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Microsoft Teams Supports Authentic Assessment of Learning

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Abstract: In computer technology, statistics, and business courses that I have taught over the past decade, students have worked in groups/teams. I assumed students communicated with teammates within the Learning Management System (LMS). In 2017, I was surprised to discover students were using GroupMe. To help me understand the attraction, I signed up for a GroupMe account. I was underwhelmed with its purpose but understood the ease of the application. I was also learning more about Slack, thinking it was a much better tool for communication and collaboration, and realizing that communicating within the LMS was not ideal, even awkward, and not real world. However, Slack was not readily available for student use, so when our institution introduced Microsoft Teams in 2020, I began exploring using Microsoft Teams for teamwork/projects because it is a real-world tool that students will likely use/encounter after college. I have been using Microsoft Teams consistently since Fall 2020. Using Microsoft Teams moves students from conceptual to applicable knowledge related to teamwork, communication, and even leadership skills. Microsoft Teams can supplement any content/course project. Requiring students to use Microsoft Teams as it would be used in the workplace allows teams to choose when they meet to collaborate, manage their "channel," and ultimately create their project. All the work leading up to the final deliverable is archived in one space accessible by instructor (manager) as would be in the real world. The assessment(s) takes on a level of authenticity that is missing with a traditional LMS. In this reflective essay, I will show how Microsoft Teams supports authentic assessment while engaging students in a real-world technology that adds to their post-undergraduate toolkit and future success.

Keywords: Microsoft Teams, Authentic Assessment, Student teams

Teaching with technology has always been a part of my teaching life. Creating assignments and activities that aid students in applying what they are learning so they see the practicality of the subject matter has been a foundation of my teaching. This application of concepts/theories and development of practical skills for undergraduate students is an important aspect of authentic assessment and my teaching. Thus, integrating technologies to facilitate such authentic assessment has been a natural and continuous, albeit somewhat unintentional, path in my development as a teacher.

In 2001, I began teaching computer information technology courses at a large university where my interest and focus on teaching practical skills were indeed expected. The program I taught in served undergraduate students seeking hands-on computer technology skills. Our courses were application-based more than theory-based, and as often as possible, it was critical to provide assessments that were authentic to the informational technology field. One example is using Microsoft Excel to solve a problem versus a multiple-choice test about Microsoft Excel. My current teaching role is in a different school at the same institution, yet the focus and expectation of teaching practical skills is foundational to the undergraduate business program I serve. I still integrate technologies, specifically Microsoft Teams, to help students authentically prepare for using such technology in their "real world" jobs/careers.

I love theory – the concept of theory, reading about and learning new theories, teaching theory. I have found that most 100- to 300-level undergraduate students do not. To be an effective teacher, even when theory has been part of the content I teach, I have had to find a way to reach the students.

The answer has been to make the theory applicable, relevant, and practical to their lives (Gagne, 1985) while allowing space for students to learn from each other. This social constructivist approach to learning (Vygotsky, 1978) allows the content I am teaching to be accessible to students in a way they can relate to and make sense of it now and later in life. When I taught 100- level programming and 200- and 300- level statistics to computer information technology students, one way to help students relate and make sense of programming and statistics was by using student groups/teams in class sessions to practice and solve problems *after* individually working on homework. Having students work in teams to solve problems is, to me, real-world and authentic. In the remainder of this essay, I will connect this teamwork component to technologies that support authentic environments and assessment.

From authentic process to authentic assessment

Before I share my experience using Microsoft Teams as a technology that supports authentic assessment, I want to provide background information on how my teaching path has led me to the present. When teaching statistics/programming from circa 2010-2017, I was simulating how we authentically tackle problems in the workplace through cooperative and collaborative learning (Oakley et al., 2004, p. 10) and active learning (Ma et al., 2021) in various teaching modalities (in-person, hybrid, and online modalities) using the following three-step process:

1) individual prep work to think through a given problem and attempt a solution,
2) meetings to share individual ideas with the team, *informed brainstorming*, where ultimately, the team makes a final decision on the best solution, and
3) creation of deliverables and presentation to an audience.

I still use this three-step process in a course with content that is drastically different from statistics/programming, yet there is a similar authentic problem-solving approach. My current course is a required career/professional development undergraduate business course that includes virtual teamwork, emotional intelligence, communication, and leadership skills content.

I emphasize the difference in courses because this three-step process is the foundation of using technologies that support authentic assessment, regardless of course content. Further, using technologies that support authentic assessment can be accomplished in online, hybrid, and in-person course modalities. In the past I have used Zoom as the platform for student team meetings. Zoom is an authentic meeting platform, but it does not contribute to authentic assessment in the same way as Microsoft Teams. Using Microsoft Teams instead of Zoom allows me to bridge an authentic problem-solving approach with authentic assessment.

