

Chat software to improve student interaction in online classrooms

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Abstract

Due to the health concerns regarding COVID-19 which lead to make governments imposes partial or complete lockdown sometimes. Which make universities, colleges and high schools relying on online classes as a communication tool between lecturers and students. There are big number of lecturers complain about lack of student engagement with the online classes. We proposed an anonymous chat system to improve students' interaction and engagement in the online classes. We believe that system will motivate the students to ask more questions during the discussion sessions and beef up the student engagement with online class.

The purpose of this project was to examine correlates of both online classroom community and student engagement in online learning, as well as to compare community and engagement across disciplines in higher education.

The interaction between educators and students is important in education. The dynamic interaction between instructor and students in the curriculum, from simple knowledge transfer classes to active Problem-Based Learning classes, is a success in education. Therefore, many educators are making various efforts to encourage student participation. However, in a vertical and conservative culture, class participation is low despite many efforts.

The anonymity-based method proposed in this study enables chatting service to participate in the learning process anytime and anywhere, and provides an environment in which students can freely ask questions with anonymity. Students can actively interact with other students through chatting service with anonymity, which reduces the teaching overload of professors and assistants. In this paper, we propose a method to draw not only the interaction between the students and the educator but also the interaction among the students by using the chat service which can ask anonymous questions in the educational environment.

The case study covers the results of applying this method to real lessons and introduces the pros and cons of the proposed method and future research.

1. Introduction

Educators continue to identify factors that may promote meaningful online learning. To facilitate positive outcomes, teachers must go beyond the delivery of directed content online and create an interactive, supportive learning environment that is sensitive to student needs.

It found that teachers who facilitate a sense of community and student participation significantly influence student satisfaction and the quality of online learning. The classroom community and student engagement are closely related to each other.

Online students can collaborate by sharing their individual perspectives, ideas, and personal experiences, thus deepening their understanding while increasing their level of reflection and personal satisfaction.

Therefore, the purpose of this study was to examine the correlations of student participation and the online classroom community. We are interested in determining what teachers can do specifically to enhance the classroom community and participation in online learning.

online community in general can be enhanced in seven ways: (decreasing the learners' transactional space, increasing social presence, providing equal opportunity for involvement, designing small group activities, facilitating group discussions, matching teaching style with the learning stage, and limiting class size).

One of the important factors that teachers are interested in is to consider various alternatives to improve the quality of their teaching during the classroom. There will be a variety of ways to improve the quality of the lessons, but the best-known method of teaching is to involve students in the course of learning .

Although most instructor already knows that the participation of the students may increase the quality of the learning, only a few students participate the learning process during the semester. Unfortunately, most students from vertical and conservative culture are even harder to participate the learning process. Such student does not ask a question or answer the instructors question. As a result, the instructor cannot check the understanding of the student, and the student does not share their questions so that the student should pay more efforts to catch up the lecture. Such communication problems are general situation among the conservative Asian countries.

Therefore, vertical and conservative culture hinders to form participatory learning environment.

To solve these problems, many educators in the conservative cultures have adopted various pedagogies, such as Problem Based Learning and Flipped Learning.

1.2 Online Learning Experience for College Students

Learning experience is the feeling and response generated by students' learning. Continuous interest in students' learning experience is an essential step to improving their learning satisfaction. During the special period, colleges and universities across the country delay the start of studies.

According to the Ministry of Education's "classroom suspension without comment" call, online teaching is implemented, and students' learning experience becomes the focus of attention while learning online.

Conducts an investigation to explore the influencing factors and improve the pathways that affect the online learning experience of university students, in order to provide an experimental basis and countermeasures and suggestions for teaching management and teaching decisions to promote reform in colleges and universities, as well as suggestions for designing teachers' curricula and classroom interaction.

1.3 Literature review

As classroom communications and instructional activities influence student attitudes and perspectives on learning in online environments, instructors in the online space must continue to reshape instruction and focus on student motivation, improved critical thinking, and collaborative learning to ensure academic success.

From a practical standpoint, expanding college course offerings through networked or online venues makes sense with respect to cost effectiveness. Not only does an online course design make classrooms available to a larger potential student body but digital educational materials are also much less expensive to produce and maintain .

The questions that guided this study were:

1. how instructors could assess student interactions within an online classroom to ensure that class discussions are effective and enhance student knowledge construction and community building.
2. whether and to what degree instructors in online courses could impact how students' engagement with one another in classroom discourse. To ensure online instructional interactions between students and students-to-instructor are most effective, I contend that through insightful planning and guided responses, instructors can manage online classroom discussions to improve collaborative learning and knowledge construction

Online course offerings have become increasingly commonplace, and higher education has seemingly adopted this format to take advantage of the benefits these courses provide: access to a wider student base and flexibility of offerings In practice, while traditional classrooms involve discussions that occur in real-time and require students to be physically in the same location, lessons in the online classroom can occur over extended periods of time without the benefit of proximity cues (e.g., body language, intonation, etc.) that enhance meaning conveyance typical in face-to-face discourse). The use of the internet, however, has been shown to support collaborative learning by providing instructors leverage in socio-cognitive scaffolding through classroom discussions and thus allowing the classroom to function as Bself improving communities In other words, online classrooms can be designed to investigate intricate and in-depth issues and tasks just as a traditional on-campus class discussion might. While instructors in online classrooms may not physically meet their students, they can become learning facilitators, a resource to help otherwise anonymous students engage in dialogue and grow to trust one another). Instructors can, in turn, assist students in developing social and cognitive skills to aid them in learning. Correspondingly, instructors

must be attentive to student activities, as students must feel their efforts in group activities have value and purpose Acts of purposeful collaborative constructivism allow students to both construct knowledge within the online classroom community as well as retain that knowledge Thus, while participants in online classrooms are physically separated across time and place, students and teachers are still able to create a learning community and co-construct knowledge that is important to their learning and academic achievement The extant scholarship reviewed for this study focused on investigations of one or two specific classrooms to analyze online discourse. Because this study is interested in pre-service teachers, a number of similar investigations that examined the discourse of teachers-in-training have also been included In two cases, studies examined both synchronous and asynchronous classroom discussions comparing how students engaged in discourse in the differing mediums with the goal of improving knowledge construction within the class.

