

**SAFE Classroom Data Collection and Information**

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### Abstract

SAFE Classroom provides and enables faculty to reduce time spent taking attendance in a hybrid setting, fully online, or face to face, while also ensuring secure access to online meeting sessions, such as Zoom. Time once used to take attendance is now reduced to a under a minute. This feature alone will save hours of time for faculty and students across the institutions which deploy SAFE Classroom. This gives educators time back in their classroom to teach, as well as easy to read and review attendance reports which can be supplied as proof of attendance to administrators and accrediting bodies alike. SAFE Classroom was deployed in the Sakai Learning Management System during the Spring and Fall Semesters of 2022.

## SAFE Classroom Data Collection and Information

### **The Problem**

To meet accreditation requirements, faculty are required to track students' seat time in the classroom. Faculty must spend precious class time in order to take attendance. Students are not always on time, and therefore attendance is not always a once-and-done activity. Tools for taking attendance are often integrated within a learning management system (LMS), but still require a roll-call and check-the-box approach which many find to be time consuming. Additional complexities arise when teaching in a hybrid or synchronous delivery fashion, as faculty must then take attendance of their online students, and often the online platform and attendance taking tool are running in separate software packages. The time it takes to perform the attendance function is directly related to the number of students, with larger classes taking more time. Additional time is consumed when faculty must contend with foreign or difficult to pronounce names, cross-gender naming issues (ie., a student who self-identifies as she/her and has chosen an appropriate name they wish to be called in public but has a legal name that is male-oriented and legally the one the institution has to keep on the roster), or nicknames with which to deal. All of this is taking time away from the actual teaching of the topics which faculty are responsible for delivering in the allotted class time. Ongoing analysis has revealed "that attendance positively affects both course grades and GPA, and is the single strongest predictor of college grades" (Bergin, "Student Attendance") and attendance has a stronger effect on test scores than tutorial attendance. These effects are stronger for underperforming students increasingly, attendance is being understood as a leading indicator for student success, with SAFE Classroom being built to address the length of classroom time used to take attendance.

**Proposed Solution**

Imagine a tool that would require all students to be pre-registered using their smart devices. According to the latest data from [statista.com](https://www.statista.com), 98% of college students have a cell phone capable of receiving a push notification. Many institutions already require the use of a phone or other personal computing device for single-sign-on purposes as well as two factor authentication prior to using institutional learning management systems, such as Sakai-based LMSs. SAFE Classroom allows students, with their smart devices, to report their “attendance” status for every class without having to sit and wait for an instructor to call upon them and say “Here!”.

This unique tool enables students to authenticate to the institution's systems via their personal devices, and then respond to an attendance request initiated by a faculty at the start of class. Faculty members simply log into the institutional learning management system, navigate to SAFE Classroom to “start” the class, select the correct roster, and the “start” button. A dashboard is then displayed to faculty showing the real-time responses from students. Those in the room, those online for hybrid situations, and those not in attendance are readily viewed and logged. The tool minimizes the repetitive time calling students names, waiting for responses, checking the Zoom session, or having to go back and record someone as they enter late.

**SAFE Classroom Technical Setup**

The SAFE Classroom is enabled in the learning management system by first creating the course within the SAFE platform. This can be done by exporting the roster from the LMS, which will include the student’s name and email address. This information is then compiled into a .CSV file that has the proper headings/titles, including names, the group they belong to, email address, role, inviter, and origin. The roster information will need to be altered from showing the students

full name, to instead show just their first name and the initial of their last name. The group name is the group title that the student will be a member of, which is normally the name of the class. If there are multiple courses combined into one site in the LMS, the different group names can help distinguish if meetings need to be created for only one group, or all groups together. The individual sending the invite will be the name of the instructor that starts the meeting, as well as the name that will appear in the email invite sent to students. The origin is the school that the course belongs to.

Once the .CSV has been properly formatted, the information can be entered into the SAFE Classroom platform. From the SAFE Classroom website, the user entering the course information will need to be set up as an administrator. From the admin page, the .CSV can be dragged and dropped onto the page and uploaded to the site. Once the file is uploaded, the data can be reviewed, and invites can be chosen to be sent from this page. Invitations to users can also be sent later. Once the contacts are submitted, you can view the contacts from the Contacts page. If there are a lot of entries added, it can take a few minutes for the data to fully populate.