Since Fall 2020, I have been using Microsoft Teams as an authentic/real-life technological platform for authentic process and most recently to authentically assess students' team performance and deliverables. With Microsoft Teams, students choose how to meet weekly objectives, which simulates how they would collaborate in a real job. From the work that student teams complete in Microsoft Teams, I provide formative feedback and summative assessment throughout the semester as a manager would check in on project work. Learning outcomes that connect to using Microsoft Teams for process and assessment are related to communication, leadership, and teamwork (i.e., working effectively with others). In Table 1, I provide of the student learning outcomes and related assignments, including where required team meetings are relevant to the outcome. Any course that has a final team project, or any team component, could benefit from using Microsoft Teams as a major component/platform for their course.

Table 1. Program Competency, Student Learning Outcomes, and Related Assignments.

Program Competency 4: Communication and Leadership *Communicate effectively in a wide variety of business settings employing multiple media of communications.*	**SLO 4.1:** Deliver clear, concise, and audience-centered team presentations. ▪ Assignment: Team Capstone Project
	SLO 4.2: Write clear, concise, and audience-centered business documents. ▪ Assignment: Team Capstone Project
Program Competency 6: Working Effectively with Others *Collaborate effectively and respectfully with teammates who look, think, or believe differently from you to build trust and community.*	**SLO 6.1**: Participate actively in team meetings and collaborate effectively in face-to-face or virtual interactions. ▪ Required Team Meetings with teammate evaluations
	SLO 6.2: Create a cohesive and integrated team deliverable. ▪ Assignment: Team Meeting Deliverables ▪ Assignment: Team Capstone Project
	SLO 6.3: Assess individual or team collaboration with respect to both productivity and interpersonal relationships. ▪ Required Team Meetings with teammate evaluations

The way we meet the outcomes in the course I currently teach is through teamwork. My use of teamwork in a course replicates a flipped classroom model, which is also connected to cooperative/collaborative and active learning because students do individual prep work prior to attending class. Students need to have interacted and/or struggled with material prior to problem solving together because "trying to solve a problem before being taught the solution leads to better learning, even when errors are made in the attempt" (Brown et al., 2014, p 4; Oakley et al., 2004, p. 15). The teamwork I expect students to do occurs during required meeting time[1]; so, most coordination, communication, and collaboration is done synchronously. Generally, the only out of class coordination would be to schedule the required team meetings. I had no idea that what seems a simple coordination task for students would place me on the path to use Microsoft Teams in my courses.

My internal struggle with students' use of GroupMe

The first semester that I required student teams to communicate or coordinate outside of class was in an online statistics course in the Spring 2017 semester. I assumed students would use the LMS feature to communicate and coordinate because that capability is built into the system where they discover who is on their team. Other possibilities I considered were that students would email each other or form a group text chat. However, in Fall 2017 I heard students were using an app called GroupMe (Figure 1), a group chat system that students seemed deeply committed to using.

Since GroupMe is a group chat system, I wondered why students did not use group texts as part of mobile phone apps. In Spring 2018, I created a GroupMe account to explore and better understand the attraction to this platform over other collaborative tools/mechanisms that already exist for students. I also asked students why they used it. Students explained that they could share files, whereas, in a phone text group chat, they could not share files. Also, if a student did not have a smartphone, they could use GroupMe on a computer. I was underwhelmed with what the app provided students, and for everyone in the group to have to create a GroupMe account for such a

[1] This meeting time refers to the online course I currently teach. If teaching in-person, class time could be when students meet to solve problems together.

Figure 1. GroupMe functionality. A look at what GroupMe provides.

limited purpose seemed unnecessary. I was also perplexed by the impracticality of GroupMe from a teaching and learning perspective. I would happily have embraced the technology if it would have aided in course design, structure, learning, or assessment. I did not encourage its use, but I did not discourage it. I thought it made more sense to use the LMS collaborative space and communicate where teams were created. However, I also recognized the convenience of using a chat system to communicate, and the clunkiness of communicating through the LMS. Hence, my lack of discouragement of using GroupMe.

I still struggled with the inefficiency and limitation of students' use of GroupMe. I could have required students to communicate within the LMS. However, *force* goes against my dissertation findings around meaningfulness that also informs my teaching philosophy related to "choice" (Evans, 2012). Further, forcing LMS communication is counter to solving problems in a real-world, authentic way. LMS communication did not replicate authentic communication any more than GroupMe did, and there also was nothing I could assess from LMS communication. For the moment, I resolved to let go of my obsession with figuring out why they used GroupMe and accept their choice of how to coordinate and collaborate.

Learning outcome focus and finding a collaborative, project management tool

As time passed, I continued to have the desire to steer students toward something more efficient and more powerfully collaborative because "working effectively with others" is a major learning outcome for the course. In the academic year 2019-2020, I pondered the possibility of using Slack to aid with project management and help move students away from the "divide and conquer" approach (Heflin & Meganck, 2017, p. 50). A divide and conquer approach, while appropriate for some tasks, does not integrate the inclusive three-step process, described in the previous section, that brings each teammates' ideas to solving a problem. Again, this three-step process simulates problem solving in the business world that I am preparing my students to enter.