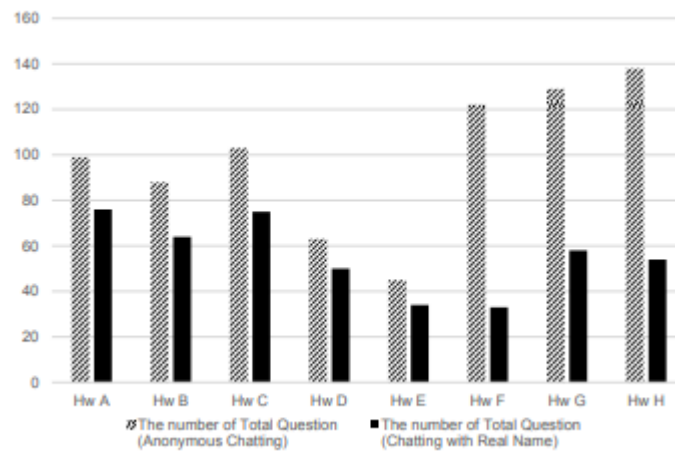


Fig 1.1 Frequency of the conversation in anonymous chat room and real name chat room

1.3.1 Blended learning

Higher education institutions are adopting blended learning at an increasing rate. number of reasons for the growing interest in this method, emphasis the need to engage students and enhance learning experiences. Further, there are more institutional challenges that can be tackled by adopting a blended learning approach .

some of the main benefits blended learning has the potential to provide:

- (i) increased access and convenience;
- (ii) improved learning due to improved instructional design;
- (iii) decreased costs due to reduction of classroom and travel time and expenses.

Technology usage, as a defining part of blended learning, is associated with various benefits for education. technology has the potential to increase student-to-faculty and student-to student interaction, by providing flexibility, and helping overcome limitations of location, time, delivery method, and the communication styles offered in many face-to-face courses.

Teaching and interacting between instructors and students can be performed at the same time (synchronously), or at different times (asynchronously), creating an interactive environment

1.4 Methodology

This study aimed to determine the extent to which students participate and interact in anonymous learning platforms

Discussion is a teaching method that uses dialogue to help students process course content while incorporating their ideas and providing opportunities to have their understanding validated by an instructor . Discussions may have differing expectations, formats and modes of participation.

She adopted the case study approach to understand the real-life situation. A similar case study approach has been adopted in related studies for example, using mixed data collection methods (questionnaire).

Data were collected from a group of universities about 8 universities in various scientific and humanitarian departments. The form was filled out by the target sample (students) by offering semi-structured opinions. The project received broad support and welcome

It revolved around the following research questions:

- How students are engaged in learning activities in the DL coursework?
- How engaged are students in the course?
- What are the factors affecting student engagement?

Anonymous Learning Environment

In a conservative and vertical culture, people do not actively express their opinions. Even if you know the correct answer to a specific question, people do not express it and remain silent.

This is also true of university classes. Because of the nature of conservative culture and peer pressure, students do not answer the instructor's questions nor ask questions about what they do not know. Therefore, participation in the class is low, and it is difficult to judge the academic achievement level of the students. This applies not only to existing education methods but also to Problem-Based Learning and Flipped Learning methods. The two pedagogical methods, in which student participation is essential, are more likely to involve students than the traditional way of education, but not both high.

Therefore, this study introduces mutual participation teaching method which utilizes anonymity function of chat service

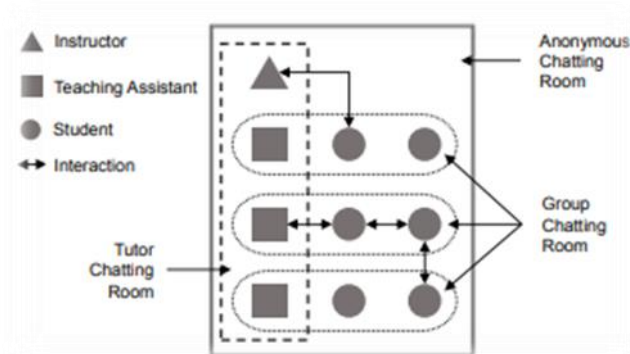


Fig 1.2 Proposed teaching method using chat service

1.4. Data collection

There were two types of data collected in this study. The first type of data was participating behaviors in the online discussion forum:

- The questionnaire was implemented by form Google electronic.
- The total number of participants in the questionnaire was 100.

number of case views (Case_view), number of discussion views (Disc_view), number of posts (Posts), total length of posts (Total_len), and average length of posts (Ave_len).

Those behaviors were key indicators of learner participation in asynchronous online discussion and were measured by extracting analytics data from platform log files and databases using Structured Query Language (SQL).

performance evaluation:

1.5 Motivation

Discussion is a teaching method that uses dialogue to help students process course content while incorporating their ideas and providing opportunities to have their understanding validated by an instructor

Discussions may have differing expectations, formats and modes of participation.

Previous findings from these observations indicate that a classroom with more interactions in discourse, specifically the teacher's induction of students' responses, may lead to increased behavioral engagement of students.

Moreover, the results showed that positive behaviors dominated the students' classroom activities, but the students showed more teacher-motivated behaviors than self-directed behaviors.

1.5.1 Discussions are affected by expectations of their purpose

- Students may treat discussions as social interactions with peers to improve their generic communication skills or to accomplish a task by agreeing on a “correct” answer, both of which are associated with poorer discussion experiences and lower final grades.
- Instructors may expect individual students to use discussion to demonstrate their mastery of course content or the ability to make an argument supported by evidence .
- Students may use dialogue with peers to deepen their learning on a topic by exploring multiple perspectives, which is associated with better discussion experiences and higher final grades.

1.5.2 Discussions may use different formats

- Teacher-led (an instructor interacts with the entire class together)
- Peer-led (the class is divided into smaller groups in which students discuss among themselves)

1.6 Benefits of Discussion

Effective discussion offers several benefits:

- Improved understanding of concepts
- Deeper learning, higher grades , and improved performance on exams
- Improved understanding of disciplinary expectations and assessment criteria when using work samples
- Sharing points of view and rethinking answers
- Improved motivation , improved student satisfaction with learning
- socializing with others , feelings of belonging to a learning community online
- Because comments are more permanent, students tend to think a bit more critically about what they say.
- It's easier for students to share dissenting opinions or "outside-the-box" ideas.
- As students type responses, they often recognize and share more nuanced and compelling points and arguments.
- Everyone has ample opportunities to be heard and connect with other classmates, ensuring equity among all voices in your classroom.

1.6.1 Why use chat:

- enable real-time communication and interaction
- Media sharing: User can chat and share text, link, website, photos in real time
- Multiple tasks: User can contact multiple users. Multiple tabs allow toggle between chat interfaces linked to currently active calls. It enables simultaneous chats, so the user can chat with multiple people simultaneously, and neatly organize them in tabs at the top of your chat window.
- Confidentiality: You don't talk, you talk
- Effective: The conversation takes place in the same session and is customized and timed

1.7 Challenges

Discussions face some common roadblocks from both students and instructors.

