student-initiated groups due to the ease of setting up groups (called channels) and Discord's informal nature. Given Moodle is an institutionally controlled system, it is not geared towards student-controlled setup of sub-groups.

Table 2
*Suitability of tools in support of communication spaces (↑indicates tool support, ↓ indicates that the tool is not suited)*

| | **Discord** | **Teams** | **Moodle** |
|---|---|---|---|
| **Within-course, open to all** | ↑ Strong support; chat interface facilitates informal environment, lowering barriers to engagement; quick exchanges; searchable. | ↑ Strong support; cross between chat and forum interface; semi-formal; quick exchanges; searchable. | ↑ Supported via traditional forum interface.<br>↓ Not suited for quick and informal exchanges. |
| **Within-course, one-on-one** | ↑ Well supported via direct messaging, text, audio and video; informal. | ↑ Well supported via direct messaging, text, audio and video; semi-formal. | ↑ Well supported via direct messaging (text only, teacher-student communication only); formal. |
| **Within-course, sub-group** | Teacher-driven setup possible.<br>↑ Easy for students to set up groups, facilitated by informal nature of tool. | ↑ Good support for group communication in teacher-driven setup; suited due to semi-formal nature of tool. Student-driven groups possible if team is configured accordingly. | Teacher-driven setup possible but suffers from same shortcomings as all Moodle forums.<br>↓ Teacher-controlled; not conducive to student-driven groups. |
| **Beyond-course, cohort** | ↑ Well supported via channels available to all; not limited to course enrolments and durations; facilitated by informal nature of tool. | ↓ Possible to set up a separate team for cohort support and keep this open long-term; unlikely to succeed as it remains separate. | ↓ Possible to set up a separate Moodle site for cohort support and keep this open long-term; unlikely to succeed due to separation and formality. |
| **Beyond-course, outside university** | ↑ Easy for students to set up own Discord server and invite others; easy to switch between multiple servers; used for student controlled and initiated communications beyond | ↓ Unlikely as Teams site is controlled by the university and access is linked to enrolment status; difficult for individual to set up own independent Teams site; parallel access | ↓ Unlikely as Moodle courses are controlled by the university and access is linked to enrolment status; possible for individual to set up own independent Moodle site |

| | | | |
|---|---|---|---|
| | course durations and boundaries. | to multiple Teams sites cumbersome. | but large overhead involved. |

A big difference between the tools relates to how students perceive their use. Moodle is seen as formal, Teams as semi-formal and Discord as informal. There is a clear need for formal course communication, and Moodle caters well for such communication. The informality of Discord, and to a lesser degree Teams, adds a new dimension to course communication, lowering barriers to asking questions and contributing to discussions. Students feel more connected and feel part of a course community. Learning support is provided quickly by peers and teaching staff. These findings match those of others (Sleeman et al., 2020; Willems et al., 2018), who emphasised the value of adding social media tools to support course communication.

This study shows the benefits of adding Discord for the beyond-course communication spaces. Students connect across year-levels, and alumni and staff are part of the conversations. Topics stretch from casual chatting to course advice and discipline discussions. While not all students are interested in these conversations, especially not the more social chatting, for others this wider communication is very important. It allows them to connect and provides personal and study benefits.

Moodle provides a formal learning support space tightly controlled by the university. Access is linked to enrolment status, access rights follow a strict hierarchy and course sites present a uniform layout and appearance. Moodle use has evolved over two decades and provides strong support for many aspects of learning and teaching. Adding Discord complements this controlled and formal space with a more casual and less regulated option – an open space, suited to informal exchanges, conducive to a bit of careful risk-taking within the bounds of an environment that features both learners and teachers. We suggest that the setup of course-specific and cohort-wide channels provides the right mixture for course, subject and social communications. Hong and Gardner (2019) suggested that integration of social media features into LMS might be preferable to allow learning institutions to exert control. Newer tools, such as Ed Discussion (https://edstem.org/), can be integrated with Moodle to improve its chat capabilities. We suggest that there is value in going away from the LMS space to open opportunities via beyond-course communication spaces, a thought supported by Pallas et al. (2019).