Using a technology tool that I can integrate into the course to develop transferable skills is critical to my continuous course development. Integration into the course in an applicable, practical, relevant way goes back to my teaching roots as *the way* to reach students. I searched and studied the various tools that integrate into our existing LMS. I continuously returned to the concept of Slack. I had attended a teaching and learning conference session in Fall 2017 in which an instructor used Slack, and I studied my notes. I signed up for a Slack webinar to learn more. I was convinced that Slack was the tool I was looking for. Slack seemed more promising and a more real-world business application that would ultimately build the teamwork and communication skills in a project management system that students could apply long term. Unfortunately, Slack was not an application that was available for student or faculty at my institution.

Within a couple of weeks of being determined to find a way to use Slack, I learned that our university Microsoft agreement was going to include Microsoft Teams. I quickly discovered Microsoft Teams was a one-stop shop (Figure 2) for collaboration using Channels, Files, and Posts. I no longer needed Slack. I began imagining how I could use Microsoft Teams in my course.

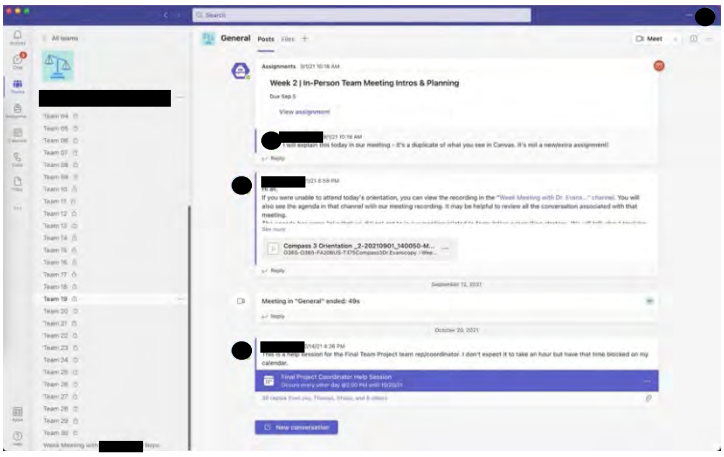

Figure 2. Communication and collaboration hub. Post and add files.

Teams abound: Interrogating current practice

Using Microsoft Teams as the space for students to help each other solve problems and do their collaborative work interrogates the current practice of how student teams are used for course projects. Often, student teamwork is assigned with the assumption that students know how to collaborate effectively and efficiently, or that they will figure it out. I contend that while many students have previous extracurricular team experience from high school, they are not naturally prepared to work effectively, efficiently, and collaboratively with others on an academic, let alone a workplace, project. Team contracts, peer review, and other structure are sometimes provided (Oakley et al., 2004) and may help team processes and function. However, in a non-cohort academic semester setting, too often the team contracts, structure, and peer reviews function merely as academic assignments rather than artifacts or documentation that creates an effective team culture. Further, even if all team members theoretically know how a team develops and functions according to Tuckman's stages of team development (Tuckman, 1965), there is no guarantee that teams will operate functionally in post-COVID virtual teamwork. Oakley et al. (2004), for example, provides outstanding advice on moving student groups to effective teams. Their approach is a best practice, pre-COVID. Microsoft Teams interrogates the current best practice by suggesting that we are still missing the mark in our use of student teams to prepare students for the real world unless we are using a technology that is a real-world platform for teamwork. Also, when relying on a technology for team function and process, we need to emphasize psychological safety (Edmonson, 2012) and the importance of emotional intelligence (Goleman, 2020) in virtual work, both of which further interrogate current team process/practice in the post-COVID work world.

Effective teamwork requires a healthy culture of teamwork. Both "healthy" and "culture" are independent key words that current practice does not recognize or foster. In typical higher education undergraduate academic team situations, there is not a culture to enter because the student teams are always new each semester and there is typically not a system in which students are taught a consistent way of operating on teams. While many students have had previous extracurricular team experience in which an established team culture existed, too often, frankly most often, there is not an academic

"integrated" team experience where expected norms, behaviors, mentors, and mechanisms to handle conflict are provided consistently. A systematic, standardized, and consistent teaching of teams speaks to the "healthy" aspect of team culture. Without this approach, student teams tend to be ineffective at collaborating, rely on dividing and conquering, and often are dysfunctional in efficiency, psychological safety, and conflict resolution on teams[2]. When students enter the workforce, they will be entering an existing culture and will be expected to conform to the team norms. Our students will be well-served if we can better prepare students for this authentic experience.

Without a culture that invites, encourages, and requires individual accountability within the team structure, students will continue to approach teamwork as follows, which is nothing like real-world expectations and is impractical and impossible to authentically assess:

- "We have to meet because our professor said we do, and we are supposed to fill out this team contract thing."
- "We can divide the work up in this first meeting and put everything in a google doc and figure things out later." (i.e., divide and conquer approach)
- Two days before project due date (perhaps a week, perhaps the day before), one or two team members finish the project.

