

Livestreaming as an Educational Tool: Recommendations from The Literature

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**LIVESTREAMING AS AN EDUCATIONAL TOOL: RECOMMENDATIONS FROM THE
LITERATURE**

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Abstract

This thesis discusses the history and evolution of Livestreaming, which has become a powerful platform for marketing, communication, and entertainment, especially during the COVID-19 pandemic. This thesis argues that Livestreaming may be a powerful educational tool that can bring new dynamics for both students and teachers. Livestreaming, this thesis also reports, has all the traits it needs to fully serve as an educational platform that can create positive and encouraging emotional experiences for teachers and students.

To explain Livestreaming's potential, the literature review in this thesis explores four perspectives: *why*, *what*, *when*, and *how* to include it in the teachers' toolkits. The thesis cites some guidelines and examples of live streaming that teachers can use as mentor texts. Additionally, the literature review shows examples of the effectiveness and usefulness of Livestreaming for students and teachers of different contexts, including how it has improved teaching practices and created stronger teacher-student bonds. Furthermore, this thesis emphasizes Livestreaming's cost-effectiveness. Overall, this thesis makes a case to position Livestreaming as an educational tool that is worth giving attention to, given all the benefits it offers.

Resumen

Este trabajo de grado analiza la historia y evolución de Livestreaming, que se ha convertido en una poderosa plataforma de marketing, comunicación y entretenimiento, especialmente durante la pandemia de COVID-19. En este trabajo de grado, se argumenta que Livestreaming puede ser una poderosa herramienta educativa que puede traer nuevas dinámicas tanto para estudiantes como para profesores. La transmisión en vivo, también informa este trabajo de grado, tiene todas las características que necesita para servir completamente como una plataforma educativa que puede crear experiencias emocionales positivas y alentadoras para maestros y estudiantes.

Para explicar el potencial de Livestreaming, la revisión de la literatura explora cuatro perspectivas: *por qué, qué, cuándo y cómo* incluirlo en las herramientas de los docentes. La tesis cita algunas pautas y ejemplos de transmisión en vivo que los maestros pueden usar como textos de orientación. Además, la revisión de la literatura muestra ejemplos de la efectividad y utilidad de Livestreaming para estudiantes y docentes de diferentes contextos, incluida la forma en que ha mejorado las prácticas docentes y ha creado vínculos más fuertes entre docentes y alumnos. Además, este trabajo de grado enfatiza la rentabilidad de Livestreaming. En general, esta tesis defiende el posicionamiento de Livestreaming como una herramienta educativa a la que vale la pena prestarle atención, dados todos los beneficios que ofrece.

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Introduction

In recent years, live streaming has become a popular and powerful tool for disseminating information and engaging audiences in real-time. This technology has been adopted in various domains, from entertainment to business, and increasingly in education. In this study, I explored some answers to the root questions I raised when beginning with this paper: (a) What is the impact of live streaming as an educational tool on student engagement and learning outcomes in online education? Why should teachers and students be interested in using live streaming as a learning tool? (c) When and how should both teachers and students use live streaming for educational purposes?

Livestreaming presents several advantages for educators and learners. First, it allows for synchronous communication between teachers and students, facilitating real-time feedback and interaction. Secondly, it can increase engagement and motivation, as learners can actively participate in discussions and activities. Finally, live streaming can provide access to experts and resources from around the world, enabling learners to benefit from diverse perspectives and knowledge. As such, it is believed by many that live streaming holds significant potential for enhancing the quality and effectiveness of online education.

Let's have some context: Throughout the years, education has been evolving and changing due to several factors. The introduction of technology and its position in every field has been a contributing factor to the evolution of both education and students' needs and contexts. It's now expected that education has broader possibilities to reach students and fulfill their actual requirements. With the use of technology in

education, students have had the opportunity to educate themselves through various means. Nowadays, students belong to a generation that is mostly composed of visual learners, so they tend to like watching videos, presentations, graphic organizers, or even playing video games to learn through devices such as cell phones and computers. (Park & Lee, 2014).

However, unprecedented times arrived for humanity in 2020 with the arrival of COVID-19, when social distancing was established in most countries to prevent the spread of the virus. Besides, because of this emergency, extreme health decisions like the closure of educational institutions, quarantines, and curfews were made. This meant that universities, schools, and students had to bid farewell to the lectures, meetings, and visits to campus. Although the status quo of education had always been prevalent in the traditional model of face-to-face education, it was now being challenged like never before due to the public health measures that were taken by the governments to mitigate the impact of COVID-19.

