

## EFFECTIVENESS OF ONLINE LEARNING AND FACE-TO-FACE LEARNING ON STUDENTS

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### **Abstract**

The degree to which learning outcomes are attained during the teaching and learning process is demonstrated by the condition of learning effectiveness. Online learning uses the internet network to facilitate learning without requiring students and teachers to interact face-to-face. According to the research findings, there was little difference in the learning outcomes of students before and during the epidemic. This demonstrates that studying through WhatsApp and Google Classroom is thought to be highly successful. Learning both in person and online is a topic that is frequently debated. not just with pupils but also with parents. A lot of people search for the best learning experience by comparing the two learning systems. While some believe that face-to-face communication is superior, others believe that online communication is superior. It's critical to understand the benefits and drawbacks of each approach since they each have unique advantages and downsides. The literature study method is being used in this investigation. Definitions of online and in-person learning, benefits of both types of learning, and distinctions and parallels between online and in-person teaching approaches are all covered in this study.

**Keywords:** Effectiveness, online learning, face-to-face learning

### **INTRODUCTION**

Ananga & Biney (2017) assert that education serves to enhance the caliber of human resources, achieve overall welfare, and raise the standard of living in the country. Those with education undoubtedly live better lives than those without it; this is also influenced by their internal and external wellbeing.

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A nation of intelligence also needs high-caliber human resources. Learning is crucial for both you and the world around you because of this. The value of learning to learn (or learning to learn) encourages receptivity to the challenges and changes posed by the ever more complex and sophisticated globalization.

The pandemic period means that the learning process which is usually carried out face to face in front of the class, can no longer be carried out, this is due to concerns about the increasing spread of Covid-19. There is a need for alternative learning to support good quality learning for the sustainability of the education of the sons and daughters of the Indonesian nation (Bali & Liu, 2018). An essential part of putting learning into practice is using online learning resources while forming new routines. adoption of remote learning, which allows for in-person interactions between teachers and students and is accessible from any location at any time.

The question of online and in-person learning is now frequently explored. not just with pupils but also with parents. A lot of people search for the best learning experience by comparing the two learning systems. While some believe that face-to-face communication is superior, others believe that online communication is superior. Knowing the benefits and drawbacks of each approach is crucial because each has advantages and downsides of its own (Rajab, 2018).

The face of education shifted from in-person to online throughout this pandemic. The goal of this online course is to avoid overcrowding and student contact, which could lead to the emergence of Covid transmission clusters.

It is important to know the meaning of online and face-to-face learning first. These two have different meanings. Maybe many people already know what online and face to face are, but not many people know their meaning in detail. Online or online is an acronym for networks which are connected via computer networks, the internet or connected to other networks. Online is also equated with the condition of a computer or PC or device which can exchange information and be connected via the internet. Meanwhile, face-to-face or offline is a system that exists outside the network (SOFFER & Nachmias, 2018). Usually this system is disconnected from the computer network or internet. This learning is often referred to as face-to-face learning or offline systems.

Numerous online and in-person learning resources are available to help make this learning process more successful and efficient. Teachers and students engage in face-to-face instruction when utilizing offline or face-to-face methods. Learning resources come in a variety of formats; they might be

printed copies of worksheets, textbooks, modules, photocopies of content, and more.

In-person or offline instruction typically makes use of worksheets, written lesson plans, teaching aids, and learning media like radio and television to support the activities. It is possible to view this face-to-face as a medium that completely avoids using the internet network. When internet learning environments are unsuitable due to a pandemic, this medium can serve as a substitute for learning (Young & Duncan, 2014).

On the other hand, online learning occurs through the use of an internet network and gadgets like laptops, desktops, and smartphones to support activities rather than in-person interaction. Additionally, online learning makes advantage of platforms that are made available, like those found in online learning programs. Online communication is used for both the distribution of all instructional materials and communication itself. In actuality, exams can also be taken virtually without in-person meetings.