Creating a healthy culture is most likely in the hands of the professor. For me, requiring students go through the motions of meeting six times per semester via Zoom and submit a collaborative deliverable in the LMS was not fitting the concept of a healthy culture of teamwork. Nor were students working effectively with others, a student learning outcome and authentic outcome that prepares students for the workforce. Student meetings seemed forced within an academic structure of the LMS using Zoom and Kaltura; they did not feel natural. Students reasonably approached the goals of the course with a "checklist" mentality which means "the professor said we have to do X, so we will do X." Microsoft Teams is a tool that moves the student experience closer to a healthy culture of teamwork by situating students in a real-world teamwork environment.

It is likely that after graduation, most students may "pretty much live in Microsoft Teams" and could easily "spend six hours per day on Microsoft Teams, including meetings" (Lansmann et al., 2019, p. 3). Statistics of Microsoft Teams usage sales also supports the statement that most students will use Microsoft Teams upon graduation. For example, monthly active users of Microsoft Teams surpassed 270 million in January 2022, frontline worker usage has increased, and 90 percent of Fortune 500 companies use Teams Phone (Endicott, 2022). Also, Microsoft quantifies the value of collaboration with Microsoft Teams, making a bottom-line case for companies to use the platform (Wright, 2019). Furthermore, not only does Microsoft Teams help students practice and gain skills in an authentic work environment in a low-stakes manner because no real-world jobs are on the line, Martin and Tapp (2019) argue that "teaching and learning with the app is located within the social constructivism paradigm of educational theory" (p.58). Furthermore, with a little coaching related to the importance of psychological safety on teams, which can be done in any course using student teams, the "healthy" aspect is more fully integrated. Any course using student teams can also use Microsoft Teams.

[2] There are assessments to aid with emotional intelligence/psychological safety and conflict resolution on teams. BlueEQ™ (Georgia Center for Assessment, 2019) and the TKI® (Kilmann & Thomas, 1977) are two such assessments that could be integrated into teaching students how to function on teams.

Authentic formative and summative assessment

The reason I use student teams/groups in courses I teach is to simulate real-world problem solving, particularly in a business context. The courses I have taught and currently teach are situated in content that is preparing them for their future work upon undergraduate study in a business environment. Students taking these courses expect to use what they learn in these courses in their internships and jobs immediately upon graduation with their bachelor's degree. Even outside of work, humans do not typically solve problems in a vacuum or isolation because problems in adulthood tend to involve other people. There are, of course, exceptions, but to prepare students for employment and adult life, providing opportunities to solve problems with others by using student teams helps students practice skills that they can transfer to other settings.

The reason I use Microsoft Teams is it is a powerful, collaborative, project management platform that brings team members together virtually to solve a given problem or problems. I have become firmer in my commitment to integrating Microsoft Teams into my current and future course structure given the impact of COVID on remote/virtual work. In-person meetings are less common and, in some instances, non-existent in the workplace, and many companies use Microsoft Teams as their platform. Providing students practice in this space before they launch into their careers is a practical way for me to give them a boost. And finally, I not only simulate authentic problem solving but also assess students authentically with the use of a technological tool.

Using Microsoft Teams is more efficient for: (1) instructor-student interaction and engagement (Chickering & Gamson, 1987; Kuh, 1995; Kuh et.al, 2006), (2) simulating management in the work world, (3) assessing and grading, and (4) "supporting collaborative knowledge building" (Buchal & Songsore, 2019). Everything I need to see from teams' work is in a Microsoft Teams private channel, and how they use their channel is their choice. Choice contributes to authenticity and relevancy. Finally, just as a manager would provide feedback to a team that is providing documentation and deliverables in a Microsoft Teams space, I do the same as the professor by providing formative and summative feedback.

Use of private channels and deliverables

At the start of the semester, I form teams that work together weekly throughout the semester. I create a private channel for each team in Microsoft Teams. Only the team members and I can see their work. The grade for a required meeting requires each team member's attendance, the recording, and deliverables posted in the private channel. The recording is a way for me to check attendance and provide formative feedback to the team, sometimes individually to team members, related to communication, lack of preparation for leading a meeting, and meeting process fundamentals. The weekly deliverables are building blocks, scaffolded steps and assignments, for the final project. These weekly deliverables are complete/incomplete checkpoints, like we would expect in the workplace. If the deliverable is not in the channel, there is a "low-stakes" point deduction. Deducting points emphasizes the importance of paying attention to what is required and the importance of taking notes during a meeting. Teams who miss points (approximately twenty percent of teams in first and second meetings) only do so that one time. Checking student teams' work in Microsoft Teams is more authentic than in LMS assignments because it replicates what a business manager would do. Of course, a manager would not deduct points, but we have a layer of academics that we must transpose onto the authentic space and assessment.