Once logged into the SAFE Classroom platform, from the Meeting tab a new meeting can be started by clicking on Start Meeting. The name of the meeting can be added, and the group can be selected. Initially, all members will be selected, however you can choose to remove students from receiving the invite (for example if you know they cannot attend class, or if the meeting is for a specific set of students). After clicking Start Meeting, a Zoom redirect will appear, and Zoom will be opened. The meeting will be active, and students should receive a push notification on their mobile device to join the meeting.

The meeting details will show various pieces of information, such as whether the students attended in person, online, declined or did not show up. Students can also be reinvited to the

meeting through a push notification or with an email invite link. Guests can also be added, allowing the instructor to easily invite guest speakers. User engagement tools such as the Raise Hand feature can also be accessed from this page, providing data for each instance the tool is applied. Once the meeting is over, the Zoom session can either be ended from the SAFE Classroom platform, or through the Zoom application itself. Additional meeting details will become available after the meeting has ended. Future versions of the software are expected to address these steps and minimize administrative involvement.

### **Key Participants**

For the pilot during the 2022 Spring and Fall semesters, there were 3 faculty members with multiple sites each. There were 10 different courses, each of varying difficulty and type of course materials. This allowed 223 students between the courses to partake in the pilot. There was 1 course admin during this timeframe, with help from David Schropfer at SAFE Classroom.

### **Outcomes**

We compiled the data provided from instructors of their statistics within the SAFE Classroom environment during Spring and Fall semesters in 2022. We deployed a survey to faculty and students during the semester while adjustments to the application were being made. Additionally, we deployed surveys to both faculty and students to gather their opinions on the use of the software as it pertained to attendance.

### **Time for Students to Update their Status**

One of the benefits of the SAFE Classroom application is the ease with which faculty may start the class and the speed with which the students can mark their attendance status with



little direction from the instructor. Faculty can also ensure that online students can quickly join class sessions through Zoom, with little setup or direction required.

The following graph shows the time it takes for students to update their status. The student status can be any of the following: Attended in Person, Attended Online, or Declined. Each minute includes that minute back to the previous minute. For example, 15% of users joined within a 2-minute timeframe. This means the time from 1 minute (1 minute 1 second) to 2 minutes is included in that range.

As shown in the graph below, 76% of users updated their status within the first three minutes of the instructor starting the class session and 52% of users completed this action within the first minute of the instructor starting the class. Starting the class incorporates logging in and accessing their SAFE account, as well as starting and sending the notification that class has started. This notification includes the ability for students to update their status.

Students were not given directions on how to use the application but told just to check their email. Students also did not use the tool for an exceptionally long time, with only having it implemented for a few weeks. With more than half of all users joining in less than a minute, this shows the simplicity and ease of use of the application. Precious time once used to take attendance is now reduced to a single sign-on, click to start class, select the roster, and click begin.