Students undermine discussions when they have the following issues:

- See discussion as busywork rather than a learning opportunity.
- Struggle to make substantive contributions that are relevant, insightful, and refer to specific evidence such as assigned readings.
- Avoid sharing their ideas, which may relate to feelings of intimidation and inadequacy and fear of being evaluated negatively.
- Dominate a discussion, or focus their participation on asking for clarifications of content or procedures rather than engaging with the topic

- Ignore shy or less verbal students .
- Especially for more introverted students, online discussions can be less intimidating than speaking in front of the class.
- Anonymous posting (though still teacher-moderated), a key feature with some discussion tools, can help erase the fear of public judgment or ridicule.

1.8 Requirements

Creating a classroom community where meaningful conversations can happen isn't easy -- it's an ongoing process that takes time. But using online discussion tools can be one great way to help your students build these skills. Plus, the ability to engage in online discussions responsibly is a great 21st-century skill in and of itself.

2 Background

2.1. How to Use Discussion Effectively Improve

the effectiveness of discussions by following six phases informed by the literature:

1. Prepare yourself to guide a discussion
- 2- Establish criteria for student participation in a discussion
- 3- Orient students towards productive attitudes and methods
- 4- Arrange facilities, groups and formats for productive discussion
- 5- Prime discussions with rich inputs
 - Prepare students with homework, work samples and labs
 - Engage students and identify useful (Start with a quiz).
 - learning gaps using quizzes
 - Engage broader participation by soliciting questions and comments during a discussion through an anonymous chat system (called a “backchannel”) that students can access through their electronic devices.
6. Improve your in-class facilitation

2.2 Why use a backchannel in class?

- Engages students who otherwise may not contribute
- Evens the playing field for involvement
- Can't be dominated by the loudest voice
- Allows students to ask Q's without waiting until the end
- Allows teachers to answer Q's on the fly without interrupting

- Gives students the chance to answer Q's from their peers
- Allows teachers to see where the understanding or confusion may be happening as live events unfold
- Demands engagement with the material to participate
- Provides a record of the discussion or other interaction for reflection

2.3. Backchannel Chat in the Classroom

- Synchronous / Real-time
- Online
- Primarily text based
- Conversation
- Question asking / Question answering
- Communication forum
- Shared space
- Feedback tool
- Access controls for anonymous and anonymous systems
- Alongside and in reaction to a spoken event, video, image, presentation, etc.
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2.4. Access controls for anonymous and anonymous systems

The use of privacy-enhancing encryption protocols, such as anonymous credentials and unobserved transmission, can have a detrimental effect on service providers' ability to effectively implement access controls over their content.

In this article, we propose an anonymous credentials system that allows a provider to implement non-intuitive real-world access controls on blind protocols made with anonymous users.

Our system models user behavior and integrates this case into anonymous credentials to restrict access to resources based on case information. Using state machine models of user behavior allows a provider to restrict users' actions to a variety of access control models without knowing anything about the users' identities or their actions. Our system is secure in the standard form as per the basic assumptions, and after the initial setup phase, each transaction requires only fixed time.

2.5. When will Anonymous chat be available

Anonymous chat is available 24 hours a day, 7 days a week. Log in at any time to speak to the class.

Basic rules:

- Please participate! Anonymous chat discussions are only fruitful if the participants are sharing and talking to each other

- Please do not provide any personally identifiable information. This includes information like your name, address, email address, etc.
- Please do not request personally-identifying information from other participants.
- Please refrain from using offensive, graphic, or inappropriate language
- Anonymous chat does not provide mental or behavioral health services. Please do not use Anonymous chat as a substitute for a healthcare professional.

2.6 Effects of Grouping Strategies on Asynchronous Online Discussion

Online discussion is an essential element of online instruction and is largely dependent upon its designing and facilitating strategies. To investigate the effects of grouping strategies on asynchronous online discussion, this study conducted a quasi-experimental research design with 178 graduate students to compare the difference in student participation and social interactions between whole-class and small-group discussion, and among groups composed of self-selected acquaintances, partial acquaintances, and randomly-assigned strangers. Based on the statistical results from learning analytics and social network analysis, the findings of this study support the superiority of small discussion groups self-formed by acquaintances, for increased learning participation and social interactions

2.7 The relationship between student interaction and message readability in asynchronous online discussions

The present study explores the relationship between the readability of computer conference messages and the level of student interaction in asynchronous discussions over the Internet.

The average readability scores and the grade level of student messages were found to be closely related to the average number of messages that students wrote, the percentage of student messages that responded to others, and the average message size. A correlation was also found between the ease of reading teacher messages and students' messages. Thus, the data indicates a positive correlation between readability and the online student's level of interaction. Possible explanations for these results are discussed.

2.8 A field study of use of synchronous chat in online courses

A field study of computer mediated communication (CMC) as used in higher education asks the questions, "Will students take part in synchronous chat sessions if they are scheduled?" and "What do students and faculty perceive to be the problems and the advantages of synchronous chat sessions?" media mode is the independent variable, characterized by four nominal values derived from the mixture of asynchronous discussion forums, here called asynchronous learning networks (ALN), with various levels of synchronous media use. Data were collected from 29 course sections, for which instructors were interviewed, students were surveyed online to investigate their perceptions of the use of chat in online courses, and university records were used to determine grade distributions. The

percentage of students participating in scheduled chat sessions varied from 5% to 50% and many of the instructors report problems with organizing the sessions as well as ideas about how to do it better "next time." Instructors were nevertheless generally positive about the potential usefulness of synchronous sessions in terms of their ability to bring the students closer to the instructor. They report some small success in their first chat session and the experience leads to better facilitation in subsequent sessions. Students significantly find chat more 'rewarding' and less 'complex' in classes that scheduled sessions two or more times than students in asynchronous-only classes. The implication is that when students actually use chat they do find it 'rewarding' and not 'complex.' Given the problems with implementation of chat sessions, however, it is not surprising that its use is not significantly related to predicted improvements in outcomes for courses.

2.9. context awareness:

In the age of ubiquitous computing, the scope of computer applications is no longer limited to traditional data processing. Diffusion and diffusion indicate that the environment is an important factor in the computation. Context is an abstraction of the environmental elements that have a bearing in determining the behavior of an application. Context-aware computing has developed rapidly these days, particularly in aspects of contextualization and applications. It describes context-aware computing and its applications in three different layers:

Concepts, implementation and application. Context is designed as a measurable and representative entity.