## Conclusion

The digital learning environments provided by Moodle, Discord and Teams present communication spaces with different characteristics for supporting closeness between participants or being-with. This study suggests that a chat-style tool such as Discord privileges bringing people together, reducing distance, connecting and being there for each other. Forum-style communication tools, such as implemented in an LMS like Moodle, maintain a higher level of distance. The communication spaces provide different interactional possibilities that affect not only belonging but also levels of information and knowledge exchange. Combining tools, an LMS for the core teaching and learning support with a chat tool for informal interactions, allows each tool to play to its strengths and speaks to the differing needs of our student populations.

Like Saplacan (2020), we argue for the combination of tools. A new aspect of our work is to suggest the inclusion of a non-institutionally owned tool such as Discord. While staff involvement in the communication spaces was an important factor and welcomed by students, being able to set up their own communication channels within the one environment emerged as crucial for establishing and maintaining connections between students. Co-ownership of the communication spaces aligns well with discussions in the students-as-partners field, which has received high levels of attention over the last years (e.g., see the *International Journal for Students as Partners* (https://mulpress.mcmaster.ca/ijsap).

Further work is required. This study was situated in a CSIT, mathematics and statistics discipline context at one university. It will be important to look at other discipline areas and university contexts to see if equivalent communication spaces and tool characterisations emerge. We suggest research grounded in fields such as human computer interaction to formally identify what leads to a tool being perceived as informal.

Information technology tools and applications change quickly. Teaching contexts, especially over the last COVID years, are under constant change. While this research looked at specific tools, we recommend staff

designing courses consider the roles that tools can play in filling the communication spaces we have identified. The key seems to be to create the right balance between tightly regulated and more open spaces.

## Acknowledgements

We thank HERDSA for the grant that facilitated this work.

## References

Ahlquist, J., Balderrama, B., Brunea, S., & Kibilds, D. (2021, August 29). *Discord: The new campus quad.* https://www.josieahlquist.com/2021/08/29/discord-the-new-campus-quad/

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brooks, J. (2021, April 30). *Channeling learning: Using Discord for education.* Tech-Based Teaching. https://medium.com/tech-based-teaching/channeling-learning-using-discord-for-education-6581ba8c11a2

Çankaya, S. & Durak, G. (2020). Integrated systems in emergency distance education: The Microsoft Teams. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education*, *14*(2), 889–920. https://doi.org/10.17522/balikesirnef.827595

Center for Instructional Design & Technology Support. (n.d.). *Using Microsoft Teams.* University of Cincinnati. https://ucclermont.edu/academics/IDTS/resources-for-teaching-remotely/teaching-your-classes-online/using-microsoft-teams.html

Danjou, P-E. (2020). Distance teaching of organic chemistry tutorials during the COVID-19 pandemic: Focus on the use of videos and social media. *Journal of Chemical Education*, *97*(9), 3168–3171. https://doi.org/10.1021/acs.jchemed.0c00485

Discord. (n.d.a). *Safety Centre.* https://discord.com/safety

Discord. (n.d.b). Where campus communities talk. https://discord.com/college

Fust, C. (2020, May 29). *Using Discord for teaching, learning, and community*. Vassar College. https://pages.vassar.edu/acs/using-discord-for-teaching-learning-and-community

Gama, K., Zimmerle, C., & Rossi, P. (2021). Online hackathons as an engaging tool to promote group work in emergency remote learning. In *Proceedings of the 26th ACM Conference on Innovation and Technology in Computer Science Education* (Vol. 1, pp. 345–351). Association for Computing Machinery. https://doi.org/10.1145/3430665.3456312

Healey, P. G. T., White, G., Eshghi, A., Reeves, A. J., & Light, A. (2008). Communication spaces. *Computer Supported Cooperative Work*, *17*, 169–193. https://doi.org/10.1007/s10606-007-9061-4

Hong, Y., & Gardner, L. (2019). Undergraduates' perception and engagement in Facebook learning groups. *British Journal of Educational Technology*, *50*(4), 1831–1845. https://doi.org/10.1111/bjet.12672

Kalberer, S., Curtin, R., & Chase, J. (2021). *Reimagining higher education as a student-centered experience.* Microsoft. https://edudownloads.azureedge.net/msdownloads/Microsoft_Whitepaper-Reimagining_higher_education_as_a_student-centered_experience.pdf