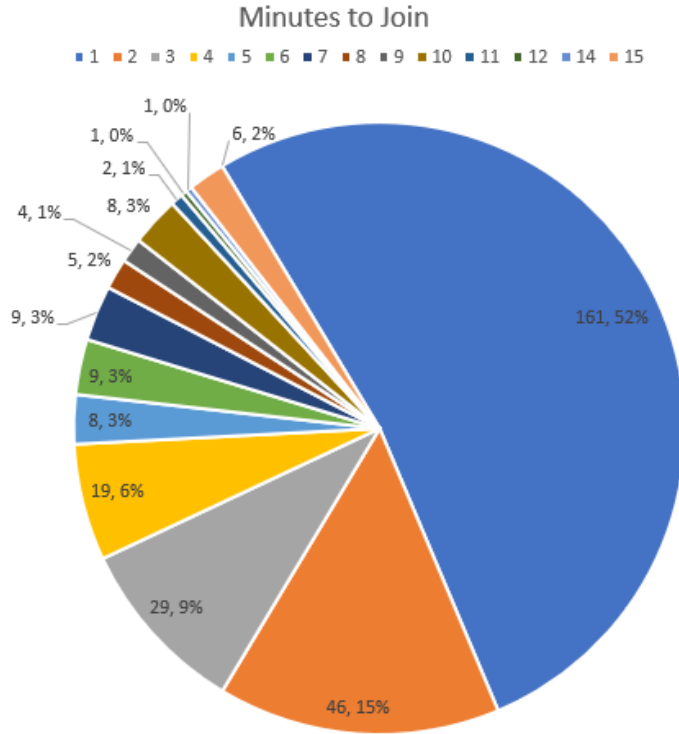


Figure 1: Minutes to Join

### Student Method of Attendance

During Spring 2022, Marist College returned to face-to-face classes as Covid-19 had dissipated, and online options were available if the students were ill. Through SAFE Classroom, many students easily selected their attendance status, which included options such as Attended In-Person, Attended Online, or Declined.

The graph below includes data for a single class over the Spring 2022 semester. Each bar stands for a minute and how many students joined under that minute in that month. For example, 32 users joined their class within 1 minute of the instructor starting the class. Alternatively, for February, there were 13 students that did not reply to the class notification. This is denoted by “-1” on the graph. Most students throughout this semester replied to the notification within 3 minutes, with the largest majority replying under 1 minute. This trend follows throughout March and April, although there was only one meeting held in April for a small section of students.

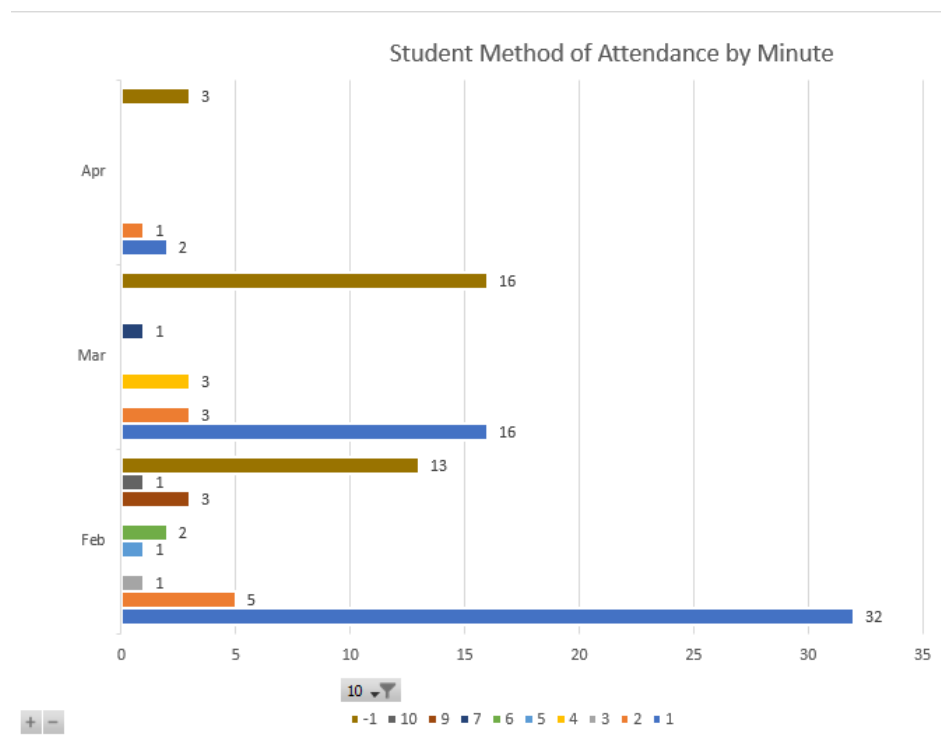


Figure 2: Student Method of Attendance by Minute

## Faculty Classroom Experience

Over the course of the semester, faculty provided generalized feedback. Some of these quotes include positive responses to use SAFE Classroom in their course sites.

"Safe Classroom is the fastest way for me to take attendance and avoid having to interrupt my lecture to deal with people coming to class late, which happens a lot!"

"With Safe Classroom, I'm compliant with attendance taking 100% of the time, AND I have a way of knowing who was late, who was remote, and can even electronically engage with students - whether in hybrid or fully in-person, this tool helps me keep good statistics on my students"

Faculty using SAFE Classroom were surveyed for their opinions of its use. Based on their responses, faculty strongly agreed the application saved them time in the classroom, and also praised it's ease of use, and their ability to quickly get their courses started.

