



ENHANCING STUDENT COGNITIVE ENGAGEMENT IN A BLENDED LEARNING CLASSROOM

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Abstract

Teachers are now aware of the shift from traditional classrooms to digital learning. Blended learning has been widely used in many fields after the pandemic. The 2020 National Education Act recognizes the importance of technology for its benefits, while also recognizing its risks and dangers. Although technology provides a digital platform for continuous learning, it enables students to communicate with teachers while also providing some effects that can affect digital health. The interference may be based on real-time electronic communication, personal and business communication. Perhaps the online tutor needs to provide an educational flow that can reflect outside information and eliminate interference competing for time and attention. Teachers need appropriate training and development to be effective online teacher, difficult for them to eliminate problems that affect students' skills and eliminate distractions. This study aims to find out how we, as teachers, can raise students' awareness of participation in online classes. He talks about the importance and many forms of student participation in digital education. This article presents a theoretical framework focusing on different strategies that teachers can use in synchronous and asynchronous classrooms to promote student learning. It also focuses on creating blended learning strategies by combining synchronous and asynchronous learning. Primary data were collected through participation in a two-week MOOC refresher course at the teaching center of Ramanujan College (Delhi University), and secondary sources were a relevant literature review. Finally, attention is drawn to the importance of students' participation information for academic success in a collaborative environment with the use of technology.

Keywords - Cognitive engagement, Blended learning, synchronous learning, asynchronous learning.

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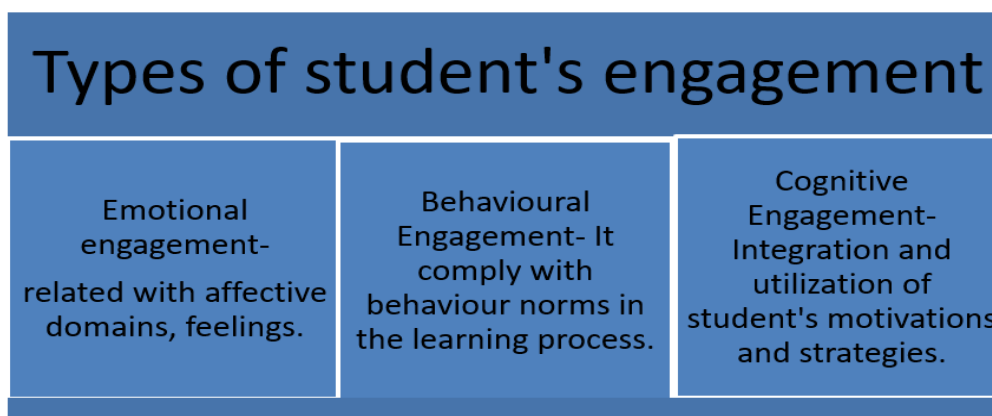
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1. Introduction

I recently completed a two-week online refresher course called "Online Classroom Management and Co-Creation MOOCs 23.0" at Ramanujan College. The course taught me about the challenges and strategies involved in engaging students in online learning. This has inspired me to write a paper on the importance of using

technology in digital learning to address equity concerns, including student engagement. Student engagement is the level of attention, curiosity, interest, and enthusiasm shown by a student when learning something new. The teacher must maintain the student's involvement in the teaching and learning process through various Education-focused Strategies.



1.1 Types of student's engagement-

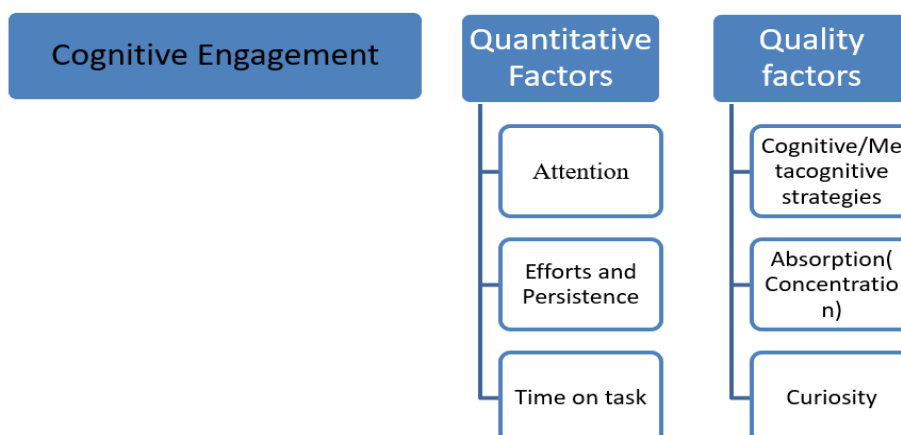
1. **Emotional Engagement** - Emotional engagement pertains to the emotions and feelings that students have towards their classroom, teachers, and overall learning environment. Students who are emotionally engaged display positive affective responses such as joy, happiness, and a sense of belonging throughout the learning process.