According to Lalani and Gardner (2020), this is when virtual education started to gain popularity. It started to offer solutions to the problems universities and students were having, as the teaching and learning rules had completely changed. Beyond the obvious threat to health, the pandemic brought unemployment, poverty, a lack of opportunities, and so on. Thus, virtual learning also proved to be accessible to students who didn't have the resources to physically attend classes, and in many countries, students were provided with technological devices, namely laptops, to continue their learning process.

Nevertheless, there was still one problem. As most teachers were used to teaching traditionally, they didn't know how to either transform their whole curriculum to the new format being demanded by universities and schools or how to properly use the tools to carry out their classes. Many teachers were, in fact, giving their first online classes during the pandemic, meaning that using a conference app like Meet, Zoom, or Teams was a big challenge for them. Additionally, new needs arose with these virtual classes, as computers and phones are designed to attract people's attention, forcing the classes to be more engaging, dynamic, and didactic than the other activities that these devices could offer (Braun, 2020).

The previous conference apps are the mainstream resources when it comes to virtual classes. They are widely available as most of them are free, they are easy to use, and most of them have the tools to organize both content and groups to make teaching easier. Teams is one of the most used ones because of its capacity to create groups, assign homework, make videoconferences, post news, and have students engaged to a certain extent. However, it is not the only one. There are other platforms, such as Discord, which is very popular among gamers and content creators, that have positioned themselves as educational tools for online classes.

According to Lee, Chang, and Lin (2020), during the pandemic, social media also played an important role. Many independent teachers started live streaming on them to give their classes, proving that many of these platforms have a lot of potential not only for teaching but also for audience engagement. The Facebook streaming platform, for example, allows "streamers" to fully customize their live streaming experience, adding sounds and animations to every interaction their audience has with their streamers. It

also possesses a “stars” system that allows content creators to gain money in real time if their advocates want to give monetary contributions to their efforts.

With that said, online classes through social media and streaming apps became very popular because they allowed teachers to have students from all over the world and connect with them easily. Thanks to the pros already mentioned about live streaming as a tool to educate people, many teachers have stayed teaching on these platforms, teaching many students for free but getting money from donations, subscriptions, and popularity. Therefore, live streaming during the pandemic opened a new window for teaching, as teaching through live streams has been demonstrated to be a powerful tool to keep education going, no matter the distance, culture, or resources.

Defining Livestreaming

According to Bybyk (2022), Livestreaming is one of the most outstanding broadcasting forms. It has been around for many years, but it managed to become popular in the last decade because new technology made it easier to both create and watch. The first live-stream records registered take us back to the 1990s, when a band of engineers and scientists called Severe Tire Damage was the first to perform live on the internet. Later, in 1994, the Rolling Stones performed their first live show with Severe Tire Damage as the opening act. Although there is no register, it is believed that more than 50.000 people watched the first worldwide streaming ever.

After this, many people and companies started to experiment with live streaming but struggled to make it popular and reliable because there was not enough technology to properly broadcast the content and also watch it. That was until YouTube, in 2008, premiered its first online live streaming, hosting many celebrities and meetings from San Francisco and Tokyo. Even though YouTube performed this popular live stream, it wasn't a live streaming platform itself. It just started to play with live streaming. The most important and famous ones were a U2 concert and a Q&A meeting with the president of the United States of America, Barack Obama (Bybyk, 2022).

In 2011, Twitch.tv, which is today one of the leading platforms regarding live streaming, launched its new streaming platform focused on video games. 2 years later, it amassed more than 45 million viewers per month. Twitch's success was a critical point in the history of live streaming. After this, YouTube improved its streaming services, and now any user could live stream on the platform. In 2015 and 2016,

Twitter, Facebook, and Instagram presented their live-streaming services as well. (Jackson, 2022)

Since social media started offering live streaming technology within their services, live streaming has experienced continuous and stable growth. Nowadays, live streaming is one of the most prominent platforms for marketing, communication, and entertainment because of its ability to engage millions of people all over the world (Bybyk, 2022).