Email platforms and messaging apps like Telegram and WhatsApp are common sources of media utilized in online education. Social media platforms like Instagram can also be used as learning resources. Google Meet or Zoom can be used for video conferences. Teachers can use this medium to assess whether or not their pupils are paying attention to the lesson. You can utilize Google Forms for tests, which allow for more automatic corrections.

The achievement of high-quality education is inextricably linked to the responsibility of educators, who never stop trying to make their subjects understandable to their students. Using the advanced technology available today is just one of the numerous ways educators may support the learning process. The internet and other auxiliary tools can be used by teachers to facilitate learning. Teachers and students will undoubtedly benefit much from using the internet in the learning process. However, this use is not always effective because face-to-face meetings are certainly better, but there are several things that require students to learn from home and teachers must be more creative in developing their students by utilizing social networks. This is done so that students remain productive in learning. This is in line with the opinion of McCutcheon et al, 2015) which states that the effectiveness of ICT as a learning medium and learning resource, apart from having advantages, also has limitations. Therefore, its use in learning activities must be done selectively, taking into account the properties and characteristics of the material to be presented.

## **RESEARCH METHOD**

The research method used in this article is a literature review. A literature review is a systematic approach to evaluating, synthesizing, and presenting findings from various literature sources relevant to the research topic. In the context of the effectiveness of online and face-to-face learning on students, a literature review will allow us to identify approaches, concepts, findings and recommendations that already exist in related literature (Denney & Tewksbury, 2013). A variety of resources, such as periodicals, books, documents, the internet, and libraries, are available for literature study. The writing style that is employed is a literature review study, with an emphasis on writing findings about how well students learn both in-person and virtually.

## **RESULT AND DISCUSSION**

### **Definition of Online Learning**

Online learning can be defined as a system of learning activities that are conducted over the internet network rather than in-person. Online learning is referred to as an electronic learning, or E-Learning, by Nguyen (2015). As to his statement, e-Learning is an instructional approach that makes use of Information and Communication Technology (ICT) as a medium. E-learning is defined by learning interactions (engagement) over time and location and is the outcome of the methodical integration of learning components while maintaining quality and learning resources.

"On the network" is what the term "online" refers to when it is translated, and it is an acronym for the phrase "on the network." Online learning refers to instructional activities conducted through the internet. Actually, the phrase "online learning" predates the current level of popularity by quite a bit. In the face of ever-accelerating technology advancements, online learning activities are seen as a learning innovation. As a response to global government regulations that forbid certain activities or gatherings of large numbers of people, this word has grown in popularity during the COVID-19 epidemic (Singh & Thurman, 2019).

Government regulations mandating social distance or restricting social interactions in order to stop the COVID-19 virus from spreading gave rise to online learning in Indonesia. The Ministry of Education and Culture (Kemendikbud) issued a circular that praised this approach and mandated that learning take place virtually from one another's houses (study from home).

Learning activities that take place in a classroom can also be completed online thanks to a variety of specialized communication platforms. as Zoom,

Edmodo, Google Meet, Google Classroom, and so forth. This portal facilitates communication between instructors and students as well as the exchange of study materials and test-taking activities. The availability of online learning demonstrates the significance of carrying out teaching and learning activities even in situations where face-to-face meetings are not feasible (Hoi et al., 2021).

As explained by Means et al (2014), the characteristics of online learning are:

1. Individual Learning, one of the benefits of online learning is that students can design their own personal learning environment. Student performance with online learning will be influenced by a number of internal and external factors. Intelligence, great interest, motivation, personality, and other internal variables. Meanwhile, external influences on online learning include the technology used, the surrounding environment, internet access speed, and so on. Every student in online learning must build a teacher presence that can be used as self-control. Students will be able to set their own pace of learning once they establish the teacher's presence. When the teacher's role is absent, students are more likely to be slow, which can cause online learning not to run on time.
2. Structured and systematic, the teacher prepares the syllabus, lesson materials, media and learning resources before carrying out online learning activities. All these tasks are completed systematically. In addition to being technically structured, the subject matter is organized so that it can be ordered based on proficiency levels. The conference will start with the presentation of material deemed easier, while material that is considered difficult will be presented at the end. Apart from material that is considered difficult, explanations and examples will be provided.
3. Prioritize student activity, the learning process occurs as a result of active student participation. In both traditional and online learning, this active activity is very important. In order to study online, students must actively participate. How to empower students to use technology in online learning. The selection of technology was based on its ability to facilitate and offer a range of activities that encourage youngsters to participate more. Teachers can use technology to create various activities that will involve students in active thinking, socializing, and other activities.
4. Connectedness, online learning activities connect students and teachers, students with each other, the teaching team, or students with other teaching staff members.