2. **Behavioral Engagement**- Behavioral engagement refers to the level of participation and adherence of students to instructional guidelines. It reveals the level of attentiveness and activity of students in the classroom. Behavioral engagement is typically demonstrated through adherence to standards of behavior such as attendance and participation, and the absence of impulsive and distracted behavior. - it refers to the feelings of the

learners towards their classroom, teachers and their class in general. Students who are engaged emotionally shows various affective reactions such as the joy, happiness and sense of belongingness in the entire teaching learning process.

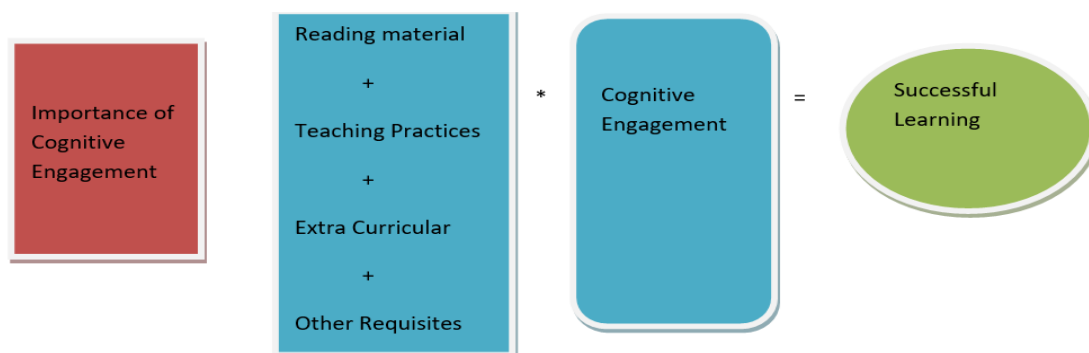
3. **Cognitive Engagement**- Cognitive Engagement pertains to a student's strategic thinking. It involves the integration and utilization of a student's motivation in learning. When students are cognitively engaged, they become invested in their learning, strive to exceed higher and enjoy competition.

1.2 Factors involved in Cognitive Engagement- Basically there are two factors involved- **Quantitative factors** and **Quality factors**.



In this paper I would like to discuss how teachers can improve the cognitive engagement of students in a blended-learning classroom.

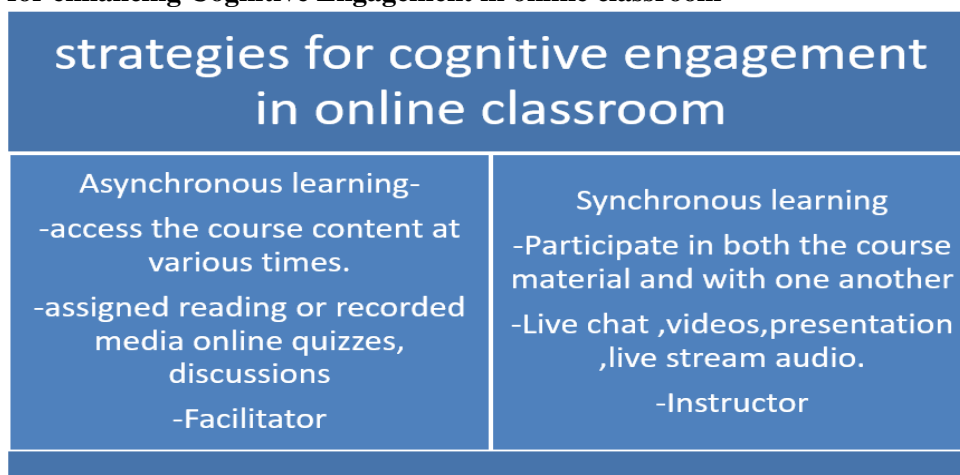
Before I discuss further, I would like to show the importance of cognitive engagement through the equation -



The equation presented highlights the necessary conditions for effective learning and their connection to cognitive engagement. It indicates that even if a teacher possesses great teaching styles, sufficient teaching expertise, and a favorable learning environment, but fails to

engage students cognitively, the result will be zero learning. Conversely, if cognitive engagement is heightened, students will advance toward successful learning. This emphasizes the crucial role of cognitive engagement in the learning process.

