



# Comparative Research on transition in methods of education with evolution from traditional teaching methods to digital age techniques

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**Abstract:** *Children are getting more and more involved with interactive technology during their daily academic activities, both at home and in classrooms. However, little is known about the effect of using interactive technology on young children's study results. Does the use of interactive technology for education actually improve children's knowledge? Besides, there is little evidence that children and teachers actually hold positive attitudes towards the integration of digital learning methods in classrooms. Post Covid as higher education has embraced online education as a way to reduce costs, increase flexibility, and enhance access to students it is important to gain an understanding of the perceptions of instructors moving into online teaching. This study will give more insight in how both traditional and digital learning methods affect the learning outcomes of children by comparing both learning methods. Furthermore, this study will present the attitudes of children and teachers towards the use of interactive technology for educational purposes.*

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## I. Introduction

The infusion of Information Communication Technologies (ICTs) into learning and teaching has occurred in all sectors of education. It has changed the nature of face-to-face (f2f) teaching and enabled the rapid growth of blended and online courses. ICTs offer new opportunities but also new challenges for both instructors and students. As the number of online courses grows it is essential that we have an understanding of the roles and practices of an effective online teacher. Laurillard (2002) asserted that "if there is to be innovation and change in university teaching as the new technology requires, as the knowledge industry requires, and as students demand, then it follows that academics must become researchers in teaching."

Nowadays, interactive technology is more and more embedded in children's daily activities. Children make use of interactive products, such as games, toys or educational applications, both during leisure time and in school environments. All these technological products have in common that they are specifically designed to facilitate interaction, encourage social activities and enhance creativity (Dix, Finlay, Abowd & Beale, 2004). Whereas games and toys particularly focus on entertainment, educational products mostly focus on improving children's knowledge and competences. As reported by the European Commission, the past few years have seen an enormous increase in the use of these interactive products for educational purposes. Schools are dealing with a growing trend of using interactive technologies in their classrooms. In 2013, the

report 'Survey of schools: ICT in education' was published to reveal the numbers of technology use in schools across 27 countries of the European Union. It was reported that 50% of children between 12 and 17 years old use laptops, tablets and mobile phones in classrooms at least every week. Moreover, the number of computers at schools in 2011 has doubled since 2006.

According to Goodwin (2012), the development of interactive technology introduced a new generation of educational tools that have been praised as revolutionary devices that hold great potential for transforming the traditional learning environments. The emerging use of these tools causes a transfer of the traditional learning model where the classroom is the central place of learning driven by the teacher, to a modern learning model in which the teacher is no longer at the centre of the learning process. For example, the portability and connectivity of mobile devices, such as tablets or laptops, provides children access to a broader and more flexible source of learning materials than materials that are offered in traditional classroom settings, such as blackboards or books (Goodwin, 2012). A report of Schuler (2012) showed that more than 500,000 applications designed for learning are available to download from Apple's App store, which gives schools access to a wide range of learning materials for mobile devices such as the iPad.

With the help of this study, evidence-based insight will be given in how learning outcomes of emerging digital teaching methods such as tablet applications, relate to learning outcomes of more traditional, maybe old-fashioned, teaching methods. Currently, there is still a large knowledge gap in existing literature about how interactive technology affects education in elementary schools. Therefore, this study aims to collect valuable insights in what effect interactive technology has on children's learning achievements and how teachers and children evaluate the use of interactive technology in classrooms.

### **1.1 Problem Discussed**

One of the great challenges for those who create these interactive products for education, is to develop effective tools or learning environments that help children to use their inborn learning abilities and to improve learning when comparing to traditional forms of teaching (Blackwell, Lauricella, Wartella, Robb & Schomburg, 2013). There is emerging evidence to suggest that these products have a significant potential to support the learning process (Shuler, 2012). However, to date, little research has been done to investigate young children's use of touch screen devices in classrooms and their educational impact. There is a lack of empirical evidence to confirm that interactive educational applications are valuable for better learning outcomes, when compared to learning outcomes from traditional methods (Shuler, 2012). This study seeks to provide evidence-based information to check if implementing interactive technology in education is actually beneficial for young children. Do digital teaching methods provide positive learning outcomes for students, when compared to more traditional teaching methods?

