

Delivering Synchronous Instruction

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Abstract:

In the post-covid era, the recourse to online synchronous education has increased to enhance flexibility, fit diverse learning styles, provide access to global resources, and foster a more inclusive and technologically advanced learning environment. It is noteworthy that synchronic teaching is challenging. To ensure its success, both teachers and learners need to know and be trained in the use of many online tools. Therefore, the aim of this paper is to give an overview of how to prepare a plan for an online lesson and of the available online systems that can guarantee effective and engaging virtual education. Among these systems are: video conferencing platforms like Webroom, Microsoft Teams, Zoom and Loom; learning management systems such as Moodle, Canvas and Google Classroom; collaboration tools like Google Workspace; and assessment platforms like Kahoot, Quizizz, Socrative and Google Forms. The sketch of the tools is followed by an overall comparison between all of them and a set of recommendations on how to integrate them in higher education for effective online teaching practices.

Keywords: Synchronous instruction, online teaching, learning management systems, assessment platforms, digital tools

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1. Introduction

In the fast-evolving landscape of higher education, universities have witnessed a significant paradigm shift in teaching methodologies, with an increasing inclination towards hybrid education. This transformative approach becomes particularly pertinent in the aftermath of the Covid-19 pandemic, which exposed the vulnerabilities of a heavily asynchronous teaching model (Chefchouf & Benzaoui, 2021). This research aims to identify the requirements of the implementation of a synchronous instruction, which complements traditional physical classes.

Based on previous research, learners usually express their dissatisfaction vis-à-vis interaction in synchronic delivery (McBrien, Cheng, & Jones, 2009; Park & Bonk, 2007) although it is necessary to enhance learning (Bower, 2016). There is an urgency to attempt to solve this problem. Firstly, there is scant research on how researchers should behave to increase interactivity during live discussions (Park & Bonk, 2007). Hence, in this paper, we discuss the plan of an online lesson that might help sustain participation among the learners. Secondly, students active engagement in the online lecture can be guaranteed via the use of technologies that allow several ways of interactivity. Therefore, we aim, in this paper, to propose a number of platforms that permit designing interactive lessons and exercises.

In brief, this paper, provides an explanation of the structure and demands of an online lesson plan as well as extensive overview of various online tools that can ensure an engaging and impactful virtual education. The repertoire of such tools is diverse and ranges from video conferencing platforms such as Webroom, Microsoft Teams, Zoom, and Loom ; to learning management systems like Moodle and Canvas; and collaborative tools such as Google Workspace. Additionally, the paper delves into assessment platforms, including Kahoot, Quizizz, Socrative and Google Forms. Last but not least, a number of recommendations are volunteered on how to conduct the stakeholders training successfully.

1. How to Plan Lessons in Synchronous Live Sessions?

Careful consideration of the structure of a synchronous online lesson is advisable but not unfeasible; it somewhat mirrors the planning approach employed in in-class lessons. The lesson plan should include optimal student learning outcomes and allow opportunities for students to engage actively with the content to be covered during the session. This could be achieved by strategically incorporating questions and activities at regular intervals like concise formative quizzes and prompts for reflection. Online activities can be integrated to offer all students the opportunity to engage actively, be it through



submitting open-ended contributions, providing answers, or submitting comments. Breakout rooms in several platforms can be employed to facilitate inter-student communication, nurturing discussions on the material and collectively addressing specific issues. Students ought to be encouraged to present their ideas through video or audio formats, provided that they prepare for that beforehand. In the absence of face-to-face interaction with all students, expeditious and convenient feedback on teaching activities and assessment of content comprehension can be obtained using platforms such as Zoom or tools like Poll Everywhere surveys and Quizizz. Put otherwise, the utilization of chat and polling functionalities serves as a means to glean insights into students' inquiries regarding the content.

Among the activities that educators could utilize are: collaborative editing of documents; group tasks, including joint efforts on PowerPoint slides or presentation materials; collective brainstorming, and the like. Besides, tutors can invite a specialist in the field as a guest lecture to contribute to their students knowledge.