2. Strategies for enhancing Cognitive Engagement in online classroom-



Asynchronous learning-

Asynchronous learning is a form of online education that enables students to complete coursework and assignments at their own pace, without having to attend classes or log in at specific times. The instructor provides a series of units for students to work through as their schedules permit. Each unit may include assigned readings, recorded media, online quizzes, and discussion forums, among other resources. The instructor offers valuable guidance, feedback, and timely assessments.

Synchronous learning –

Simultaneous learning refers to the type of education in which teaching and learning occur

simultaneously rather than in the same body. Teachers interact with students in real-time using tools such as WebEx for real-time audio, video, and presentations, Bongo Virtual Classroom to host live lessons or meetings, LEARN Chat for live chat, and WebEx to organize information simultaneously. Google Docs etc. The term is often used to describe various types of television, digital, and online learning where students learn from teachers, peers, or both, in real time rather than face-to-face. Examples of simultaneous learning are video conferencing, interactive webinars, online discussions, and live lectures broadcast simultaneously.

Discovering the Proper Time, Reason, and Method for Utilizing Synchronous E-Learning and Asynchronous E-Learning-

	Asynchronous E-Learning	Synchronous E-Learning
Proper time for usage?	Contemplating intricate issues. Sometimes it's difficult to schedule meetings because of work, family, and other commitments.	It's best to focus on discussing simpler matters. This can be used during task planning.
Reason?	When communicating with someone, such as a teacher or colleague, it's important to keep in mind that allowing time for thought and reflection can be beneficial. By not expecting an immediate response, students are given the opportunity to fully process the information and provide a well-thought-out response.	When students anticipate a prompt response, their level of engagement and motivation increases.
Method?	Consider utilizing asynchronous communication methods such as email, discussion forums, and blogs.	To ensure effective communication, it's recommended to use video conferencing, instant messaging, and chat in addition to face-to-face meetings.

2.1 Tips for Promoting Cognitive Engagement in Asynchronous Classrooms

A classroom that operates asynchronously can be seen as a learning medium that is accessible at any time and from any location. To enhance the student's cognitive engagement in this type of classroom, there are various tips for teachers that can be employed to increase the teacher's presence.

a. It is important to establish concise expectations and clearly define the objectives of learning.

It's important to set clear expectations and goals when it comes to asynchronous learning. For students to participate, the school should outline what is expected of them, the skills they will develop throughout the course, and the deadlines they must meet.

When planning coursework, it's important to consider the following factors:

- How much time should be allocated for coursework each week?
- What are the deadlines for tasks and activities?
- Where can students access course updates, announcements, and answers to their questions?
- When can students expect feedback on their assignments?
- Which activities are required and which are optional?
- On average, how much time does it take to get a reply for questions or emails posted on the discussion boards

When students have a clear understanding of their goals, they will be more likely to focus on learning.

b. This is me! Introduction video.

In this the teacher should -

- Beef up the introduction
- create a short video of yourself not as a faculty but as a human.
- Students involvement in creating and sharing their own videos.
- Connection with students and sense of community.

c. Please try to keep your message concise and straightforward.

- It has been observed that students tend to lose focus after 20 minutes, so keep it to the point.
- For better results, it's recommended to keep the video concise and clear.
- Breaking or dividing information into smaller pieces.

To avoid distractions, consider breaking the module into smaller sections. This can help keep students engaged in your e-learning as they may not be willing to sit for long periods of time. Breaking your eLearning course into smaller modules is crucial for easy comprehension. It is recommended that each module be designed to take no longer than 15 to 20 minutes to complete. This will make it easier for students to complete all the tasks on their own.

d. Find a balance between fun and learning -

A successful asynchronous eLearning course is engaging, interactive and fun, but these elements should not distract from learning, which is the true purpose of the eLearning course! It includes many interactive activities, funny stories and other e-learning activities, but always with learning and

purpose in mind. The key to creating effective and engaging asynchronous learning is keeping your students connected to the entire learning community, not just the eLearning classroom.

Some tips-

-change your module something outside a typical pedagogical-language box.

-video game levels:

Mission1 (for unit 1), Level 1(for chapter1) and so on.

-Netflix themed:

Trailer (for brief introduction of unit) , Season1 (for unit1), Episode1(for chapter1) and so on.

5. Hidden Easter Egg –

When creating and delivering instructional videos for online courses, we care about how many students watch and, more importantly, understand the message. Carmichael, Reed, and Carpike (2018) stated that video facilitates learning and can also influence how students interact with content in the classroom. "Easter eggs" are often used in films as witty plots, jokes, and sometimes as hints in other films. Viewers must focus on the video to find hidden content and evidence. Creating easter eggs to encourage or encourage students to participate is a simple process. It could be a kind of easter egg that adds value to the movie. Easter eggs - hidden in books or other documents. - Rewards for finding - Not always and not often.