### **1.2 Aim of the study**

Education has been improved in the digital age with faster communication and exchanging of ideas but has this made traditional ways of teaching less important. This research paper focuses to examine difference in both of this education scenario and how it is going to affect the teachers and learners.

### **1.3 Objectives of the study are to**

- Examine the current status of education methods and techniques;
- Identify the impact of ICT on recent innovative studies;
- Analyze the eagerness and ability of students and teachers to adapt new methods;
- Evaluate the efficiency of new age methods over the traditional ones; and
- Evaluate the positive & negative learning outcomes of transition in education system

## II. Theoretical Framework

This Research' theoretical framework first defines interactive technology and describes the role of interactive technology in education. To clarify how technology is used by children, the differences among several age groups and their relationship to technology are described. Next, some results on learning outcomes that follow from using interactive technology for education will be discussed, including the knowledge gap in this area that will be dealt with in the present study. Furthermore, the importance of investigating children's attitudes towards interactive technology is explained, followed by how these attitudes should be evaluated. The theoretical framework will be concluded by describing the important role of teachers for implementing and using interactive technology.

The increase of technologies in education, to enhance learning and teaching, means that it is important to understand the perspectives of academics as they travel the continuum of teaching with and through ICTs from face-to-face teaching to online teaching. It is important also to improve the quality of the learning experiences and student satisfaction while academics find their feet in these new learning and teaching environments.

### 2.1 What is interactive technology?

Getting qualitative education has never been more important than in this era (Goodyear & Retalis, 2010). Education is the road that children follow to reach their full potential in life. Moreover, education is actually the key to prosperity for individuals, for organizations in which they work, for the competitiveness of national economies, and for global stability and survival. As a logical consequence of this era's digitally rich culture, young children get in contact with interactive technology more often during their learning activities at school (Goodyear & Retalis, 2010). First, interactive technology will be defined in order to understand the implications for getting qualitative education.

When looking at the field of information and communication technology, interaction can be defined as 'interaction mediated by technological artefacts or products' (Caroll, 2014). This means that interaction via technology indicates that there is communication between the user and the technological system. Possible interaction with technological systems relies on the ability of the system to demonstrate interactive behaviour (Dix, Finlay, Abowd & Beale, 2004). Consequently, the technology-user must be triggered to interact with the product by specific features. Humans are mainly triggered through five senses: hearing, sight, touch, smell and taste. Since taste and smell are not present in technology, interactive technology always needs to have communicative features such as sound, touch or visuals. The process of communication via these features is receiving information that is output by the technology, and responding by providing input to the technological system. In this way, the user's output becomes technology's input and vice versa.

The market offers a large variety of interactive products for children, ranging from products that are developed for entertainment to products that are more focused on education. The most important factor of these products is that children should be triggered to interact with the technology (Dix et al., 2004).

### 2.2 The use of interactive technology for educational purposes

There are many different types of interactive technology that can be used to help children learn by developing knowledge and skills. Technology in its broadest sense can include both hardware, such as interactive whiteboards, and software, such as educational games (Goodyear & Retalis, 2010). The development of hardware technology for education keeps changing drastically. For example, schools and other educational institutions have been investing in what is called smart furniture. Interactive whiteboards are one aspect, but designers are also adding intelligence to classroom furniture in other ways such as smart tables. Smart tables offer eight students the opportunity to learn together at the same time, interacting with activities on the multi touch table surface. In addition, software technology is also developing rapidly and in



consequence, new uses of software technology, such as applications are emerging. Applications are, for example, educational games that can be downloaded on mobile devices which help the child learn about a concept in an interactive way. These new technologies, both hardware and software, can be used to improve student learning or prepare children for effective technology usage in their further lives.