Authenticity of requiring recordings

One may wonder how authentic it is to have teams record a meeting. Post-COVID, recording meetings is commonplace. If a teammate must miss a meeting, the recording can be viewed. This situation relates to authentic process. I use it for authentic formative assessment too. I want teams to collaborate and have a dedicated leader that takes teams through an agenda so they can stay on task, operate efficiently, and deliver what is expected. The only way to find out if that is happening is for me to observe the meetings, or participate in them, which is not reasonable. If the team does not have a deliverable for the week or I hear from teammates that they are confused on what to do for the week, it is likely because the leader did not do a good job leading with an agenda and relying on notes from meeting with me. When I observe this situation, I ask the team leader to meet with me, and I provide formative feedback. This is not unlike a manager having to meet with an employee when the manager has "heard" that the employee is not doing what is expected. A manager might sit in on a team meeting in that case, which is like viewing a recorded meeting. The manager would then meet with the employee to provide some formative feedback. Recordings can be done in other ways but using Microsoft Teams combines process and assessment because I also use Teams chat (with video) to meet with students. Microsoft Teams is the one-stop shop, much like in the workplace.

Absences from team meetings are easy to check from a recording in a private channel (Figure 3). Since the learning outcomes are related to working effectively with others, attendance at all team meetings is expected. Of course, as in real life, students sometimes must miss a meeting. When meetings are missed, I coach the students how to make up for the miss. Coaching is a form of formative assessment. Absences early in the semester are different from ones later in the semester in terms of how I coach, and typically if a student misses a team meeting, they only miss the one. When they miss later in the semester, they understand that they need to contribute their prep work prior to the meeting. Asking teammates what they missed, which is a typical response from an absent student, is not acceptable collaboration.

What is being assessed and evidence of impact

In addition to weekly deliverables being assessed, the final project is delivered in both the private channel as part of the teams' semester archives of work, but also in public channels that all students

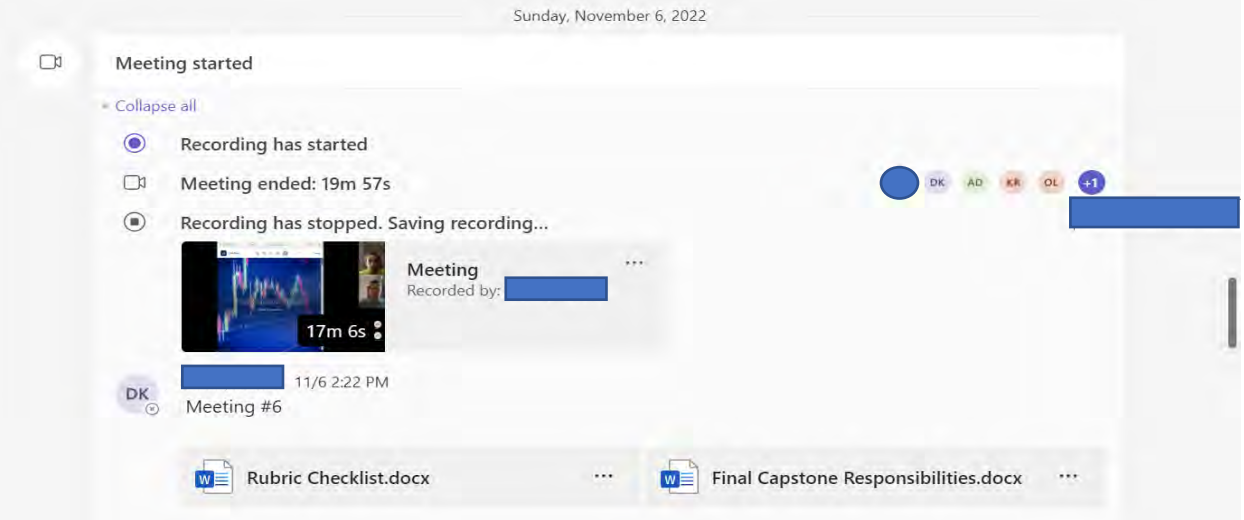

Figure 3. Checking attendance from recording.

can visit. The purpose of the public channels is for students to visit channels of interest to further their own learning. The final project is a culmination of research that students have done individually, an informational interview with a professional or a coaching appointment with a career coach, and application of emotional intelligence content that they have individually and as team worked with throughout the semester. The final project is created using Adobe Express which produces a shareable link. The link is provided in the Microsoft Teams channels for me to grade and classmates to learn from. Everything that students do in Microsoft Teams simulates authentic process. My grading of the final project process simulates authentic assessment.

There are several aspects of the final deliverable that I check and assign points toward the required meeting. Students must post their project link in their private channel and appropriate public channel. They must record their virtual meeting and they post two documents to their private channel Files space: a rubric checklist and an after-action review. As their "manager," I am looking for these items. If I do not see them, I do not take off points at this stage; rather, I reach out to the team leader and ask about the missing item. I know they have done the work and while ideally, I expect them to submit everything where I expect it, I understand that real life is messy, not concrete, and we do not have a rubric to follow.