Meanwhile, according to Hoi et al (2021), the characteristics of online learning are divided into 4, namely:

1. Requires learning to form and produce one's own knowledge Learning requires collaboration with learning in the construction of knowledge and the ability to solve problems together
2. Create a diverse learning community
3. Using media that can be accessed via the internet, internet-based education, and digital classes
4. Interactivity, independence, accessibility and enrichment.

### **Definition of Face-to-Face Learning**

Prior to talking about in-person instruction, it's important to understand that learning is essentially an endeavor to enhance students' critical thinking skills, their capacity to create new knowledge, and their level of subject matter mastery. Learning must be planned or prepared as well as possible by incorporating the interaction of students, educators or teachers, and learning resources in a learning environment in order to attain the various talents described above.

Furthermore, learning must be organized with the aim of helping students to learn as well as possible. Therefore, it cannot be denied that along with the development of science and technology, learning design updates are needed (Duncan & Fiske (2015).

According to Gherhes et al. (2021), face-to-face learning is a type of learning where students and teachers can engage directly during teaching and learning activities. Put another way, there is absolutely no internet connectivity for educators, learners, and other learners. For this reason, learning in person is also referred to as offline learning (learning outside of a network) (Sulasmi, 2021).

During the Covid-19 pandemic, face-to-face learning experienced obstacles. This is because the government issued a policy that prohibits people from meeting and gathering in large numbers in public places, including schools. As a result, like it or not, face-to-face learning must be replaced by distance learning (online learning) or also known as online learning (on the network). However, as the number of Covid-19 cases in Indonesia decreases, direct teaching and learning activities can be carried out again, of course still by implementing strict health protocols to prevent the transmission of the Covid-19 virus in the school environment and the surrounding environment (Singh et al, 2021).

To make it simpler for teachers to assess students' attitudes, face-to-face learning is a planned tool or activity based on learning norms that takes the shape of an interaction process between students, subject matter, teachers, and the environment. In order to evaluate a student's abilities, a teacher must conduct a face-to-face learning process. This type of learning is essential for successful learning. Face-to-face instruction, according to Johnson & Lester (2016), is a traditional learning approach that aims to impart knowledge to students by bringing them together in a classroom setting that emphasizes social contact, planning, and place-oriented learning. Aside from that, face-to-face learning is defined as a series of activities intended to assist students in their face-to-face learning process by focusing on outside events that influence student events that can be anticipated or known prior to the face-to-face process. In order to maximize results during the strategic stages of acquiring competency, learning activities must be planned and carried out with effectiveness and efficiency. based on educational activities that include independent, unstructured, and scheduled face-to-face activities. Face-to-face learning is a type of instruction where students and teachers engage as well as where students interact with one another.

### **Advantages of Online Learning**

Learning and seeking knowledge is something that everyone must do. Learning is not limited to children; adults can still learn new things. In the past, people thought that learning was only done in schools or tutoring places. As time goes by, learning can be done anywhere without knowing the time. Plus the ever-advancing technological developments mean that learning can be done from home. Even during the Covid-19 pandemic, almost all learning activities were carried out online from home (Mukhtar et al, 2020).

Dumford & Miller (2018) mention online learning as a fairly effective learning alternative. The benefits that may be obtained through online learning are:

1. Practical

The first advantage offered by online learning is practical. This seems to be something obvious, yes. The use of online learning techniques makes it possible for instructors and students to communicate without needing to physically meet in a classroom, making it possible to do so anywhere.