All in all, if a tutor is planning a synchronous lesson, it is fundamental to break it down into several parts and to use his/her learning outcomes to take decisions about the kinds of activities he/she would incorporate. For instance, a sixty minute synchronous session can be divided into smaller parts and each one may rely on a given type of technology. The warming-up section at the beginning would be made with one of the learning management systems, the body of the lesson. The direct instruction can be delivered through one of the video conferencing platforms. Formative assessment can be handled via an assessment platform. Finally, homeworks can be dealt with using Moodle, Canvas or G-sites.

2. Overview of Synchronic Instruction Supporting Tools Subsection heading

Synchronous teaching/learning tools provide a virtual instructional and interactional environment for both students and tutors to transmit and construct knowledge and build skills remotely. Instructors meet their learners via web-conferencing according to pre-arranged sessions. In an online setting, teachers and learners exchange ideas, explain concepts and rules, share experiences. Synchronous teaching can take the form of: discussion groups, tutorials, office hours, learning sessions, seminars, activities like quizzes, reflections, document analysis, worksheets, etc.

When transitioning to online teaching, numerous alternatives should be explored, and various choices must be considered. Evidently, a teacher should adopt/ be provided with some of the following digital alternatives to conduct the activities he/she used to in physical classroom settings.

2.1. Video Conferencing Platforms

At the outset, video conferencing platforms are technological tools which people engage with each other in live virtual events be they lectures, seminars, meetings, conferences or else. A variety of such systems is available for free on

the net. Among their interesting features is the ability of the organizer to control and monitor meetings from centralized interfaces.

2.1.1. Webroom

As a virtual classroom platform, the Webroom facilitates real-time video conferencing, collaboration, and interactive learning experiences (Hocutt, 2023). It offers features like live video streaming, screen sharing, breakout rooms for group discussions, and interactive whiteboards to enhance engagement during virtual classes. Although Webroom allows room for real-time collaboration and interactive whiteboards, it is lesser known compared to other platforms.

2.1.2. Microsoft Teams

Microsoft Teams is a collaboration platform that integrates chat, video conferencing, file sharing, and application integration within the Microsoft 365 suite. This platform enables seamless communication through chat and video calls, supports document sharing and collaborative editing, and integrates with other Microsoft 365 applications (O'Neil). Even though Teams could be utilized as a virtual classroom tool, it is more suitable for small group discussions and one-on-one interactions. Moreover, Teams can be used to hold office hours although the students can email their students with confidential matters. This web conferencing tool is also helpful document sharing and editing. One of its limitations is its interface complexity for new users.

Instructors might use MS Teams for:

- Shared collaboration on documents,
- Group activities such as collaborating on PowerPoint slides or presentation materials,
- Shared database creation using MS Excel,
- Class whiteboard activities for collective brainstorming.

2.1.3. Zoom

Widely used, Zoom is a video conferencing platform that allows users to conduct virtual meetings, webinars, and online classes. In fact, it has a user-friendly interface, supports large virtual meetings, breakout rooms for group discussions, and features like screen sharing and recording sessions (Reed, 2022). Just like in Teams, the learners can raise their hands to ask questions and participate in discussions or use the chat function. What is special about Zoom is that it contains breakout rooms which students join to do groupwork.

2.1.4. Loom

Loom is a video messaging tool that allows users to create and share screencasts, making it an effective tool for synchronous communication and instructional videos (Lin, 2023). Among its features is that it facilitates the



recording of screen and camera simultaneously, easy sharing of video links, and provides analytics on video views.

2.2. Learning Management Systems

2.2.1. Moodle

Well-known of being a learning platform or a course management system¹, Moodle is a free open-source software designed to help create and manage online sources. Of its main characteristics are : its ability to offer features for course content creation, assignment submission, discussion forums, and grade tracking (Devi & Aparna, 2020). Usually, teachers agree upon the fact that it is customizable and widely used in educational institutions. However, it is a steep learning curve for everyone who wants to use it. Regarding the Algerian context, students received no training in the utilization of Zoom. Yet, they are blamed for not responding to the discussions strated by tutors nor to the tests given every now and then.

2.2.2. Canvas

Canvas is a cloud-based learning management system that provides a platform for online learning, course management, and communication. Like Zoom, Canvas has a user-friendly interface, supports multimedia content, collaborative tools, and features for assessments, grading, and analytics (Pedroso et al., 2023). However, Canvas requires additional training for full utilization.