The action I describe is what I would do in real life. For example, if there was a deadline for a deliverable in real life that was missing an aspect, the team would not get a 0 for that portion. They would have a chance to still deliver. And I would not set a deadline that did not have a buffer for mistakes to be fixed. The process I take students through using Microsoft Teams also accounts for building in aspects of the course for change agility, requiring students to check email, and ambiguity. These aspects are skills that recruiters say are areas of improvement for students, and aspects that will set them apart from other programs/schools. When building a course with intentional and purposeful ambiguity and adaptability to help students practice real life, I too need to allow for those aspects in that authentic manner.

Ultimately, teamwork tasks are better, and learning is more authentic. One student wrote the following related to teamwork and learning:

> Though we are technically an asynchronous class, you've provided clear instructions for each team meeting and have given a lot of suggestions regarding team working. Without your instructions, I would never have leaded an entire team meeting or talked with UCS staff about their perspectives of the career. We've spent weeks in class, building team relationships, doing research about industry facts, as well as conducting evaluations to know more about our own emotional intelligence level. I updated my LinkedIn profile based on the evaluation results, which allowed me to attract 11 profile views and 17 search appearances. Provided with these facts, I'm confident that I can find an internship for next summer.

This feedback is significant because the student points out teamwork and individual tasks that she never would have done on her own; yet the activities she describes are learning activities that could be expected of students to do outside of class – meet with a career coach (UCS staff), research an industry of career interest, and lead an entire team meeting. These are real-life, authentic activities. While these individual activities could be completed without Microsoft Teams, the individual activities were integrated with team activities and the final team project, and the emotional intelligence work the student describes came to life in team dynamics.

Another example of the impact of using Microsoft Teams with required, recording meetings in a jumbo (320+ students), asynchronous, online class is that students get to know teammates well and form strong bonds, which presented me with a dilemma for the final required meeting. A team

met in person for their finalizing piece of the project. Initially, my reaction was, "oh no, they have to meet in Microsoft Teams." After that momentary reaction, I realized that their meeting in person was a positive, authentic sign of "adjourning" (Tuckman, 1965). For example, it serves as a celebration and a time to figure out where to go from here. The team took a picture working together and submitted that rather than the recording. I decided that I need to be OK with their decision because when the team's work concludes and it is time for the team to dissolve, there can be feelings of mourning that they need to resolve. Meeting in person can facilitate that process. In real-life as a manager, if a team that typically worked virtually decided to all meet for the polishing aspect of a project, I certainly would accept that work.

How using Microsoft Teams in an academic setting works

First, there are three assumptions I have made upon deciding to use Microsoft Teams for authentic teaming and assessment: (1) students will be working in a team environment likely involving virtual/remote work in their first jobs out of college, (2) their work environment will be a healthy culture, and (3) workforce teams are using Microsoft Teams, or similar project management technology. I begin this section with an introduction to the *look* of Microsoft Teams. I believe it is important to see the platform before discussing the function of Microsoft Teams as a technology for authentic assessment. Our institution has a Microsoft Teams for Education license (there are other industry specific versions as well) and launched a Microsoft Teams Classes pilot program that I signed up for Fall 2022. This pilot integration automatically adds all class members to the Microsoft Teams site and continuously synchronizes the LMS course roster when students drop or add the course. Prior to this year, I had to create a team manually. Regardless which way the course is created, the power behind Microsoft Teams related to authentic assessment is using a private channel (Figure 4) for each student team in the course. Private channels have a lock next to their name allowing only those members and the team owner/professor to access to the channel. Within the channel, teams meet virtually and record the meeting for their archival purposes (Figure 5) in case a team member cannot attend. Recording also facilitates grading/assessment, as previously discussed. Students choose how to collaborate within their channel, creating folders and meaningful file names, to progressively work on their final project throughout the semester. All their work is visible and archived in their channel which allows for more effective collaboration and storage (Figure 6). Having all work in one place, the working channel, shows the progression of their work throughout the semester, facilitates assessment of their teamwork and recorded team meetings/deliverables.

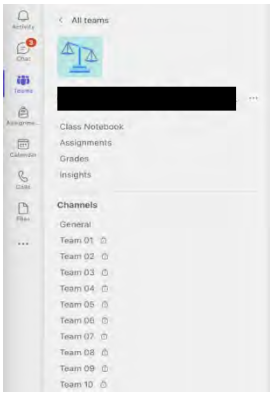

Figure 4. Private channels.

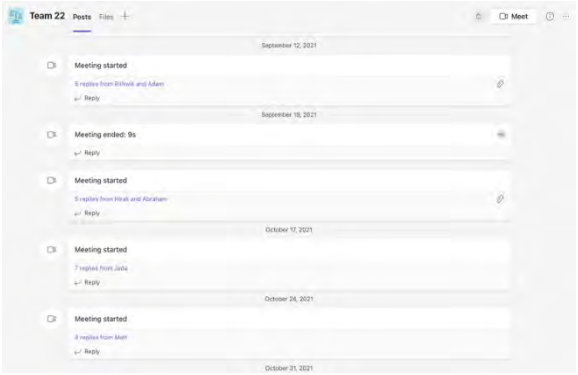

Figure 5. Archive of recorded meetings. For reference and anyone who missed a meeting.