As stated before, in 2020, humanity faced one of the biggest threats in its history: the Covid-19 pandemic. Due to it, lockdowns in most countries occurred, and many people were forced to work and study from home. This is when live streaming was broadly starting to be used as an educational tool in many schools, colleges, and universities. Although this was not the first time live streaming was used for educational purposes, the pandemic allowed live streaming to be globally used and known by people of all contexts, generations, and industries.

After the pandemic, live streaming has been positioned as an emerging tool because hosters can connect with their viewers using live chat, making their streams truly interactive and interesting to watch, regardless of the purpose or topic behind them. Another important and attractive reason that has put live streaming in the spotlight is its cost efficiency. Producing live streaming is way less expensive than a TV broadcast, and with the technology available today, a medium-tier laptop or desk computer can easily handle live streaming. These benefits attract many industries to it, including education, as teachers and universities can build a business out of it since streams can be easily monetized.

The purpose of this article is to propose live streaming as a powerful educational tool. Live streaming has all the traits it needs to fully serve as an educational platform that can bring new dynamics for both students and teachers. Nowadays, it is already being used by many institutions, teachers, and students, but it hasn't become mainstream as live streaming is primarily used as an entertainment source. Subsequently, thanks to the data found, this article looks to position live streaming as a tool that is worth giving attention to, given all the benefits it offers.

Methodology

For this study, the central topic was focused on analyzing Livestreaming in three ways: why, what, when, and even how to include it in the teachers' toolkits. To explain this, some articles and research that support the effectiveness and usefulness of live streaming for students and teachers of different contexts were cited to illustrate different experiences, points of view, and backgrounds. This review also added some guidelines and samples of Livestreaming so that teachers can use them as mentor texts.

As Livestreaming is an emerging trend in the educational field, not a lot of research has been conducted. This report offers a critical literature review (Mora, 2020) as the option to collect and analyze the information. The material was gathered through academic web repositories and search engines. The data was selected under the criteria of using live streaming as an educational tool for both students and teachers in different countries with different contexts, and different knowledge areas.

During the articles' gathering process, there weren't a lot of papers that talked about live streaming as an educational tool, but there were many of them discussing social media and asynchronous classes' impact during the pandemic. Although these articles are important because they also prove some points made in this thesis, the main focus was to gather articles that talked specifically about Livestreaming and its implications in this new renaissance of virtual education.

One of the biggest challenges when searching for relevant literature regarding this topic is that as live streaming is a relatively new tool for educational purposes, the findings this research found were not validated over the long run, as most of the papers mentioned using live streaming during the pandemic for six or twelve months. This

opens up a window in terms of reliability, as more research needs to be conducted so conclusions and findings about live streaming become more robust.

Lastly, a thematic and discourse analysis was conducted. This involved collecting all the data and identifying how it could provide answers to the questions posed on live streaming as a tool. Some patterns in the data were very interesting. For instance, most research conducted about Livestreaming as an educational tool, as well as social media and videos, has been conducted in Asia. Also, most of the time, the Livestreaming tool was used to teach programming or language classes, which suited this research perfectly.

Livestreaming: Addressing the “Wh-Questions”

When talking about streaming, it is crucial to understand that many tools, apps, websites, and platforms can be used to broadcast the content we intend to teach. Therefore, knowing what these different platforms have to offer, how they are different, and what makes some of them stand out in various regards is crucial in the planning process of a social media teaching career, a course, or a simple class. The reason behind it is that certain platforms allow students and teachers to connect differently with each other, to share and receive content in different ways, and to interact differently thanks to the built-in tools within the platform.

Firstly, mainstream live streaming platforms such as Twitch.tv, Youtube, Facebook, or TikTok offer streaming video and game content. These platforms are mainly designed for gaming, singing, and shopping, among others. However, they can also be used to conduct live-streaming courses open to everyone and can be accessible to a large audience (Chen et al., 2021). Furthermore, all these platforms are mobile-friendly, meaning they can be used by teachers and students from cell phones, adding many advantages that will be discussed later in these findings.