Context awareness is built on top of an interactive mechanism, which directs execution using development tools that have the ability to work with events and asynchronous execution. A general perspective is also provided for examining the application of context awareness.

2.9.1 Context awareness in applications

We define context as an abstraction of the environmental element that penetrates the application computation to form a conceptual field orthogonally surrounding the computation. Context determines the object's relevance to the computation, but its orthogonality indicates that it is not a direct part of the application's functionality. Making context orthogonal to arithmetic is important for programming clarity and maintainability.

Context awareness is defined as the ability to detect and react to changes within the given context. We are interested in context changes because they represent points that require some response or feedback.

Context awareness describes the interactive behavior of an application in terms of relationships between changes and response to changes.

We are not interested in the transition time of the change either (i.e., the change follows a discrete perspective).

2.9.2 implement context-awareness

To implement context-awareness we need to materialize the concept of event at the programming level. Events must be materialized in the form of explicit programming constructs that can be manipulated.

that implementation of context-awareness requires the ability to perform reactive behaviour. Given these requirements, we propose reactive programming as a programming paradigm to serve our purpose. Reactive programming can precisely capture the unpredictable nature of event occurrence, and as the name implies, its mechanism is based on the existence of external events.

Reactive programming is centered on the concept of asynchronous data streams . A stream is a sequence of events in a time-based order coming in three different types:

values, errors, and ‘completed’ state.

These events are captured asynchronously, and a function associated with an event is executed when the event occurs. Capturing events follows the Observer design pattern where the function associated to an event is an observer and the stream is the observable.

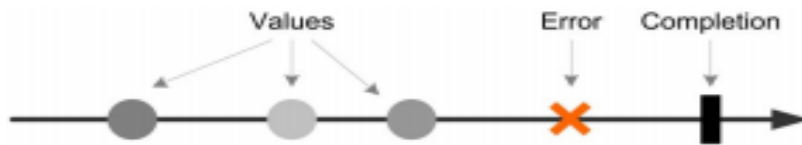


Fig3.1 .Asynchronous events

Using reactive programming, implementation of contextawareness in applications is quite straightforward. For a particular context, we need to have a dedicated stream. We need to prepare the supply of context data, then feed the data to the stream. We also need to write functions associated with the events in the stream, then subscribe the functions to the event stream. Fig. 2 illustrates the implementation scenario of a context-based application.

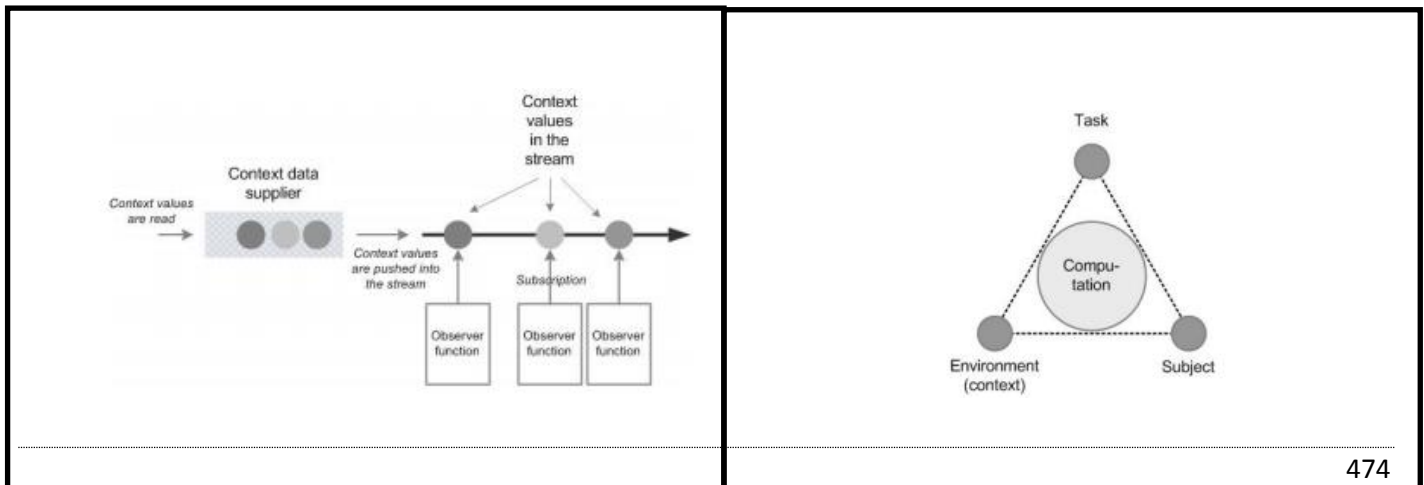


Fig3.2 Implementation scenario of a context-based application Fig3.3 Relationships between subject, environment, and task

2.9.3 CONCLUSIONS

We have presented an overview of context-aware applications. At the heart of a context-aware application is contexts, abstraction of an element in the environment that has some influence in the computation. Awareness is established by connecting computation elements to the contexts and making them able to detect changes of the contexts. This generic mechanism can be implemented using development tools that support reactive and asynchronous execution.

3. Practical Implications

As online classroom opportunities continue to grow exponentially, wise investment in time and funding for effective support of distance education is crucial. Drawing on numerous previous studies and their own work, claimed student characteristics may not be as crucial as other factors when examining how to improve students' learning experiences online.

Instead, the focus for institutions and instructors must be specifically on how to produce increased engagement and sense of community, resulting in enhanced student satisfaction and persistence in online programs. One critical factor involves adequate professional development for all faculty who teach online. Specific instructional design strategies and knowledge of best practices can help instructors offer ample opportunities for student interaction, participation, and feedback among themselves

. For example, embedding the use of technology designed for connecting, such as Facebook, twittering and blogging, might increase the social presence of all of the students as well as the teaching presence of the instructor. Building the social element into the course plan itself can balance the social and academic dialogue so critical to the success of distance education.

In addition, use of synchronous instant messaging to enhance camaraderie, asynchronous communication for deeper discussions, and instructor modeling of thoughtful responsiveness with a personal tone all can help build classroom community connections.

While the discussion tool may not be as powerful as some of the other options, it does provide options for anonymous posting and teacher moderation. Educators can use it to create and supervise chat rooms for student interaction in real time.

Students can interact with teachers and peers' posts by sharing text messages and replying to others' posts. Plus, if your students have already signed up and have accounts, getting started is easy.