In many Western countries, interactive technologies like smart whiteboards or tablets already have a high adoption rate among schools and school-aged children (Chan et al., 2006). However, over the next 10 years it is expected that personal and portable wirelessly-networked technologies, such as tablets, will become ubiquitous in the lives of these students. Therefore, designers and scientists are investigating what kind of technologies is used for educational purposes and which characteristics make these technologies effective vehicles for education (Goodyear & Retalis, 2010).

The most commonly used term to define the use of interactive technology for education is *one-to-one technology-enhanced learning*. In general, the term *technology-enhanced learning* is used to refer to learning supported by interactive technology (Chan et al., 2006). It covers all those circumstances where technology plays a significant role in making learning more effective, efficient or enjoyable. The notion of *one-to-one* refers to a ratio of at least one computing device for each student. For example it is argued that desktop computers are not personal to children in school, since they have to share it with other students. When they could own a personal computing device, it would change the way of learning, as similar to when one owns his own pencils and books. Since the most well-known *one-to-one technology-enhanced learning* device is a tablet, this thesis will focus especially on the use of tablets for educational purposes.

Several researchers have enumerated a number of features that make tablets interesting for education (Klopfer, Squire & Jenkins, 2002). In comparison to traditional teaching methods, the features that make wireless computers like tablets especially attractive platforms for studying include: the portability of the handheld, the potential for social interactivity and customization, the ability to gather unique data from the environment, the connection between other handhelds for a shared environment and the combination of physical and digital worlds. For example, children can use their tablet both at school and at home, they can personalize their tablet and they can practice learning matters with their tablets while teachers are discussing the particular concepts in class. Furthermore, learning with tablets gives children the opportunity to study at their own individual level. Tablets allow children to practice learning matters at their own level and pace, without affecting the rest of their classmates. All these features should make the tablet an ideal device to improve contemporary, traditional learning methods (Klopfer, Squire & Jenkins, 2002).

### 2.3 Changing Teaching Platforms

The changing nature of both the student body and available technologies have required academics to change their approaches to teaching to gain improved learning outcomes (Hativa & Goodyear, 2001). Academics who have commonly taught in a face-to-face environment are under pressure to embed ICTs into their face-to-face teaching and to work in blended and online modes. The literature is inconsistent in describing blended learning largely because it has been enacted in practice in a variety of ways. Blended learning may also be known as flexible learning, mixed mode, or hybrid delivery. Elliot Masie defined blended learning as the use of two or more distinct methods of training. In their publication which examined the extent and quality of online education in the United States, Allen and Seaman quantified a blended course as having between 30% and 80% of the course content delivered online and an online course as one where at least 80% of the course content is delivered online.

Technologies enable instructors, students and others to participate in teaching and learning at a time and place convenient to them. Universities have been successfully offering distance education for many decades, where teaching and learning occurred off campus. Coldeway discussed four different approaches to using technology in higher education, however, these approaches were established over fifteen years ago and

technology has developed significantly since that time, therefore these approaches should be viewed from a more contemporary perspective.

These changing teaching and learning spaces are impacted by the use of technology. The move from traditional face-to-face teaching toward technology enabled, blended, and fully online teaching initiates a role shift. This paper explores the changing beliefs, roles and the changing nature of academics work as a result of inserting technology into teaching and learning spaces.

#### **2.4 The effect of interactive learning methods vs. traditional learning methods on learning outcomes**

Previous research indicated that the implementation of technology in education promotes student-centred learning practices, which developmental theorists support for early childhood education above more didactic teaching styles (Clements, Sarama & DiBiase, 2003). Traditional didactic teaching styles differ from student-centred learning in that the focus of instruction shifts from the teacher to the student. The main focus of student-centred learning is that the student develops autonomy and independence by making the student responsible for its own learning path. These findings indicate that interactive technology in general could alter classroom practices and have implications for teaching and learning (Blackwell et al., 2013).

The meta-analysis of Habler, Major and Hennessy (2015) supports the view that students' learning outcomes will improve when gaining knowledge via education is assisted by technology. In their study, literature reporting the use of tablets for education by primary and secondary school students is reviewed. The aim was to determine if, when and how using tablets in school might impact on learning outcomes. Among twelve highly methodological trustworthy studies that are reviewed, nine studies report positive learning outcomes and three studies report no difference in learning outcomes when children were assisted by tablets. Thus, the majority of the included studies report positive learning outcomes while using tablets for educational purposes and the affordances of the tablet appeared to be a relevant factor for these results.