Kahu, E. R., Thomas, H., & Heinrich, E. (2022). "A sense of community and camaraderie": Increasing student engagement by supplementing an LMS with a learning commons communication tool. *Active Learning in Higher Education*. https://doi.org/10.1177/14697874221127691

Kashoob, M., & Attamimi, R. (2021). Exploring Omani EFL students' perceptions of the newly adopted online learning platforms at the University of Technology and Applied Sciences-Salalah. *Journal of Education and Learning*, *10*(2), 28–36. https://doi.org/10.5539/jel.v10n2p28

Kruglyk, V., Bukreiev, D., Chornyi, P., Kupchak, E., & Sender, A. (2020). Discord platform as an online learning environment for emergencies. *Ukrainian Journal of Educational Studies and Information Technology*, *8*(2) 13–28. https://doi.org/10.32919/uesit.2020.02.02

Lacher, L. L., & Biehl, C. (2019). Investigating team effectiveness using Discord: A case study using a gaming collaboration tool for the CS classroom. In H. Arabnia, L. Deligiannidis, & Q.-N. Tran (Eds.), *Proceedings of the International Conference on Frontiers in Education: Computer Science and Computer Engineering* (pp. 199–204). CSREA Press.

Learning and Teaching Hub @Bath. (n.d.). *Microsoft Teams: What is it?* https://teachinghub.bath.ac.uk/microsoft-teams/

de Lima, D. P. R., Gerosa, M. A., Conte, T. U., & Netto, J. F. de M. (2019). What to expect, and how to improve online discussion forums: The instructors' perspective. *Journal of Internet Services and Applications*, *10*(22). https://doi.org/10.1186/s13174-019-0120-0

Locke. (2020, March 17). How to use Discord for your classroom. *Discord Blog*. https://discord.com/blog/how-to-use-discord-for-your-classroom

Manca, S. (2020). Snapping, pinning, liking or texting: Investigating social media in higher education beyond Facebook. *The Internet and Higher Education, 44*, Article 100707. https://doi.org/10.1016/j.iheduc.2019.100707

Microsoft 365. (n.d.). *Get Office 365 free for your entire school.* https://www.microsoft.com/en-us/microsoft-365/academic/compare-office-365-education-plans

Pallas, J., Eidenfalk, J., & Engel, S. (2019). Social networking sites and learning in international relations: The impact of platforms. *Australasian Journal of Educational Technology*, *35*(1), 16–27. https://doi.org/10.14742/ajet.3637

Saplacan, D. (2020). Cross-use of digital learning environments in higher education: A conceptual analysis grounded in common information spaces. In *Proceedings of the the Thirteenth International Conference on Advances in Computer-Human Interactions* (pp. 272–281). International Academy, Research, and Industry Association.

Sleeman, J., Lang, C., & Dakich, E. (2020). Social media, learning and connections for international students: The disconnect between what students use and the tools learning management systems offer. *Australasian Journal of Educational Technology*, *36*(4), 44–56. https://doi.org/10.14742/ajet.4384

Toggerson, B. (2021, April 10). Embedding Discord into Moodle. University of Massachusetts-Amherst, Physics Education Group. https://physedgroup.umasscreate.net/ipls/embedding-discord-into-moodle/

University of Bristol. (2002–2021). Microsoft Teams for teaching. https://www.bristol.ac.uk/digital-education/projects/2021/ms-teams-for-teaching/

Vladoiu, M., & Constantinescu, Z. (2020). Learning during COVID-19 pandemic: Online education community, based on Discord. In *Proceedings of the 19th RoEduNet Conference: Networking in Education and Research* (pp. 1–6). IEEE. https://doi.org/10.1109/ROEDUNET51892.2020.9324863

Willems, J., Adachi, C., Bussey, F., Doherty, I., & Huijser, H. (2018). Debating the use of social media in higher education in Australasia: Where are we now*? Australasian Journal of Educational Technology*, *34*(5), 135-149. https://doi.org/10.14742/ajet.3843

---

**Corresponding author**: Eva Heinrich, e.heinrich@massey.ac.nz



**Please cite as**: Heinrich, E., Thomas, H., & Kahu, E. R. (2022). An exploration of course and cohort communication spaces in Discord, Teams and Moodle. *Australasian Journal of Educational Technology*, *38*(6), 107-120. https://doi.org/10.14742/ajet.7633