3.1. Proposed System

After talking in general about educational systems, we will start with a detailed discussion of our own project

Discussion is a teaching approach that employs discussion to assist students in processing course information while also including their thoughts and allowing them to have their comprehension evaluated by an instructor.

Expectations, styles, and ways of involvement in discussions may vary.

Among the functions that our system provides

3.2. Student account properties

Chat rules.

1. The chat conversation starts and the connection remains until the end or exit of the chat
2. Uses your internet connection (4G/3G/2G/EDGE or Wi-Fi, as available).
3. To reactivate the account and enter the section can be logged in
4. To enter the chat, the APP_ID is taken by the creator or owner of the electronic class chat, then click on a section and enter the APP_ID and then enter the main screen
5. The chat user cannot provide or access the status, last seen, profile information, or current location of any other member within the section.
6. A window or instant chat box to communicate with the supervisor directly
7. Add a timer for each account in last seen status. If 5 minutes have passed and the account has not been activated, an alert will be sent to the admin and account holder (student)

3.3. Teacher account properties

Chat rules.

1. The chat conversation starts and the connection remains until the end or exit of the chat
2. Uses your internet connection (4G/3G/2G/EDGE or Wi-Fi, as available).
3. To reactivate the account and enter the section can log in
4. To enter the chat, a new row is created or click on one of the sections and enter the APP_ID and then enter the main screen
5. The chat user can provide or access the status, last seen, profile information or current location of any other member within the section.
6. A window or an instant chat box for the arrival of private messages from the requesters
7. Add a timer for each account in last seen status. If 5 minutes have passed and the account has not been activated, an alert will be sent to the administrator and account holder (student)

4.3 Programming languages used

3.1 Back end & front end language

Uses front-end (html, css, JS, JQuery, bootstrap) and back-end (php & mysql &json) languages from Laravel

4. System functions

The web chat software is a communication platform for students and supervisors that enables seamless communication with students.

We can divide the system into three parts, which are the registered part, the teacher part, and the student part.

In the following we will explain the main tasks in each part.

4.1 Registered:

This is the first part of our system and is meant to contain logger functionality.

The functions in this part are:

1. Add a new account

When the account arrives, the officer should check whether this patient is registered or not. If not, the employee must add it to the database and create an electronic record for him or her containing the following information.

- first name
- second name
- official email
- password
- confirmation
- Collage
- university
- department
- stage
- Course
- Identity

Anonymous Chat Back →

Wooh!
Clever Decision 😊

You are just 1 step away from being Anonymous.
Complete your Registration process and enjoy perks of being Anonymous

Students Account

First Name Last Name

Email

Password Confirm

Select a University Select a Collage

Select a Department Select a Stage

Select a Course Select Your Role

SignUP

Fig 4.3 Add New account Interface

2. Login account

When the account arrives, the officer should check whether this patient is registered or not.

- first name
- second name
- official email
- password
- Role

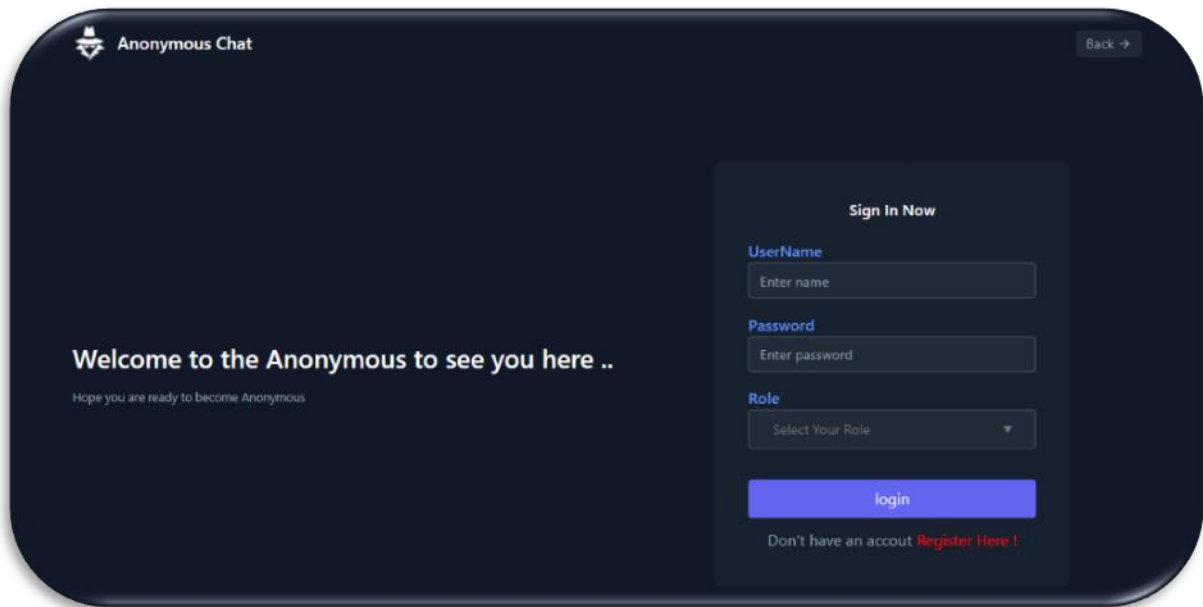


Fig 4.4 login account Interface

3.Delete a account :

This task concerns with deleting accounts.