2. Flexible

The second benefit is its flexibility, particularly with regard to timing. Being flexible helps teachers and students to be less constrained by set schedules.

Certain classes that don't follow a set timetable frequently provide their course materials at night.

3. Efficient

Online learning offers efficiency not just in terms of time but also in terms of energy and cost. Energy efficiency considers how teachers and students can conduct teaching and learning activities without wasting energy on the commute to school. The consumption of paper or books that are seldom used, the price of refilling cars, and other expenses like lunch money and so forth are all included in the concept of cost efficiency.

4. Easy Documentation

These days, we may readily access a variety of image capturing technologies on laptops to document content presented via teleconference systems. As a result, we won't have to be concerned about missing notes made when the content was delivered. We only need to turn on the picture or video recording function to be able to store and retrieve the content at any time.

5. Private Study

Because professors and students can interact at the same time via a screen through teleconferencing systems like Zoom or Google Meet, the material offered by teachers through online learning might feel more personal.

6. Up to Date

Online education is thought to be a reasonably successful teaching strategy, particularly for today's pupils given their familiarity with devices and the internet. They can use this technology to apply it through educational activities and stay up to date with current advances.

The advantages of online learning found in Sadeghi's (2019) research are:

1. Easy to access

This learning system allows anyone to read and listen to learning materials anytime and anywhere easily. Apart from that, because it is easy to access, online learning does not have to be done in a special place, users can study in their room, living room, terrace and others.

2. Economical for students

Of course it costs money in the form of pocket money to go to school. Not to mention other additional costs such as transportation and so on.

3. Flexible study time

4. Instructional materials are typically delivered as files, videos, or so on so that they can be easily accessed at any time. Usually before the pandemic,

when learning was still face-to-face, many people tended to feel embarrassed to ask teachers or lecturers about the material being discussed.

5. **Mastery of technology increases**

Technological developments that continue to increase mean that anyone must learn to master this technology. With this technology, anyone can learn without having to meet face to face.

Based on the explanation above, there are many advantages of online learning, such as being more flexible and accessible anywhere, saving money on transportation because you don't go to school, students are more responsible, creative and independent in learning.

### **Advantages of Face-to-Face Learning**

Following are some of the advantages of face-to-face learning according to Castaño-Muñoz et al (2014), namely:

1. **Students are monitored**

Face-to-face or offline learning, despite its conventional nature, ensures that the teacher can clearly monitor the student's activity and range of competencies. Teachers will find it easier to monitor student activities, both academic and non-academic, to encourage their development.

2. **Students are more focused**

Apart from being better monitored, this learning also allows students to focus more on learning. Directly, students can study and do assignments without internet network or device interference so they can study smoothly. Apart from that, students can also focus more on studying and not be disturbed by distractions that might break their learning focus.

3. **Clear Standardization**

Not only can the learning materials and curriculum be delivered clearly, the teachers and the materials are also clearly certified. So that teachers can deliver material with their abilities and knowledge as an educator's capacity, and the material presented is also in accordance with standards.

4. **Students are paid attention to**

Students are not restricted by time or space to ask straightforward questions if they do not comprehend the content. So this offline learning allows students to more easily understand and accept learning material.

As per Kemp, N., & Grieve, R. (2014), face-to-face learning has the following advantages:

1. Encourage student participation in the active learning process. By employing in-person instruction, teachers can better inspire students to comprehend the material being covered. Active involvement of students and teachers. Students actively participate in classroom learning as part of their educational process. If they experience difficulties in their lessons, students will actively ask the teacher. It is very important to understand learning clearly.
2. Interaction when face-to-face teaching is used, there is effective interaction between teachers and students as well as between students.
3. Face-to-face learning is well planned and implemented regularly to instill discipline in students.

### **Differences and Similarities between Online Learning and Face-to-Face Learning**

A popular model for teaching and learning in the academic, professional, and community domains is face-to-face instruction. It enables regular in-person encounters between study participants and their instructors, lecturers, facilitators, or professors.