In the students' eyes, these platforms are well-known, and most young and adult students will be used to using them. Also, as streamers are gaining so much popularity nowadays, streaming platforms and their engaging tools, namely stickers, emojis, donations, and subscriptions, are getting more and more exposure to the audiences, and thus, they are learning how to use them. In these platforms, Chen et al. (2021) found that students and teachers' relationships are hierarchical, also known as “streamer-centered” because only teachers (or streamers) are shown on the screen, so

students can communicate with teachers through texting or audio messages. Besides, platforms such as Zoom, Meet, or Teams have a flat structure, meaning that both students and teachers can turn on their cameras, and speak through the microphone as equals. According to Chen et al. (2021), due to the social media nature of these platforms, they already have entertaining and interactive functions which can help the live-streaming platform be more entertaining and engaging for students.

Without further ado, let's see why, what, and how live streaming should be used according to the data found:

Why Teachers Should do Livestreaming

Based on the information found, Livestreaming as a tool creates positive and encouraging emotional experiences for teachers. Based on a study performed in China, where live streaming was used by teachers of different ages, Chen and colleagues (2021) found that teachers experienced positive emotions, as they felt they were successful at transitioning to new technology, increasing the engagement of their students, and thus, improving their teaching practices and creating stronger teacher-student bonds. Although most teachers were doubtful about live-streaming and its effectiveness, they became familiar with it and perceived the benefits of implementing this new technology in teaching.

Besides, students were also highly engaged and open to providing feedback to their teachers, as they felt they could add valuable and useful information thanks to being related to this kind of technology. The intimacy between teachers, students, and even parents also brought positive emotional experiences to teachers, as many times, teachers and parents were able to discuss students, their development, and their

preferences, allowing teachers to know better their students and get to know their parents. (Chen et al., 2021)

These results were also supported by another study conducted in Canada, where live streaming was used as the main tool for language teaching on social media platforms (Facebook). Chen and colleagues (2019) found that using live streaming as an educational tool brought motivation, engagement, and involvement for both teachers and students. This is because, as opposed to typical pre-recorded videos where teachers are at a fixed location, live streaming could allow teachers to start a stream almost anywhere, allowing this informal environment to create more casual conversations that are vital to building communicative competence skills.

Also, another advantage over regular prerecorded videos or podcasts is that they could interact and get feedback from teachers in real time. Besides, they found that by using live streaming, they had more options and opportunities to help each other and learn together in the course of the class, finding real-time solutions to real-time struggles in various activities. Although these benefits depend on group sizes and formats of learning, we can't take away the positive impact this tool brings to the educational field. (Chen et al., 2019)

On top of that, multimodality, a well-known social semiotics they used in language learning (Mora, 2019), can be applied to live streams. As was shown by Chen et al. (2019), interacting and connecting with others through text, audio, images, and videos was the most prominent perception that the participants had for multimodal live streaming, as that made language learning more interactive, spontaneous and real. Using not only these multimodal strategies, but also complimenting them with other interactive tools such

as jam boards, games, and even other social as a medium for homework, or just further interaction, creates a learning ecosystem that enhances online learning and helps create significant knowledge (Meepung et al., 2021)

What Teachers Can Do While Livestreaming

Livestreaming as a tool has proven to be a very dynamic approach that can fit many knowledge areas. Practical areas such as healthcare and medicine require lots of physical practice as well as accuracy, so live streaming might not be the best tool for them.

However, according to the data found, live streaming has proven to work with most technical knowledge sharing. In the aforementioned study in China, Chen and colleagues (2021) used live streaming for primary and elementary school subjects. Also, Chen and colleagues (2019) used live streaming as a tool for language learning (English), and as it was already stated, it proved to be dynamic, motivational, encouraging, and creative for both students and teachers.

Moreover, live-streaming has also become popular as a way to learn to program, a highly demanding skill that is growing exponentially in today's society due to the digital renaissance and the needs of the tech industry. To illustrate this, Chen and colleagues (2021) conducted research in which they showed how live streaming was an opportunity for people to learn how to code, due to its real-time communication advantages, and also, due to the facility of creating a live stream rather than a pre-recorded video. This research found that live streaming was being used to create and update knowledge-sharing communities that will benefit from appreciation and feedback from both viewers and creators.

With this in mind, we are sure that live streaming has a wide range of opportunities in different educational fields. More importantly, its basic features, such as real-time interaction and feedback, engaging, motivating, and evolving interactions, are welcomed and highly appreciated by these knowledge communities of autonomous learners.

When Teachers Should Try Livestreaming

Due to the pandemic, online learning grew exponentially, and many online tools started to emerge due to their easy access and free usage. Live streaming is already being used by some universities and schools around the world. However, at the time of the creation of this research, the pandemic had seemingly come to an end, and synchronous classes have resumed almost all over the world.