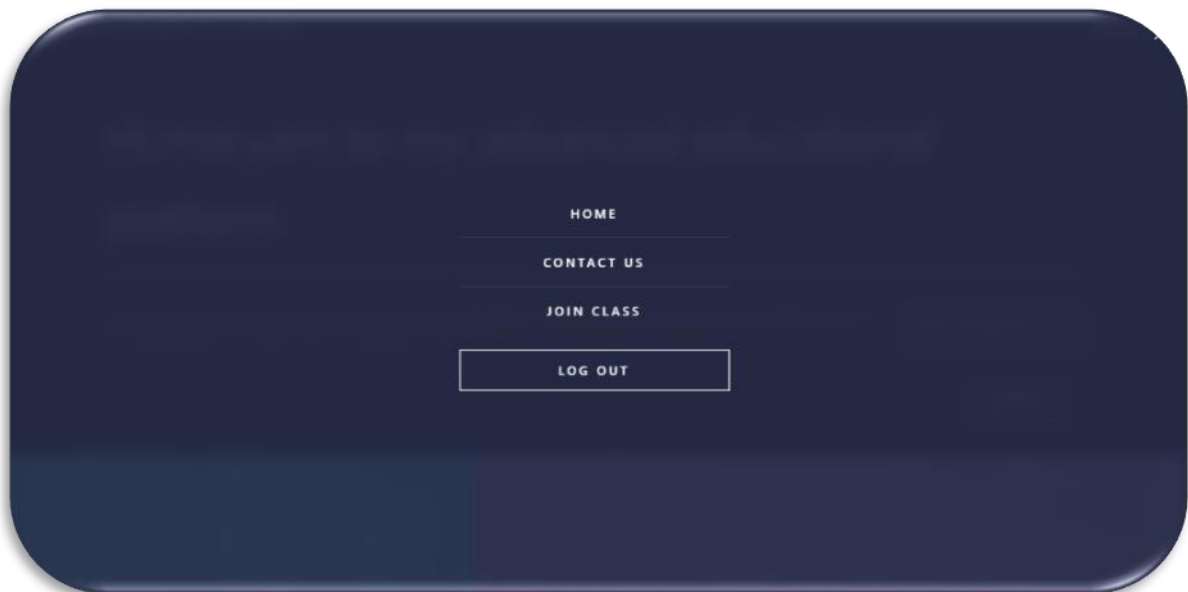


Fig 4.5 Delete a account Interface

4.2 The Teacher :

1. Create Class

In this part of the system, after verifying the authenticity of the information , the teacher performs create classroom chat .

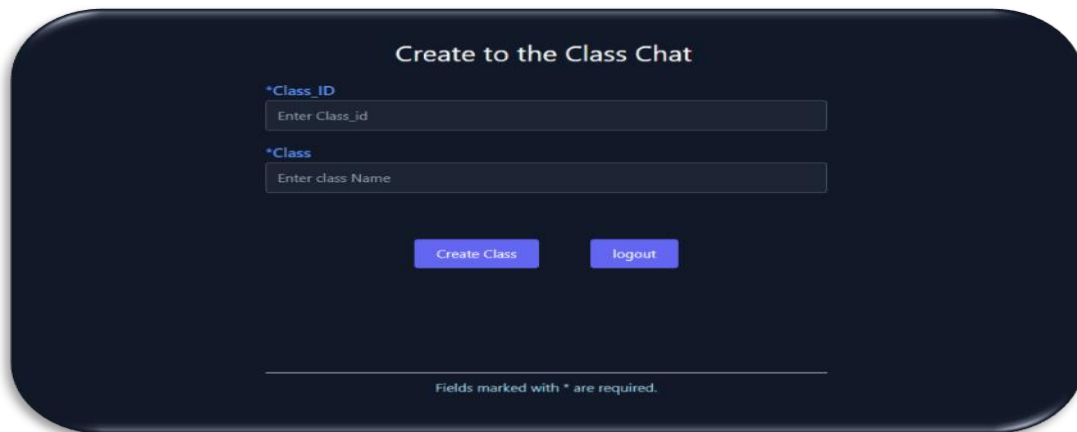


Fig 4.6 Create Class Interface

2. Teacher interface chat interface

After the class is created, the teacher will send the APP_ID of that class to the students to log into the class and then go to the chat interface where the chat interface of the owner account appears with the explicit names of the class students

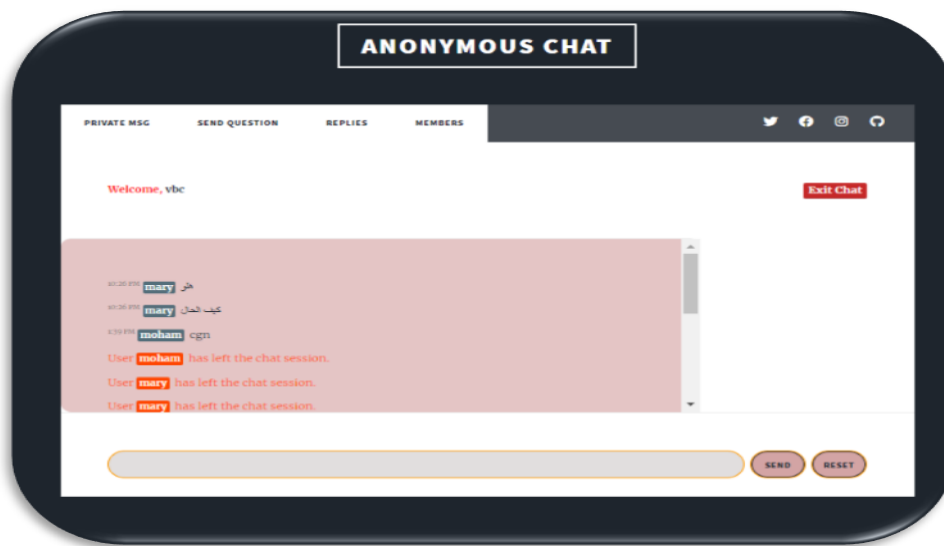


Fig 4.7 Interface chat teacher Interface

3. private messages and replies answer

If a student sends a private message to the teacher.

And the ability to delete it

And the ability to access all the archive or to the messages of the current session only, and to replies as well



Fig 4. private messages and replies answer Interface

4. Members

Here is the section of the members registered in the class whether the student is active or not after 5 minutes have passed so that the teacher is alerted



Fig 4.9 Members Interface

5. Send a question

In this section, the professor sends a question that includes the name of the subject, the text of the question and a picture, if necessary, to send it to all students or to students who are in the inactive section.