**Data and Interaction** The world of education and teaching is being affected by the rapid advancement of computer technology. With online learning models, people who want to advance their knowledge and abilities now have a wider variety of possibilities at their disposal, all thanks to the internet. Online education is expected to take over as the primary mode of instruction in the future, but it still doesn't seem to be able to fully replace the comprehensive elements of in-person instruction.

The direct communication between teachers and students is one of the primary distinctions between in-person and virtual learning. Students can interact and converse with teachers and other students directly in face-to-face classes. This interaction allows for a direct exchange of ideas, in-depth discussions, and the provision of fast and direct feedback. In online learning, interaction is often carried out through online communication platforms, such as discussion forums or video conferences. Although it still allows communication, this kind of interaction tends to be more limited and less direct (Bower & Kumar, 2015).

In addition, access to resources is also a significant difference in quality between these two methods. According to Platt et al (2014) in face-to-face

learning, students usually have direct access to the school library, laboratory and other supporting facilities. They can easily access the reading materials, tools and equipment needed to support their learning. On the other hand, in online learning students may have to rely on limited digital resources or online libraries. Although there are many digital resources available, access to physical resources remains a challenge for some students.

Students' motivation and independence factors are also different in online and face-to-face learning. In face-to-face classes, social interaction and direct supervision by the teacher can motivate students to stay focused and engaged in learning. Meanwhile, in online learning students must often have greater independence to manage their time, motivate themselves, and stay focused without direct supervision. Some students may find it difficult to maintain motivation and discipline in online learning (Cavanaugh & Jacquemin, 2015).

However, studying online also has certain advantages, flexibility of time and location is one of the main advantages of studying online. Students can set their own study schedule and access learning materials from anywhere, as long as they are connected to the internet. This provides greater flexibility for students who have time or distance limitations. In addition, online learning can also improve students' technology skills and digital literacy, which is important in a world that is increasingly dependent on technology.

Ultimately, there is no denying the notable quality disparities between in-person and virtual learning. Depending on the situation and the demands of the pupils, choosing which of these approaches to employ requires careful consideration. These two methods have their respective advantages and it is important for students to utilize the advantages of each method to create a quality learning experience for students (Xu & Jaggars, 2014).

The following are the differences between face-to-face classes and online classes according to Gherhes et al (2021):

1. Study Time

Second, you can be flexible with when you study. Study time in in-person classes is set by a rigid and set schedule of meetings. Consultations, one-on-one coaching or support, and discussions are often scheduled during set office hours. However, online learning offers a flexible time scale based on the participant's time availability, particularly when employing a self-paced or independent learning paradigm. As facilitators in online courses, we can also carry out the learning process using chat rooms, email, or prearranged virtual timetables.

## 2. Learning Methods and Interaction of Participants and Facilitators

The traditional or conventional techniques of teaching and learning used in in-person classes necessitate that all students be present at the same time. Instructional materials are presented through lectures or group activities in which participants engage in hands-on interaction. Face-to-face instruction facilitates engagement since it is simultaneous. Participants and facilitators engage in active communication, facilitating vibrant discussions and debates. Furthermore, face-to-face communication enables participants to get quick answers to their questions and feedback. Unlike online learning, digital models, formats, and gadgets are used in all procedures and resources. The delivery technique is done via an online course, or it can be recorded in audio-visual format and distributed or broadcast through an LMS. Similarly, digitally accessed online collaboration tools are used for interactive activities. Many people think that in online learning, there is no communication between the instructors and the students. However, upon closer inspection, it turns out that online platforms allow for a great deal of interaction between participants and facilitators. With this model, people can communicate with their facilitator at any time or place. Two-way or multi-way communication is another feature of online learning that has a big impact on learning dynamics. In online classes, communication between the facilitator and students can occur both synchronously and asynchronously.