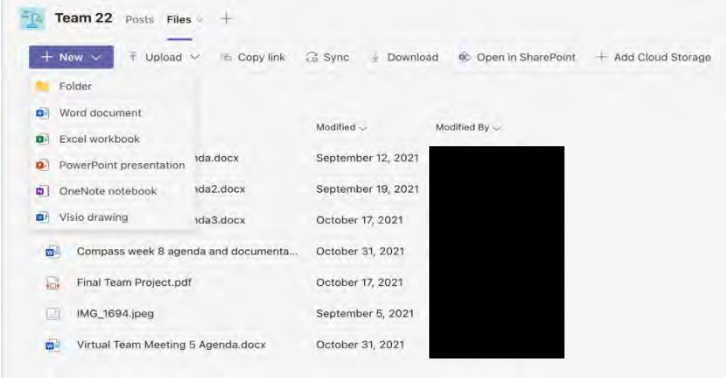

Figure 6. Collaboration and storage. Create and archive all documents.

To illustrate the *function* of using Microsoft Teams, I will use a final project for the course to show how Microsoft Teams supports authentic assessment while engaging students in a real-world technology to add to their toolkit upon graduation. Assessing students' teamwork and individual contributions to the work takes on a level of authenticity that is missing with a traditional LMS. First, I want to note that communicating with individual students via chat in Microsoft Teams is the most authentic communication I have experienced in over twenty years of teaching at the college level. It replicates how colleagues in the workplace communicate for quick questions or to initiate a longer call/conversation. A chat or call can both occur within Microsoft Teams, again reinforcing the one-stop shop versatility of Microsoft Teams. Chat messages/calls also provide a more efficient means of communication with students that simulates a real-time conversation we would experience in the workplace. Of course, we cannot always immediately answer a student question, but the ease of access and use of Microsoft Teams as a desktop, tablet, or phone app is unequivocally the most convenient and authentic way of interacting with students (Figure 7). I have found students appreciate the just-in-time aspect of communicating via Microsoft Teams. Using chat improves faculty-student interaction because it is more intimate than LMS messaging or organizational email, faculty appear and likely are more available, and such a feature taps into students' communication expectations/learning related to informal learning with mobile devices (Gikas & Grant, 2013, p. 19). Chatting, as described above, is fundamental to using Microsoft Teams for authentic assessment. There is a "Filter by name" feature where you can search for students and see your chat history which may include file sharing and record of calls/meetings. This record of student interaction can aid in assessment.

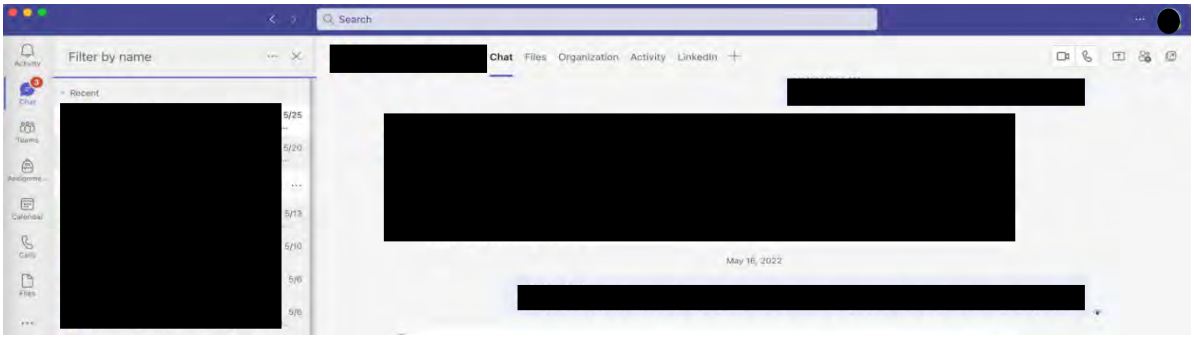

Figure 7. Real-time instant messaging.

Now, I turn toward students' use of the Microsoft Teams space via private channels as they work throughout the semester building toward the final project. Foremost in this technology

supporting authentic assessment is the nature of the project being built in stages, essentially from the first day of class, like the first day in a new job. Students need adequate acclimation to the Microsoft Teams space and notion that any work that is done individually or collaboratively toward the team project should be stored in the team's private channel. Just like in the workplace, everything students create will be in the Microsoft Teams space, including meeting agendas, notes/minutes, drafts, individual brainstorming used in team meetings, resources from research, meeting recordings, mini-deliverables, and the final deliverable. Real-world work teams that use Microsoft Teams are not using Box, Dropbox, Evernote, and/or Google to collaborate. They are using Microsoft Teams and may add "apps" such as Miro or Decisions, for example, to help their workflow, but whatever they use is within created within or added to their Microsoft Teams space so that all team members have access to read, edit, and truly collaborate.