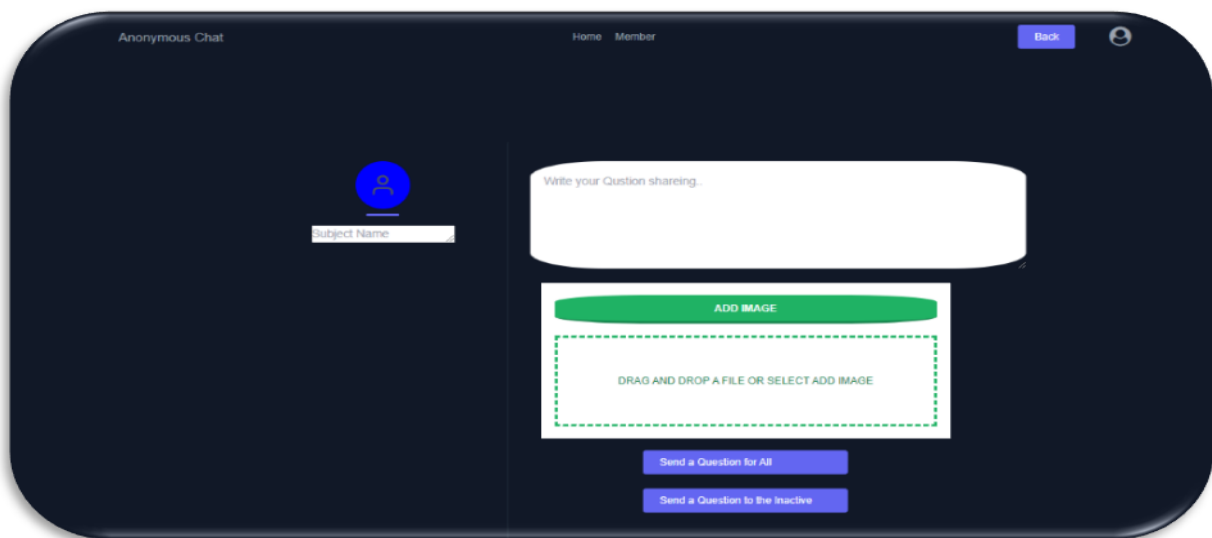


Fig 4.10 ask query Interface

4.3 Student:

1. Join the class

In this part of the system, after validating the information, the student performs the class chat by taking the APP_ID from the class creator.

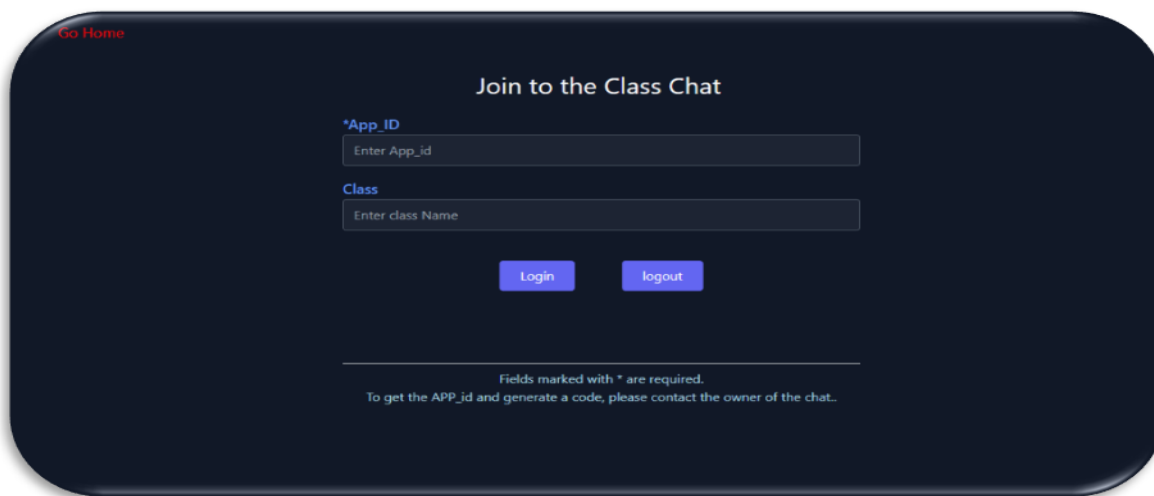


Fig 4.11 Join the class Interface

2. Student interface chat

After joining the class, go to the chat interface, where the chat interface of the owner's account appears with the explicit names of the students in the class, and the student's account is anonymous accounts

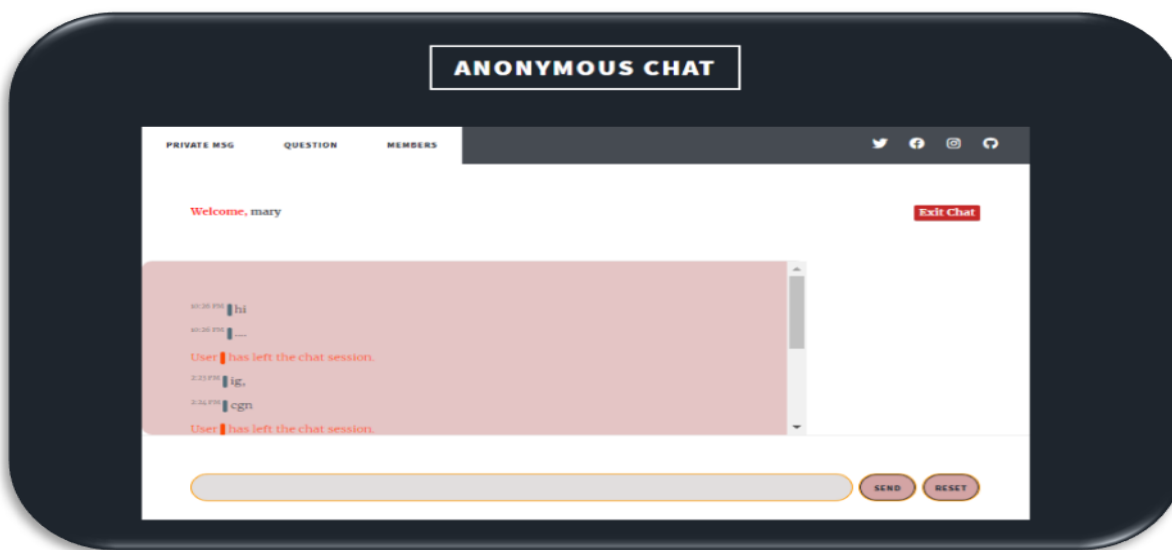
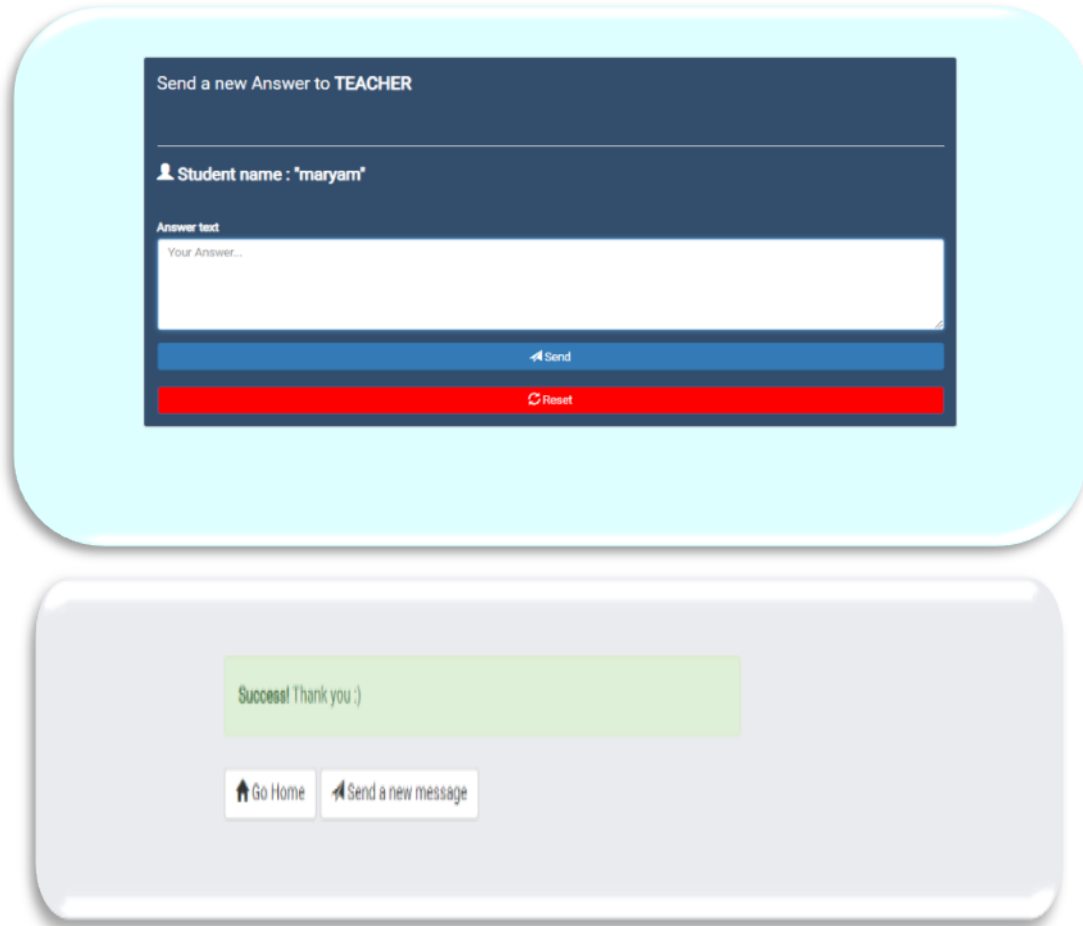