## 3. Type of Learning Approach or Model

In-person seminars are typically created using an instructional design methodology, employing synchronous learning for extended study sessions in a lecture or intensive training style. Someone who is primarily responsible for conducting or providing instruction could be a teacher, lecturer, facilitator, or instructor. On the other hand, asynchronous "homework" is offered to supplement in-person synchronous classes. Online courses offer more independent (asynchronous) learning models and place more emphasis on supported learning approaches. Encouraging the learning process in synchronous virtual courses or asynchronous independent learning is the facilitator's responsibility. To learn and advance their knowledge, participants do not need to wait for the facilitators' "commands" or instructions. There are only so many hours available, even with synchronous classes.

## 4. Learning Resources

In-person instruction typically employs tangible materials in the form of books, paper sheets, handouts, cards, posters, and so forth. Books must be

purchased, and each item must be printed or photocopied individually. Although technology has advanced to the point where materials from in-person classes can also be mixed with electronic and digital formats, the teaching methodology is still traditional. This is not the same as online courses, where all of the content is created digitally, without the need of paper, and includes text, photos, maps, software, audio-visual recordings, and more. These resources can be accessed by participants by downloading them digitally; they don't need to be duplicated; they can just be released or published in the LMS.

5. Cost and duration of study

Face-to-face classes necessitate in-person sessions, which means that participants must pay for their transportation to the learning site. Aside from the price of the procedure and other educational resources. The main expenses associated with online learning are internet access, creating an LMS, and creating content. In-person classes typically include more time for travel and the learning process. This is not the same as taking lessons online, where students can attend from anywhere and don't have to travel. As a result, there is no need to calculate journey time. Similarly, virtual classrooms usually don't last very long, but asynchronous learning is more adaptable, taking into account the time availability of the participants.

6. Learning speed

In in-person classes, the learning pace is often set by the instructor or facilitator. because there is a set timetable that needs to be adhered to, which is determined by the academic or teaching calendar. It will be challenging to catch up if participants are absent, unless they make use of reading materials or assignments. The learners in online classes have more influence over the pace of learning. Participants can catch up on the subject more rapidly with asynchronous learning, despite the schedule that needs to be adhered to. Digital recordings of virtual classes can be used to make up for missed classes. According to my views, participants in online classes need to be more responsible and eager to learn on their own than in-person classes since they will need to be able to take care of their own learning needs without assistance or supervision from an instructor or facilitator.

7. Infrastructure, Connections and Trouble-shooting

Facility and infrastructure requirements for in-person classes are comparatively straightforward. All that is needed is a classroom with manual teaching supplies (whiteboard, paper, stationery, etc.). You can do presentations using an LCD and a computer, even if you're more advanced.

Technical issues rarely pose a threat to in-person instruction. Due to everyone's actual presence in the classroom, any issues can be resolved right away.

#### 8. Practical Learning

In-person instruction offers a dynamic setting that integrates the theoretical and practical facets of education. Students' general cognitive and skill development is aided by this. Participation in sports, the arts, and other practica, for instance, necessitates physical presence in class, which is demonstrated through exercises and practical assignments. Through this hands-on learning, individuals can improve their comprehension by gaining experience in handling and adjusting to common problems and situations. On the other hand, the online learning paradigm works well for purely theoretical education, where the primary goals are information acquisition or social situation analysis that calls for both group and individual discussion and introspection. It will, however, be challenging or nearly impossible to complete for learning approaches that seek to enhance abilities and call for direct practicum.

### CONCLUSION

Learning effectiveness is a condition that shows the extent to which learning outcomes are obtained after carrying out the teaching and learning process. The achievement of high-quality education is inextricably linked to the responsibility of educators, who never stop trying to make their subjects understandable to their students. Using the advanced technology available today is just one of the numerous ways educators may support the learning process. The internet and other auxiliary tools can be used by teachers to facilitate learning.

The quality of in-person and virtual learning differs significantly. Depending on the situation and the demands of the pupils, choosing which of these approaches to employ requires careful consideration. Each of these two approaches has benefits, and in order to give students a high-quality learning experience, it is crucial that they take advantage of these advantages.

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