However, none of the reviewed studies examined whether the learning outcomes improved more with the help of a tablet when comparing them to the learning outcomes of a control group, in which children got education via traditional teaching methods. Fernandez-Lopez, Rodriguez-Fortiz, Rodriguez-Almendros and Martinez-Segura also found positive learning outcomes when using their learning platform *Picaa* on mobile devices like the iPhone or the iPad. However, they also did not compare their findings to a control group and their platform was specifically developed for students with special educational needs.

As stated before, there is a lack of knowledge about the affordances of using interactive technology on children's learning outcomes (Shuler, 2012). It is important to know if implementing technology in the classroom is actually beneficial for students' study results. Does the implementation of technology cause better learning outcomes, when comparing to current traditional teaching methods? All previous studies did not compare learning outcomes of digital teaching methods to learning outcomes of traditional teaching methods. Carr (2012) did compare his results to a control group, but the findings were not beneficial for better and more qualitative education. Moreover, the participants in the study of Carr (2012) were older than the target group of the present study. Since education in the early stage of life is essential for child development (Goodyear & Retalis, 2010), more insight in the implications of using tablets for education is highly required.

#### **2.5 The importance of teachers' attitudes on the implication of technology**

An important factor that hinders integration of technology in education is that there is often resistance by schools, in order to maintain current teaching practices (Collins & Halverson, 2009). Despite increased access to technology, studies still report the underuse of technology in the classroom, especially in early childhood education (Blackwell et al., 2013). These constraints are not only caused by institutional barriers, such as lack of time and money, but oftentimes teachers encounter personal constraints towards the use of technology.

In terms of the use and acceptance of technology, there are several factors that influence interactive technology use in elementary education (Teo & Noyes, 2008). Computer skills and knowledge of teachers are determining factors that withhold teachers from implementing technology in their students. It can be assumed that older teachers are less inclined to use interactive technology during their daily activities, since they grew up in another generation. Therefore, it is possible that younger teachers might have more technological skills and knowledge to successfully add interactive technology to their teaching style. Furthermore, teaching philosophies, attitudes and beliefs, perceived value of technology, comfort with technology and personal use cause more difficulties to change the role of technology in education than institutional constraints (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012). According to Ertmer et al. (2012), teacher's own beliefs and attitudes about the relevance of technology had the biggest impact on their success. Most teachers indicated that internal factors, such as passion for technology, and support from others played key roles in shaping their teaching styles.

Given that the majority of teachers are trained in traditional teaching methods, it is important to note that the internalization of the regulations, rules and norms that go along with traditional methods likely influences how they use technology for education. Previous research indicated that teacher beliefs and attitudes closely align with their classroom practices (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012), which is also supported by Blackwell et al. (2013). Their study proved that elementary educators who held more positive beliefs about the potential of technology to aid learning practices also used a wider variety of technologies compared to their colleagues with more negative beliefs. They also found that even if people have access to use technology and technical support, they do not use technology unless they possess positive attitudes towards it. It is recommended to refocus teachers and change their existing attitudes and beliefs.

It may be clear that teachers can play an important role in deciding whether to use technology in classrooms or not, depending on their attitudes. However, little is known about the actual attitudes of teachers towards the implementation of interactive technology for educational purposes. Since these attitudes are important to successfully integrate technology in the education system, studies need to focus on how teachers think about using technology in their classrooms and how they want to use interactive technology in the future.

### III. Methodology

#### 3.1 Observation

One of the evaluation methods that will be used in this study is observing the children. This means that the researcher observes a child while he or she is using or interacting with a product. There are two types of observations: structured observations and unstructured observations. An observation is structured when the researcher focuses on predetermined constructs that are derived from earlier research or constructs that represent user requirements. An unstructured observation is more open and the researcher focuses more on the whole experience.