However, Livestreaming brings many of the already mentioned advantages to the educational field. Offline learning and informal teaching rise as the main scenarios where live streaming can shine. Self-driven learning is a popular trend that is becoming more and more popular nowadays, as formal learning is getting more expensive every time, and due to the digital resources available today, the required knowledge for most jobs can be found on the web. This autonomous learning can take advantage of the affordances of live streaming. Being able to be part of communities that gather to exchange ideas, discuss problems, and find solutions in real time is a huge advantage, and live streaming puts that on the table.

Moreover, informal teaching is also becoming a popular trend, as social media and content creation have grown audiences and creators exponentially, even more so after the pandemic. Live streaming gives teachers the opportunity to create a brand and

an online business using their knowledge and the digital tools available in the digital world. As many of these tools are free, Chen and colleagues (2021) suggest that these tools promote online education access to larger audiences who otherwise, would not be able to educate themselves, or share their knowledge. In other words, this helps close the educational gap the world has faced for many years, allowing children and adults from remote areas to learn through live broadcast, receiving the same education some wealthy students from main cities are receiving.

How Teachers Can Engage With Livestreaming

Although breaking into this technological approach in education might seem a bit overwhelming at first, Chen and colleagues (2021) showed that most teachers who were under training were able to carry out their online courses with little trouble. It is important to note that during this research, teachers adopted the “always learning” mindset, and with the help of their students, they boosted their learning process exponentially.

Regarding tools needed to use Livestreaming as an educational tool, a regular mid-tier laptop will be more than enough to use any broadcasting software, considering that live streaming can also be done using mobile phones. However, the experience and smoothness of the broadcasted content can vary depending on the hardware specifications and quality of the network connection.

Concluding Remarks

This thesis discusses the importance of understanding various live streaming platforms, tools, and apps that can be used for broadcasting content, including social media teaching careers, courses, and classes. The text describes various mainstream live streaming platforms, such as Twitch.tv, Youtube, Facebook, and TikTok, that are mainly designed for gaming, singing, and shopping, but can also be used for conducting live-streamed courses.

The ideas in this thesis suggest that live streaming is an effective tool for creating positive and encouraging emotional experiences for both teachers and students. Live streaming can improve engagement, motivate students, and involve them more in the learning process. Also, research conducted in Canada and China suggests that live streaming can improve teacher-student bonds and provide opportunities for feedback from students to teachers. Additionally, the text mentions the importance of using live streaming in language learning, where it has been shown to increase motivation and engagement.

Furthermore, the paper emphasizes the importance of multimodality and using interactive tools, like games and social media, in conjunction with live streaming to enhance online learning and create a more dynamic learning environment. This article concludes by discussing the suitability of live streaming for various knowledge areas, stating that it can work with most technical knowledge sharing, but may not be ideal for practical areas such as healthcare and medicine that require physical practice and accuracy.

Nevertheless, as live streaming is still a relatively new tool that has entered the educational field, lots of research seeking to understand more of its benefits, applicability, long-term effectiveness in the learning process, and accessibility are still required to position it as a mainstream and trustworthy educational tool that can revolutionize the way people acquire technical knowledge in our modern society.

Based on the conclusions and findings we have found, here are some recommendations for teachers and students who want to use live streaming as a tool. In addition to these recommendations, I suggest visiting a guide that Streamlabs put together to aid teachers (<https://streamlabs.com/content-hub/post/how-to-live-stream-your-classroom-for-teachers>):

- Establish clear learning objectives and goals for the live stream before starting the session. This will help both the teacher and the students to stay focused and make the most out of the experience.
- Make sure to have a stable and fast internet connection, as this can greatly affect the quality of the live stream.
- Prepare and test all the necessary equipment and software before starting the session, including the camera, microphone, and any other tools that may be used during the live stream.
- Provide clear instructions and guidelines for students to ensure their participation is constructive and respectful.
- Encourage active participation and engagement from students during the live stream, such as asking questions or sharing ideas.

- Consider recording the live stream so that students who were unable to attend live can still benefit from the session.
- Finally, always evaluate the effectiveness of the live stream in achieving the learning objectives and goals, and make adjustments as necessary for future sessions.

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