

What this is

The Innovative Instructor is an article series (<https://cer.jhu.edu/ii>) and a blog (<http://ii.library.jhu.edu>) related to teaching excellence at Johns Hopkins

Article categories

Best Practice

How to use technologies and apply innovative instructional methods

Pedagogy

Hopkins professors share successful strategies for teaching excellence

Technology

Information about emerging technologies, who is using them, and why you should know

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About the CER

The Center for Educational Resources partners with faculty, postdocs, and graduate students to extend instructional impact by connecting innovative teaching strategies and instructional technologies

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Piazza

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What it is

Piazza is an online question and answer style discussion board that offers useful features for facilitating communication among students, teaching assistants, and instructors. It provides a means to gauge student understanding of course concepts and allows instructors to engage with the students in an intuitive way in real time.

Who produced it

Piazza grew around the idea of students sharing knowledge. The developer, Pooja Sankar, felt there could be a better way for students to share their knowledge with each other in an effort to understand complex course topics. As one of three female students in a majority male undergraduate computer science class, she found it difficult to reach out for help, and suspected this was a common problem. Piazza was created as way for all students to be able to crowd source their peers for assistance.

Why it was made

The power of anonymity in this application becomes a motivator for students who might otherwise be reluctant seek help. Instructor involvement is also an important aspect of this application. Since all of the questions and posts occur in one place, the instructor can review Piazza activity and provide support when needed.

piazza
Ask. Answer. Explore. Whenever.

How it can be used

Students start by posting questions about course topics. These could be questions about an assignment or a subject presented in lecture. If other students have answers to those question, they can provide preliminary responses. Just as with a wiki page, all of the students have the ability to edit answers to improve their clarity.

Students can continue the conversation by posting follow-up discussion threads to questions in real-time, giving others the immediate sense that they are not be struggling alone. Students who are having trouble with the same topic can “pin” a question to bring attention to it. At any point, the instructor can endorse a student’s answer or answer a question directly if other students are having trouble providing correct information. Instructors can also gauge student participation by using the site’s statistics. These analytics provide insights on how well the students are understanding course concepts. Piazza provides a formative assessment that allows instructors to adjust their teaching to clarify misunderstandings or confusion.

Piazza has a number of features that distinguish it from a standard discussion board tool. There is a clear scheme for organizing student posts and instructor feedback so that students can easily locate relevant material. This can reduce the number of duplicate emails sent to the instructor by students asking the same or similar questions.

While anonymity may be useful for some classes, instructors can allow students to submit anonymously or not. If the instructor chooses the latter option, students can still



post questions privately, which will only be seen by the instructor. If students don't post anonymously, it is possible for an instructor to award extra credit to students who post particularly good questions or who provide answers of benefit to the whole class.

Another useful feature is the variety of formats for posting questions, such as code blocks and equations (using LaTeX). This allows questions to be detailed and specific. This is one of the reasons why Piazza has become a favorite application in programming and math courses.

Piazza has features similar to a learning management system such as Blackboard, in that instructors can post documents, images, videos, syllabi, office hours, and contact information. Piazza can be linked to a learning management system as an external tool so that instructors do not have to duplicate files in two environments and can use its rich features for discussion.

Who's using it

JHU faculty in computer science and applied mathematics and statistics have used Piazza over the past few years.

Where it is going

Piazza no longer offers free access to the application. As more and more users sign up for accounts, they established a paid model to maintain service for their users. Please review their pricing page for more information.

The screenshot shows the Piazza interface. On the left is a list of questions with titles like 'How is this series divergent?' and 'why we always break the bound to 0 -1, 1-infinity?'. The right pane shows a question titled 'why we always break the bound to 0 -1, 1-infinity?' with 190 views. The question text asks for the reason for choosing the bound 1 for an improper integral. The answer, provided by 'the students', shows the integral $I = \int_a^{\infty} \frac{x^a}{1+x^2} dx$ and explains that for $-1 < a < 0$, the integrand blows up at $x=0$ and $x=1$, so the integral must be split into two parts: $I = \int_a^1 \frac{1}{(x^{-a})(1+x^2)} dx + \int_1^{\infty} \frac{1}{(x^{-a})(1+x^2)} dx$. It concludes that choosing 1 as the bound works best.

How to get started

As Piazza is an online service, you will need to set up an account. This is done through the class creation process. You can review the instructions on the Piazza help page. Once the class is created in Piazza and the students are imported (via their emails), you can create a link in Blackboard to launch Piazza in another window. Please refer to the links below for directions on how to add a Piazza class and link to it in your Blackboard course.

Other Thoughts

Piazza's website suggests that using Piazza can make you a better instructor. There are a number of reasons why this may be true. The real time updates of student activity allows instructors to evaluate the effectiveness of their instructional strategies. Also an instructor can prompt formal assessment by using "polls" so that students provide anonymous feedback about specific questions, assignments, lectures, or more general course concepts. This kind of formative assessment helps instructors make changes or provide additional support to foster greater student comprehension.

Additional Resources

- Piazza's help page: <https://piazza.com/support/help>
- Adding a link in Blackboard to Piazza: <https://uis.jhu.edu/blackboard/add-a-piazza-link-to-your-blackboard-course/>
- Helpful tips from Piazza: https://piazza.com/product/best_practices
- Piazza Pricing Announcement: <https://support.piazza.com/support/solutions/articles/48001161300-paid-model-for-piazza-q-a>

Author's Background

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A staff member at the Center for Educational Resources, Reid provides training on a variety of programs, aids in educational resources development, and shares expertise on information and graphic design with faculty at the Homewood campus. He holds a BFA in Illustration and a MA in Digital Arts from Maryland Institute College of Art.