#### 3.2 Interview

Another evaluation method that will be used in this study is conducting an interview. Interviews are post task evaluations in which the researcher asks the child how he or she would evaluate the tested product or device. This method is mostly used to investigate product acceptance. While focusing on product acceptance, the researcher for example asks if the product fulfilled the expectations and to what extent the child liked or disliked certain features. By conducting semi-structured interviews, the researcher can ask for elaboration on certain answers given or on events seen during observations. With the help of interviews it can be understood why a child likes and dislikes something and how he or she feels about the whole product



and experience. When formulating the questions, researchers should aim to use words that children use themselves. To make sure that the children in this study will understand the interview questions, the questions will be short and simple.

Interview of few teachers will also be taken to ascertain whether they are being compatible with the new upcoming technologies used for teaching or they are more inclined towards the old methods. A set of question would be asked to them accordingly to find out the desired results.

### 3.3 Survey

The third evaluation method that will be used for this study is conducting a survey. Most surveys that are used for evaluation these days are conducted via internet tools. However, surveys used for evaluating children are mostly paper-pencil surveys which children have to fill in themselves. The strength of this survey is that they gather quantitative data about the children's attitudes in a short period of time. In general, surveys are used to measure degree on how much children like or dislike something. Moreover, surveys are also very suitable to measure product acceptance and product usability. Special survey methods have been developed especially for children, since it is proven that younger children have difficulties reflecting on their attitudes and indicating degrees when filling out a traditional survey. The survey methods that are designed for young children present the answer options in a visual way, which make the degrees easier to understand. The results of the survey used in this study will therefore be checked for biases.

## IV. Findings

This section will describe the change in perceptions and in pedagogical practices as the two instructors and students moved from teaching face-to-face to online teaching over the period of last few years.

### 4.1 Present status of Education Methods

After taking the survey of students it was effectively analyzed that the education system which was gradually shifting towards the modern teaching techniques, with different ways of training like Smart classrooms, online presentations, zoom call classes, online activity classes for primary students, online practical & viva, webinars etc has gone through a tremendous transformation from past one year after the corona pandemic outbreak which resulted in full lockdown in numerous parts of the world.

Now the students have been used to this new format of education and examination and this have shown a new way to the schools and education authorities to induce and conduct education providing activities. There should not be any astonishment if we see this culture to continue in future as well even after the pandemic crisis is over.

### 4.2 Impact of ICT on recent Studying Methods

The findings indicated that a diversity of students was learning with ICT. There was evidence that some students were gaining benefit at all the key stages investigated. Evidence from the qualitative strands of the research strongly suggested that impact on the curriculum was greatest when learners' use of ICT was fully integrated across the curriculum as a whole through both classroom and home-based activities. Findings from the study covered some of aspects relating to the learning and ICT are listed as shown.

- Positive effects on school achievement for higher usage levels of ICT (based on student estimates of ICT activity) were found both at the level of the individual student and at the level of the school, although these were not large.
- The relationship between levels of ICT usage and effectiveness was not consistent across all key stages and subject areas at the school level.

- Students are engaging in innovative uses of technology often outside the school context and are acquiring a complex range of skills and knowledge in networked ICT, including a range of online social and communication skills.
- Many teachers have developed a complex understanding of the role of computers in the world today including a wide range of equipment and locations in which such technologies are used.
- The acceptance that networked technologies in schools are inevitable and beneficial is almost universal among teachers. However, many of them are as yet unsure as to the impact of ICT on attainment, although they acknowledge other benefits such as increased motivation and improved behavior.
- ICT is perceived to be particularly beneficial for pupils with special educational needs.
- Schools should concentrate their attention on using ICT in the teaching of curriculum subjects as an aid to improve attainment.
- Strategies for effective use of ICT resources, particularly searching on the Internet and use of ICT to support homework are still in development.

### 4.3 Ability of students and teachers to adapt new methods

It was found in the research that it is evidently easy for students or learners to engage more eagerly in the new form of studies in comparison with the teachers, because the students on one hand are going towards learning something new but teachers on the other hand have to again start getting themselves used to new forms of learning and have to catch up to the level of students. This is a big task ahead of those who are old fashioned teachers.

