Members of the Department of Mathematics at the University of British Columbia have used the online discussion forum Piazza (piazza.com) in a variety of courses over the last couple of years. However, there has been little coordinated effort for systematic adoption. This poster presents results from surveys offered to students and instructors in courses that use Piazza and observations of Piazza usage. The intention is to evaluate the effectiveness of Piazza and to guide and inform future use of Piazza.

**Background**

Piazza has features that are desirable by math instructors:
- Easy-to-use, visually appealing interface.
- Easy referencing to posts.
- Supports the \LaTeX\ typesetting language.
- Free to use (for now?).

Figure 1 presents a screenshot of a typical course on Piazza.

The following are results from a survey of instructors and students in courses using Piazza and a summary of observations of Piazza in-use.

**Introduction**

Piazza is primarily used as a question/answer forum for students to discuss questions on assessments. It is continuously available and the average response time (from instructors or students) is \( \sim 25 \text{min} \) in a typical large course. Table 1 presents usage statistics for a typical large, first-year, multi-section course.

Many courses use incentives (marks, draws) to encourage participation.

Table 1: Approximate percentage of students in the corresponding range of number of posts viewed or questions or answers posted.

<table>
<thead>
<tr>
<th>Range</th>
<th>Views</th>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>&lt; 1%</td>
<td>64%</td>
<td>78%</td>
</tr>
<tr>
<td>1 − 10</td>
<td>4%</td>
<td>32%</td>
<td>20%</td>
</tr>
<tr>
<td>11 − 50</td>
<td>15%</td>
<td>&lt; 1%</td>
<td>&lt; 1%</td>
</tr>
<tr>
<td>51+</td>
<td>80%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

The good:
- "It can be troublesome at times to attend office hours. Piazza is a very convenient, and often quick way to learn how to tackle a problem, after having already spent some time trying without success."
- "It seems like a lot of posts at times and very messy."
- "It's a good tool but it needs to be opened to all classes. Some of my friends from other sections haven't even [heard] of it."
- "Thank god Piazza is not mandatory."

The bad:
- "[I'm] not understanding why Piazza is being promoted in the first place... useless."
- "How much did Piazza help your learning relative to other ways of helping students?"
- "More opportunity to have some useful discussion."

**Typical Usage**

Stratified Survey Results

One section of a course was identified, based on student and instructor comments, as having a less-effective Piazza implementation. This was the only section of the multi-section course using Piazza. The survey results from this section were isolated and compared to the responses from a course that used Piazza in all sections.

The results are in Figures 2 and 3. Both the instructor of the "single-section" course and the instructors of the "multi-section" course were actively involved in Piazza and both courses used participation incentives.

<table>
<thead>
<tr>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Q6</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;How much did Piazza help you learning?&quot;</td>
<td>&quot;How much did Piazza help your learning relative to other following ways of seeking help?&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-section</td>
<td>Multi-section</td>
<td>Single-section</td>
<td>Multi-section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q1: Office Hours</td>
<td>Q2: Math Learning Centre</td>
<td>Q3: Online Videos</td>
<td>Q4: Private Tutor</td>
<td>Q5: Other (books, online resources,...)</td>
<td></td>
</tr>
</tbody>
</table>

**Student Comments**

**Instructor Responses**

**Conclusion and Further Questions**

Piazza is generally well-received by both students and instructors, albeit only if it is widely used in a course. Students seem to most like the quick response time and continual availability. Instructors report time savings and improved student learning compared to other modes of interaction.

Topics for further investigation include:
- Most effective incentives for participation
- Training students to use Piazza
- Quality of discussions on Piazza
- Students self-organizing on websites other than Piazza

**Contact Information**

- Web: http://www.math.ubc.ca/~wes
- Email: wes@math.ubc.ca