

Agile Teaching

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Throughout the past five years, faculty members at Miami University in Oxford, Ohio, have researched how the agile way of working can increase teaching and learning in higher education. Agile was developed in 2001 by a group of software executives who were tired of software development projects that failed. This way of working focuses on group collaboration and provides practices that teams can use to work more efficiently and effectively together. After the software industry saw success in increasing the quality and completion rates of projects, other sectors began to adapt the agile way of working.

As Miami faculty members researched how agile could improve teaching and learning, the results were surprising. They discovered that using the agile way of working and agile practices in the classroom increased student engagement, encouraged students to take responsibility for their learning, enhanced the level and quality of collaboration, and produced higher quality deliverables. In 2017, a group of Miami faculty members published the “Agile Manifesto for Teaching and Learning,” which can be used to direct the work of higher education instructors who want to be agile educators. The manifesto identified six value statements that agile educators can use to guide their work and teaching, as shown below:

- Adaptability over prescriptive teaching methods.
- Collaboration over individual accomplishment.
- Achievement of learning outcomes over student testing and assessment.
- Student-driven inquiry over classroom lecturing.
- Demonstration and application over accumulation of information.
- Continuous improvement over the maintenance of current practices.¹

This article discusses two important aspects for higher education—having an agile mindset and using agile practices to enhance teaching and learning outcomes.

Agile Mindset

The six values we believe are characteristic of agile teaching are only successful if an agile mindset exists. What is meant by an agile mindset? Agile coach and scrum master Susan McIntosh provides the following definition, saying, “An agile mindset is the set of attitudes supporting an agile working environment. These include respect, collaboration, improvement and learning cycles, pride in ownership, focus on delivering value, and the ability to adapt to change. This mindset is necessary to cultivate high-performing teams, which, in turn, deliver amazing value for their customers.”²

Similarly, agile teaching focuses on individuals, collaboration, and reflecting and responding to change in short, iterative work cycles.³ The ability to change how we think about teaching can be difficult, but we believe it is important to incorporate agile successfully into our classrooms.

Adaptability

The first value in the manifesto, adaptability over prescriptive teaching methods, reflects that we as instructors should be flexible and not rigid in our expectations because students might miss opportunities to learn new knowledge if we strictly adhere to a syllabus. Instructors should value letting students learn in an uncertain environment because as they are exposed to different contexts and experiences, they build new knowledge. Teaching with an agile mindset means that uncertainty and change is embraced.

Retrospectives

One agile practice that promotes adaptability in the classroom is the use of retrospectives. Instructors do not have to wait until the end of the semester to receive feedback from student evaluations. Instead, instructors can gain feedback via retrospectives throughout the course and make changes to help meet learning outcomes and enhance learning. Agile retrospectives are easy to integrate into a

course. At the end of a unit or module, the class is asked to answer the following three questions:

- What went well during this module?
- What went wrong during this module?
- What could we do differently to improve this module or the next one?

The answers to these retrospective questions allow an instructor to identify knowledge gaps and provide clarifying follow-up before the next learning module begins. The instructor also gains insight about what learning activities were successful and which need editing for future use.

Collaboration

The second agile value represents the idea that we as educators need to welcome a collaborative approach to achieving a joint effort. Faculty should facilitate meaningful collaboration in our classes by encouraging students to listen effectively, provide and receive feedback, have transparent communication, and engage in cooperation.

Team Charter

Agile teams often create team charters, also known as social contracts, to establish a foundation for how a team will collaborate and work together. A social contract is a set of rules and guidelines that a team decides will govern its interactions and work. As teams (or a whole class) develop a social contract, they discuss questions such as the following:

- Who are we?
- What is our team name?
- What are our values?
- How will we handle conflict?
- How will we run our meetings?
- How will we manage our work?
- How will we know if we are successful?
- How will we have fun?

The team charter helps teams to govern themselves and how they interact with one another so true collaboration can emerge.

Achieving Learning Outcomes

The third agile value is pursuing achievement of learning outcomes over student testing and assessment. Instead of using assessment to demonstrate students' mastery of material for a grade, we believe in using assessment to help them focus on how course material can be applied to their long-term goals and future careers. As agile educators, we

encourage students to be learning-driven rather than test-driven.

Agile Showcase

An agile showcase is a "show-and-tell" session where a student team demonstrates the work it has completed on a project or assignment in order to obtain feedback from the instructor, peers, and/or an actual customer, if the course has a client project. Showcases provide an opportunity for students to make edits and plan for the work that still needs to be completed. Moreover, showcases can help students be accountable for their work and produce a higher quality assignment.

Daily Stand-Ups

A second agile practice that can be used for this value is daily stand-ups, which are a core agile practice. Teams meet daily for 10 to 15 minutes and discuss what they finished since they last met; on what they are working today; and what are the obstacles, questions or impediments preventing them from doing their work. These three questions create transparency and accountability and provide immediate indicators to the instructor, who can determine if the students are on track or if they need additional support.

Student-Driven Inquiry

Agile teaching focuses on student-driven inquiry over classroom lecturing. We believe that instructors should engage and motivate students with active-learning assignments and real-world opportunities instead of strictly lecturing. Students learn more when they discover questions and problems they want to explore. Deep learning occurs when students analyze contexts, inquire about material that interests them, and develop applicable skills for their futures.

Kanban Boards

Kanban boards encourage student-driven inquiry and active learning by creating a physical space where they can capture and pursue their work and/or interests. For example, students can visualize their work by breaking down all the requirements of an assignment into manageable pieces and tracking their progress. Students also can create Post-It® notes, also called story cards, on the Kanban board for all the course learning outcomes and track the activities and assignments they complete in class to meet those requirements.

Demonstration and Application

This value focuses on providing students with learning opportunities that help them gain not only disciplinary knowledge but also to demonstrate what they have learned. When students can demonstrate the results of their studies, they gain confidence, retain that knowledge better, and adapt more easily to change. Once again, showcases and daily stand-ups are useful for supporting this value.

Continuous Improvement

The last agile teaching value is continuous improvement over the maintenance of current practices. This value encourages faculty to evaluate their teaching methods continuously and make changes based on feedback. Evaluations that come at the end of the term can only change the course for the next class; however, the agile way of working has the mindset that continuous evaluation and improvement should bring immediate value. If students see the instructor asking for their feedback and making changes to provide a better experience, they become willing to try new things, fail, and try again.

Classroom Assessment

Retrospectives can be adapted for use as a classroom assessment technique for discussing three basic topics, as listed below:

- What went well during this module?
- What went wrong during this module?
- What could we do differently to improve this module or the next one?

This type of retrospective encourages both student-to-student and instructor-to-student interactions, and it helps the instructor gain insight and make changes that can influence student learning and outcomes positively for the remainder of the current course.

Summary

Agile teaching requires instructors to embrace an agile mindset and incorporate agile practices into their courses. Agile instructors need to focus less on exams and lecturing and more on fostering student-driven inquiry and the application of relevant material. The strategic use of daily stand-ups, showcases, retrospectives, and other agile practices provides quicker feedback and evaluation that

can help instructors adapt to the needs of current students. We believe that students need to take ownership of their learning and discover how to work together as high-performing teams. An additional benefit of agile teaching and learning is that graduates can enter the workforce with an agile mindset and a handful of agile practices that will prepare them to tackle the challenges of tomorrow.

References

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3. Andrea R. Hulshult and Timothy C. Krehbiel, "Using Eight Agile Practices in an Online Course to Improve Student Learning and Team Project Quality," *Journal of Higher Education Theory and Practice*, 2019, pending publication.

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