6. Discussion Board-

It's purpose is to –

-Facilitate learning

-sense of community

-explore extra knowledge

Online discussions should be based on messaging. Dynamic meetings are an important component of asynchronous classes.

Students are encouraged to attend meetings and learn by making suggestions. This helps instantly identify misunderstandings and prevent further confusion

responds to all questions and comments in a timely manner

encourages openness and allows for divergent views .The

Canvas meeting tool provides an easy way to set up an online meeting. The goal is to create various intersections.

Students may be instructed to share posts first and then reply to their friends with a certain number of original posts. It is important to provide clear instructions and deadlines for the first publication. Dis

cussion forums provide an important opportunity for students to support each other in their work.

7.Tutorial -

Contains interactive content and links to Other Resources at

Some interactive sessions should be included to make asynchronous classes more effective, exciting and informative. For example -

- Podcast

- Video

- Gamification

- Simulation

Development Lessons should include links to some resources so students can access important information, documents, youtube videos, websites and more.

2.2 Learning about collaboration in the synchronous classroom -

Simultaneous learning is distance learning over time. Teachers and students learn together in the same virtual environment, at the same time, using the same platform. In other words, the classroom has moved online. With simultaneous learning, students can participate in active discussions, interact with students and teachers in real time, and get instant feedback. Synchronous Classroom is the best place to gather everyone's thoughts, opinions, analysis, skills, ideas on one platform.

It brings a personal touch to the virtual classroom, making the environment more interactive and fostering a sense of community.

1.Ice Breaker Session -

Let students get to know you and each other. This can be done with introduction or ice breaking activities, but rather than using repetitive and mundane introduction.

Consider engaging early with:

-students share their previous online learning

-look forward to learning in the classroom

-enjoy being reviewed

-any life-changing experience in their life.

encourages students to research quickly and share their thoughts on classroom content.

2. Open Webcam –

Supports the use of web cameras. Listening to the empty sound of slides can be very distracting. Likewise, face-to-face communication removes many of the relationships we use to understand each other. For these important reasons, using webcams for meetings or other events can increase student engagement and interest.

However, be aware of the limitations of the online environment.

Ask students to bring their cameras; Show your face and the student's face to create connection and accountability. Allows students to focus on online lessons. It helps overcome the bond created by virtual meetings and improve the learning environment. This will improve student focus and online presence. Teachers can also benefit from webcams as they can be aware of the presence and absence of students.

Teachers should express their expectations of the lesson in front of the students. If there are any problems, if the webcam does not work, the students will be informed in this way and they can ask questions at any time during the lesson so that the students can meet your needs. ‘

3. Discussion in questions and answers –

The published questions that students have written in the course are the best evidence of their engagement. Encourage students to ask more questions by giving them time for questions. Teachers can encourage students by asking them critical questions about a topic that confuses them. Teachers can start the lesson by giving students time for questions but not rushing to answer.

Start by looking at what answers the visualization class can provide. It will help students ask questions and learn regularly.

4. Focus on interaction and engagement –

Organize tutor-tutee, tutee-tutee interactions, and tutee content. Develop active swotting strategies to help you overcome poor receiving skills. Use Options (Collaboration, Search Anywhere), Meetings & Discussions (Padlet, Flipgrid), Document Sharing (Office 365), Meetings, Live Tests (Kahoot) when meeting happens on time. Combine these activities with individual classes. Engagement-based participation is encouraged to maintain student interest.

5. Energizing students -

Just like warming up a car engine to run smoothly, it is just as important as encouraging students to develop their skills. For this reason, it is very important that teachers quickly assess the relationship at the beginning of the lesson. Instead of walking away in awe when students arrive, take the opportunity to speak. Teachers can ask students -

What new and interesting things do they have in their lives? Chapter

What are the vacation plans or future plans?

How is he having fun? Wait...

A minute before the lesson starts, you can talk about current events, cartoons, celebrities, etc. You can consider preloading the presentation with It finally got the students talking.

6. Students share your screen-

A teacher usually uses a flipped classroom strategy during a traditional face-to-face mode. The instructor can also use the Flipped E-class strategy during the online class. The teacher can ask students for live presentations. They can be asked to solve questions in a live class and share their screen and explain it to the whole class. The teacher can also keep a grading system for screen display and submission of answers to give students serious input and keep them cognitively engaged.