The image below shows that the faculty surveyed that used SAFE Classroom during the 2022 semesters, 100% strongly agree that class time was saved by using SAFE Classroom.

Faculty comments include:

In response to the question "*Did SAFE Classroom save time*", faculty noted SAFE Classroom "...it did save time, if the students participated...". Other respondents noted during the pilot frustrations<sup>1</sup> with the software as it was deployed.



Figure 3: Faculty Response- "Did SAFE Classroom Save Class Time?"

In response to the question "*Was SAFE Classroom easy to use*", 100% of faculty agree or strongly agreed that SAFE Classroom's latest version was easy to use. Faculty commented that

SAFE was easy to use “Once it started working correctly<sup>1</sup>” and that it was “Very easy to get started.”



Figure 4: Faculty Response - "Was SAFE Classroom Easy To Use"

In response to the question that “Starting class with a Zoom meeting was easier than starting via iLearn” (Marist’s Learning Management System), of the faculty that started their Zoom meeting using SAFE Classroom, 50% agree that starting via SAFE Classroom was easier than starting through the LMS (Learning Management System). The other 50% did not use the Zoom portion for their classes. One faculty commented, “I did not have the schedule ahead of time – just say some would be on Zoom and it sent the link – very easy for me!”

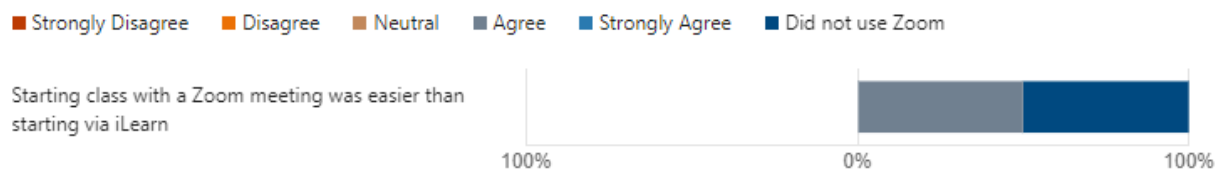


Figure 5: Faculty Response - "Was Starting a Zoom Meeting via SAFE Classroom Easier than via iLearn?"

In response to the question that the “SAFE Dashboards were useful for grading and checking student status”, the SAFE Classroom dashboards were stated to be useful by about 50% of answering faculty. The other 50% did not use the dashboards. Comments include, “Couldn’t always find what I wanted.”

<sup>1</sup> Some difficulties arose for faculty trying to take attendance, primarily an issue that was causing students to move between columns without student engagement. This was determined to be an issue caused by Microsoft’s Outlook email, and was resolved by an Outlook internal update.



Figure 6: Faculty Response - "Were SAFE Dashboards Useful for Grading and Checking Student Status?"

In response to the question that "Starting and setting up a class got easier (between Aug and Dec)", 100% of answering faculty agree that setting up and starting a class got easier as time went on (from between August and December). Faculty stated, "Took about a minute to set up but was easy after that" and "Once it was set up by John it was easy to use."

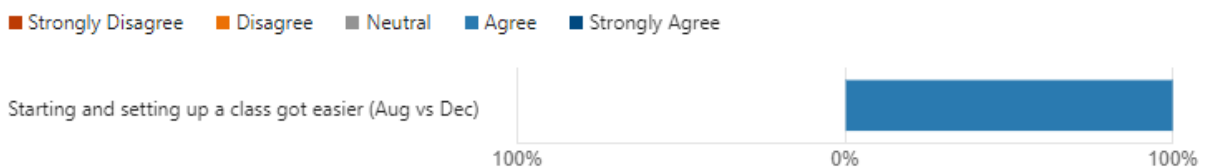


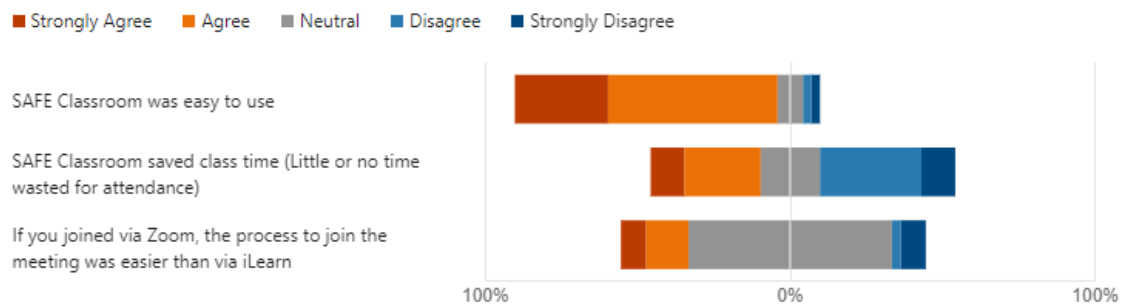
Figure 7: Faculty Response - "Did Starting and Setting Up a Class Get Easier?"