Fig 4.12 . Student interface chat interface

3. Send private messages

if it is possible to send messages that only the professor will read



The image displays two screenshots of a web interface for sending private messages. The top screenshot shows a form titled "Send a new Answer to TEACHER". It includes a field for "Student name" with the value "maryam", a large text area for "Answer text" with the placeholder "Your Answer...", and two buttons at the bottom: "Send" (blue) and "Reset" (red). The bottom screenshot shows a success message "Success! Thank you :)" in a green box, with two buttons below it: "Go Home" and "Send a new message".

Fig 4.13 Send private messages Interface

4. Members

Here is the section of registered members in the class whether the student is active or not after 5 minutes so that the teacher is alerted

The accounts appear here anonymously without names or any other personal information



Fig 4.14 Members Interface

5. Send a question and send the answer

In this section, students receive a question that includes the topic name, question text, and an image if needed to be sent to all students or students in the inactive section and answered.

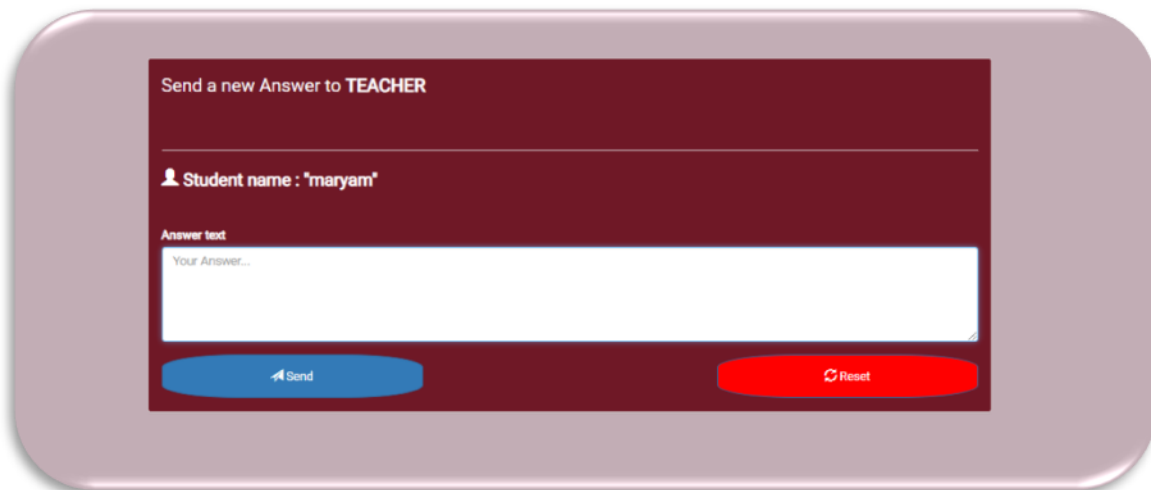


Fig 4.15 . Send a question and send the answer Interface

5. Conclusion

Through this study, we primarily aim to investigate the impact of platform self-efficacy on student satisfaction, in a newly introduced e-learning context.

Accessibility, platform content, and factors related to promoting critical thinking. The results show that online activities such as exams with open and closed questions, assignments and case studies that teachers developed as additional learning activities for students helped them enhance their critical thinking.

The implication from the study is that e-learning, by improving student satisfaction, can increase student engagement, motivation, and focus and, due to increased effectiveness, is likely to lead to better outcomes.

- First of all, based on our findings and referenced literature sources, flooding existing higher education lessons with material that is delivered to students face-to-face in the classroom is not an effective way to achieve the desired results from e-learning, as it can lead to loading Overload of content, repetition, duplication of classes and assignments within the same class.
- Second, we recommend adding platform content that is driven by educational needs rather than including it “for technology”. Introducing the methodology of e-learning and anonymous chatting to the classroom with the sole aim of introducing digital technology to higher education institutions is not only ineffective but will contribute more to the course load.
- Third, institutional support and specific levels of digital literacy for students are required for the successful implementation of such an initiative.

In this study, we introduced the method of teaching using an anonymous chat service to increase student engagement and reduce teaching expenses for professors and instructors.

By being anonymous, we have overcome the limitations of participation in conservative cultures and created an environment in which students can easily ask questions through highly accessible chat services. It has been verified that students are more likely to ask questions and participate in an anonymous environment than a real name environment by running anonymous chat rooms and real name chat rooms at the same time. By applying this pedagogy to problem-based learning or flipped learning, we were able to increase mutual student engagement and reduce teaching overhead for professor and teaching assistants.

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