7. Motivates students to provide feedback.

The most important tool you need to improve your simultaneous learning is the Student Guide. So encourage students to raise their voices and offer advice by leading conversations or asking questions at the end of collaborative learning. Ask them about their experience and whether they benefited from it. Let them know that their feedback is valuable and that their ideas can help improve your learning strategy.

8. Online presentation available after commencing –

Some students are unable to attend games/lessons/lectures due to some academic issues. This allows teachers to write lessons and post them online after the course is complete. It is also ideal for students who can participate but want to put their knowledge to good use. It can be made available as a podcast or digital download for students to access anytime from any device.

3. Learn how to develop an effective eLearning approach by combining both synchronous and asynchronous strategies.

Blended learning encourages learners to use synchronous learning strategies through effective discussion and creates opportunities to use “at their own pace” methods in asynchronous learning strategies. By combining these two strategies, educators can create blended learning environments that are experiential, interactive, and inclusive. So the question arises. How can teachers design a hybrid classroom or structure that implements these two approaches? Here are some ideas on how to build a hybrid e-learning

strategy from synchronous and asynchronous strategies-

1. It is important to clearly define the goals and objectives of the blended learning course.

Before creating content for the hybrid classroom, it's essential to define its goals and their objectives. Think about the skills you want your students to develop, the fundamentals that should be included in your course, and the learning tools and methods to be used. By setting clear goals ahead of time, you can use them as a guide to moving forward. Your goals will be a way to help you understand where your blended learning is headed and the challenges you may face along the way.

2. Design a curriculum and syllabus that incorporates blended learning techniques to maintain your students' motivation and progress.

Blended learning curriculum and courses benefit all participants. Students can use the guide to keep them focused during the lesson, and teachers and course designers can rely on it to make sure lessons go as planned. It's important to include important information such as learning objectives, assignments, and deadlines. Also, be clear about the necessity of participation, how the content will be communicated, and what materials will be required.

3. Assess the degree of interactivity in the blended learning course.

The benefit of using a blended learning strategy is that you can decide exactly how to communicate your blended learning and overall eLearning experience. How much of your learning will come from online training and how much will be based on face-to-face training? You should first identify this part of your blended learning strategy because it will affect your blended learning objectives. Choosing a blended learning strategy lets you choose from a variety of online learning and delivery options. In fact, there are many ways in which it can be difficult to decide which tool/method is best for a particular model or issue. Ideally, you should evaluate each model or topic to determine how content can be better presented and whether underlying ideas can be better explored through communication or asynchronous communication and activity.

4. Collaboration included -

Group work is an important component of blended learning. This allows students to share knowledge and use the skills of their peers. There are many

online tools and applications available for creating blended learning strategies. For example, you can invite students to a chat room where you can discuss a specific topic or issue, or use social media platforms to share your thoughts and feelings.

5. Please create a comprehensive list of sources and accompanying links.

By presenting most, if not all, of your blended learning strategies online, you have the opportunity to provide valuable resources and information to your students. For example, you can include links to reference pages and articles that allow your students to delve deeper into a topic and learn more. For example, you can add relevant articles, link your blended learning to the news, and keep students engaged. Writing this list also gives them the opportunity to quickly and easily access useful information without having to search the web for information and tools.

6. Please advice on how to create a comprehensive assessment action-

No blended learning strategy is complete without evaluation. How will you supervise students? Do you want them to take the exam at the end of each module? After self-study is complete, do you allow them to take notes or engage in discussions with classmates via online chat? Assessments also give students the opportunity to identify areas of personal development and use the knowledge and skills they have learned to improve insurance. You may also want to include a summary at the ending of each section to remind them of important information.

Conclusion-

Synchronous lessons may be unfamiliar to some instructors, but it's important to note that students may also be new to this format. Even if they have participated in synchronous sessions before, these experiences can be quite different. Instructors should model effective virtual presence for students. Laying the groundwork for why and how you lead your classroom helps set expectations and creates a shared classroom culture where students take more responsibility for their participation. Social connection through digital environments, even before the shift to remote working and learning, is increasingly part of our daily lives. Many out-of-school interactions that already happen online – whether professional or personal – are also asynchronous (eg: exchanging work emails). Asynchronous learning is therefore an opportunity for students to improve skills that can be valuable in their careers and elsewhere in

their lives. It is now extremely important that every subject lecturer is trained in the use of various digital tools. Technology has its pros and cons, it is used to create a technologically mediated environment to enhance student learning, but it can also cause some distraction. Instructors should use different strategies for applying asynchronous and synchronous learning to eliminate all these distractions for students' cognitive engagement. Thus, the instructor can also use both synchronous and asynchronous strategies in blended learning for successful student learning.

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