2.3. Collaborative Tools

2.3.1. Google Workspace

The formal name of Google Workplace is G Suite; which is a suite of cloud-based collaboration and productivity tools that includes Gmail, Google Drive, Google Docs, to name but these. The G Suite, makes real-time collaboration on documents, spreadsheets, and presentations possible. It also supports video meetings through Google Meet, and integrates seamlessly with other Google services (Jackson, 2023). However, it contains limited advanced features in the free version.

2.4. Assessment Platforms

2.4.1. Kahoot

Being a game-based learning platform that allows educators to create interactive quizzes, surveys, and games for students (Asniza et al., 2021); Kahoot has become an enjoyable tool for students in many parts in the world. With reliance on Kahoot, instructors can provide instant feedback to pupils and engage them in interactive quizzes that supports competitive gameplay. Despite its

¹ [Accueil | Moodle.org](https://www.moodle.org/)

advantages, Kahoot supports only a limited range of question types for assessments.

2.4.2. Quizizz

As its name suggests, the Quizizz is an online quiz platform that allows educators to create and share quizzes for student assessments. Chiefly, this platform provides self-paced quizzes, gamified elements, and detailed reports on student performance (Wen & Aziz, 2022). It is noteworthy that Quizizz is less competitive than Kahoot.

2.4.3. Socrative

Similar to Quizizz, Socrative is a classroom response system that enables real-time interaction and assessment through quizzes, polls, and other activities. It essentially allows for building various question types, giving instant feedback, and displaying live results display to enhance student engagement (Christianson, 2020). However, Socrative may require integration with other tools.

2.4.4. Google Forms

Google Forms is a tool within Google Workspace that allows users to create online forms, surveys, polls and quizzes. It helps in the easy creation of simple forms, various question types, and the collection of data in Google Sheets. Obviously, it demands integration with Google. However, it may lack advanced survey features.

3. Overall Comparison

To begin with, Zoom and Loom Zoom and Loom are known for user-friendliness. Google Workspace and Microsoft Teams offer seamless integration. Concerning, collaborations, it is Google Workspace which excels in real-time collaboration, while Microsoft Teams integrates well with Microsoft 365. As far as learning management is concerned, Moodle and Canvas are robust LMS options with customization features. With regard to assessment, each of Kahoot and Quizizz provide engaging gamified assessments whereas Socrative offers real-time interaction.

Indeed, Each of these tools plays a unique role in facilitating different aspects of online teaching, collaboration, and assessment, equipping educators with a versatile set of resources to enhance virtual education. Ultimately, the choice of any of the above tools depends on specific educational needs, preferences, and the level of integration desired within the digital learning environment. It is also advisable to consider one's specific requirements, such as the nature of the courses, the level of interactivity needed, and the existing technology infrastructure at the institution. Additionally, user familiarity and support resources available for each tool are important factors to consider when making a decision. It might be beneficial to pilot a few options and gather feedback from users before making a final decision.

4. Recommendations

Since that most of the platforms that provide synchronous e.learning require training prior to their use, I recommend the following measures to be taken by universities and colleges.

- a. Conduct thorough training sessions for both educators and students on the selected online tools. Focus on practical usage, troubleshooting, and best practices to ensure a smooth transition to hybrid education.
- b. Foster a collaborative environment where educators can share their experiences and best practices in integrating online tools. Establish forums or communities where they can exchange ideas and support each other.
- c. Given the limitations identified in asynchronous teaching, encourage a balanced approach by integrating synchronous instruction alongside traditional physical classes. This hybrid model can enhance student engagement and interaction.
- d. Periodically assess the effectiveness of the chosen tools by gathering feedback from both educators and students. Stay informed about updates and new features, and be open to exploring additional tools that may better suit evolving needs.

IV. Conclusion

Because hybrid teaching is a new trend, we need to shed light on the transformative potential and challenges associated with integrating online tools into the educational ecosystem. The journey towards effective virtual education requires a special focus on virtual synchronic instruction. The shift towards the latter demands from educators to foster student engagement and interaction, and create a more vibrant and participatory learning environment.

Equally crucial is the emphasis on comprehensive training programs for both educators and students. The successful integration of online tools hinges on the proficiency and comfort of users in navigating these digital resources. Ongoing professional development, collaboration platforms for knowledge sharing, and robust tech support systems are foundational pillars in this endeavor.

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