## Student Classroom Experience

Students using SAFE Classroom were surveyed for their opinions of its use. Based on their responses, students had more varying results. Students strongly agreed with SAFE Classroom's ease of use, however there was more differing opinions on SAFE Classroom's ability to save time and ease of use with Zoom (although many students were not subjected to the Zoom portion).

Of the students surveyed, 85% agree (55.6%) or strongly agree (30.6%) that SAFE Classroom was easy to use. Students were not required to download the app and could participate using only their email. 44% of students disagree (33.3%) or strongly disagree (11.1%) that SAFE

classroom saved class time, as opposed to 36% that agree (25%) or strongly agree (11.1%) that time was saved. 22% of students agree (13.9%) or strongly agree (8.3%) that joining through SAFE was easier than through the LMS. 11% of students disagree (2.8%) or strongly disagree (8.3), and 66.7% were neutral.



*Figure 8: Student Response - Multiple Questions*

In response to student's opinions on SAFE Classroom in their course sites, student responses included the following:

“Couldn't people skip class and say they showed up by clicking here? “

“I feel like just using attendance in iLearn is much easier than having to check your emails to check into class. Also, people could lie about whether they were in class or not that day if they just click the link.“

“I think it's weird. People from home who don't attend class still get the email and can say that they attended class which defeats the purpose of the tool.“

“I think if modified it could work well, however, the way is set up right now is not practical because people who are not present in class can mark that they are in class.“

“did not save class time”

### **Summary**

SAFE Classroom assisted faculty with keeping track of the attendance of their students, whether the class be in a hybrid setting, fully online, or face to face. Zoom sessions were also made easily available to students in a safe and secure manner. Important class time is returned to faculty that otherwise would have been taken by attendance, and class interruptions for late students can be avoided. The dashboards provided can also help faculty easily keep track of students to help with proof of attendance as well as monitoring student engagement to ensure student success.



## Appendix

Phase 1 (Due Feb 15)				Phase 2 (Due Date: TBD)		
Item	Description	Begin Testing	Owner	Description	Begin Testing	Owner
Faculty Sets Up Class	Faculty logs in to SAFE portal; all classes are created and updated back-office and updated weekly.	Jan. 15	SAFE	All faculty classes are set up systematically and displayed in Calendar of 'start' buttons based on unique Marist identifier for each class	TBD	Marist & SAFE
Import Student List by Class	Back-office will need to manually populate CSV (Attachment A)	Jan. 15	SAFE & Marist	SAFE uses Sakai LTI calls to pull / refresh student lists	TBD	SAFE & Marist
Attendance	Display real-time attendance data in SAFE portal; record in SAFE database	Jan 4	SAFE	Re-Design and consolidate Faculty portal screen	TBD	
Participation	Basic functionality for 'raise hand' and 'multiple choice.' Use existing portal format	Feb 1	SAFE	<ul style="list-style-type: none"> <li>Re-Design and consolidate Faculty portal screen.</li> <li>Add testing module</li> </ul>	TBD	SAFE
Integrate SSO	Faculty should not have to log in to Zoom	Sept 30	SAFE & Marist		TBD	
Upload Data to Sakai	Create editable view of data before faculty upload CSV to Sakai (Attachments B and C)	Feb 1	SAFE & Marist	Use Sakai LTI to push upload to Marist database.	TBD	TBD

### References

Bergin, Jeff, and Ferrara, Lisa. “How Student Attendance Can Improve Institutional Outcomes.”

*EDUCAUSE*, Educause Review, 1 Apr. 2019,

<https://er.educause.edu/blogs/sponsored/2019/4/how-student-attendance-can-improve-institutional-outcomes>. Accessed 18 October 2022.