Foundational to using Microsoft Teams as a technology supporting authentic assessment is to *require* student teams to meet regularly and record their meeting. This meeting time is scheduled collaborative time to work toward the final project deliverable. The recordings aid in formative and summative assessment and serve members when a team member misses a meeting, as occurs in real-life. If students are not required to meet as a team, they are likely to divide and conquer and/or not even meet. They may think they are collaborating and functioning as a team by throwing their work into a Google Doc, for example, but they are not learning to work effectively with others.

Since the structure of my course is based on a healthy team culture and functional teaming aspects, I use the first two weeks to acclimate students to their team members, the Microsoft Teams process, and the final deliverable structure with scaffolded stages. Before the semester, I create private channels and assign members manually to their team channel. In Week 1, they are ready to get to know each other. This course is an online course, so students meet virtually with exception of during Week 2 when they must ideally meet in person to introduce themselves and take a group picture to post in their private channel for me to see and give credit for completion. Often, they have a member who cannot meet in person, so they connect with that person via video in their Microsoft Teams private channel. The team picture includes the virtual team member. The point of the exercise is to create time and space for introductions, an application of the *Forming* stage of team development (Tuckman, 1965). Students are experiencing team development theory to create a healthy team culture rather than just hearing, reading, and learning about the theory.

After a couple weeks of using Microsoft Teams and getting used to the environment, teams are ready to begin required meetings within their private channel. *Storming* is a stage of team development in which leaders emerge and there can be conflict and power struggles. It is a normal stage, as is conflict on a team and it is often a stage where student teams break down and become dysfunctional. Some team members dominate, some stop sharing their thoughts and go along with the dominance, and some may check out entirely leaving the team with that member who never contributes. To help teams through any storming issues, the first meeting focuses on psychological safety where team members discuss best team experiences and worst team experiences. A common denominator in bad experiences is team members feeling shut down by a dominant member. Having the team share experiences and nail down how to be better teammates highlights and allows an informal team contract to form. That informal contract is also aided by the structure where one team member will lead a meeting throughout the semester, so all have a chance to practice setting up an effective meeting and facilitate a virtual meeting. Students develop leadership skills by ensuring all voices are heard and making all accountable for contributing through prep work done before the meeting. These skills and tasks are easily observed and assessed by me, their manager/professor.

The first virtual team meeting recorded in Microsoft Teams, while not typically contentious, is a storming stage because they do not know each other well and are feeling things out—their new teammates, their deliverable expectations, Microsoft Teams, what type of feedback I will give, etc. The

second meeting is still a storming stage meeting mostly because they are unfamiliar with using Microsoft Teams, still do not know each other well, and are not always feeling like they know what they are doing toward the final project. Ambiguity and choice can be freeing but often feel confining to students, which contributes to the storm, particularly if a team member expresses distrust of the process or tools, or dislike for the course. These experiences are authentic to the workplace as well. Activities related to psychological safety at this meeting stage are helpful in moving them through storming.

By the time the third meeting occurs around Week 5, *norming* is occurring, and students all have a better handle on the course content and expectations of the final deliverable and stages of assessment. Keep in mind that each week in my meetings with the team rep/leader for that week, I am coaching them around expectations about facilitating meetings. I provide meeting structure for them so that they can focus on the people part of the meeting – facilitating conversation, checking in with teammates to make sure all who have something to say have said something, making sure all have shared individual thoughts, and ensuring all have prepped before the meeting. The stage of *performing* happens in the fourth and fifth meetings and pulling the project deliverable together in the sixth meeting, which is sometimes an adjourning stage meeting as well. Some teams choose to meet in person because they have gotten along so well that in-person is a rewarding, finalizing event.

Conclusion: Microsoft Teams to solve LMS challenges related to authenticity

In this essay, I shared my journey of *observing* student team collaboration through GroupMe to *teaching* student team collaboration through Microsoft Teams. I discovered that Microsoft Teams provides higher education with an opportunity for relevant workplace preparation of students in an authentic environment with authentic tasks, processes, and assessment deliverables. My three-year experimentation using Microsoft Teams in my teaching led me to question common student teamwork practices still being used in a post-COVID virtual world. Furthermore, I demonstrated *how to use* Microsoft Teams to move students from conceptual knowledge to applicable skills related to working effectively with others. Instructors wanting to authentically prepare their students for teamwork in the work world will be drawn to using Microsoft Teams. Finally, students will benefit from using Microsoft Teams because it is likely the interface they will use in their internships and jobs post-graduation. Recruiters expect digital literacy, change agility, and adaptability skills, and using Microsoft Teams helps students meet those employer expectations. The most meaningful evidence of the impact of using Microsoft Teams comes from students sharing their recruiting experience. Students articulate in employment interviews how important it is to learn how to collaborate and "be in charge of" organizing a meeting and leading their team through a process of organizing, communicating, and providing space for teammates to share and voice opinions toward the common deliverable goals. Success in employment interviews is the true authentic form of summative assessment.

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