Most of the students who were part of the study, whether they may be good or average in studies, they had quick learning ability for how to get used to technology. Even they were keener to learn from these methods as compared to old methods. Primary students are also enjoying the new visual and activity based methods that are being used for tutoring them.

Post pandemic these methods have become the necessity of both the teachers and students to enroll themselves in this form of education whether they approve of it or not. But in most of the cases teachers' opinions were also analyzed that they also believe in the importance of change in methods of education, because with changing technology and evolution in modes of occupation being adaptable to ICT techniques is really important and it has somehow made the world very small. It can be admitted without hesitation that today any student can get knowledge about any topic from many accolade tutors in the world and get its doubt sorted.

### 4.4 Efficiency of new age methods over the traditional

New age learning methods is replacing traditional educational methods more and more each day. With how rapidly online and smart classrooms are emerging, it is best to forget methods one may remember from when they were in school and start thinking about newer teaching and learning techniques based on digital learning tools and technologies. The inclusion of modern learning in the classrooms can vary from simply using tablets instead of paper to using elaborate software programs and equipment as opposed to the simple pen.

Here is how teachers and students think new age learning is a step up from traditional education methods.

- Many teachers feel that learning tools and technology enable students to develop effective self-directed learning skills. They are able to identify what they need to learn, find and use online resources, apply the information on the problem at hand, and even evaluate resultant feedback. This increases their efficiency and productivity.
- In addition to engaging students, digital learning tools and technology sharpen critical thinking skills, which are the basis for the development of analytic reasoning. Children who explore open-ended



questions with imagination and logic learn how to make decisions, as opposed to just temporarily memorizing the textbook.

- Many students also develop positive feelings of accomplishment from mastering new knowledge and skills using digitized learning tools giving them the confidence they need to want to learn even more new things. It is commendable that millions of courses by the best educators are available for free to anyone with an internet connection. The possibilities are endless.
- Teachers had the opinion that since modern learning is far more interactive and memorable than voluminous textbooks or one-sided lectures, they provide better context, a greater sense of perspective, and more engaging activities than traditional education methods. This allows students to better connect with the learning material.
- Digital learning tools and technology enable educators to rapidly share information with other educators in real-time. The explosion of free and open content and tools has created an environment of sharing economy. By embracing digital devices and connected learning, classrooms around the country and around the globe can not only coordinate with one another to share insights but also boost learning, experience, and communications skills.
- New age education provides lesson planning tools for educators, making their tasks easier. Educators can also join online professional learning communities to ask questions and share tips and stay connected with a global educators' community. They can keep themselves updated with the most relevant content for their curriculum using such learning tools and technology.

#### 4.5 Positive & negative learning outcomes of transition in education system

Transition is a phase that seems difficult and no one wants it but with changing time and ages sometimes transition becomes an unavoidable necessity and so it has become for education system. Below is some finding regarding this after evaluating the perspective of both students and teachers.

##### *Positive Learning Outcomes:*

- Students can connect to any educator from any part of the world very easily through online mode and gain required insight, suggestion and knowledge.
- Primary Teachers get a lot of help through Smart Classrooms to explain things easily to young students as well as connect with them with help of lots of visual and audio content.
- The students with weak ability to learn faster get an opportunity to learn things more comfortably with help of smart classrooms in they way in which they can remember things for a longer period.

##### *Negative Learning Outcomes:*

- Traditional Learning methods are feel to be more engaging between the teacher & the student in terms of one to one interaction as the feedback or response to any question or doubt asked by the student can be received more quickly & efficiently and in the real time as well.
- Traditional methods involved gathering knowledge through books in spite of smart video modules which is believed by the respondents to be more authentic way of attaining proper in-depth knowledge of any subject.

### V. Conclusion

This paper explored the journey of teachers and students as they moved from face-to-face teaching to blended teaching to online teaching over a period of last decade. The instructors experienced a change in role and also a significant change in comfort level and acceptance of the effectiveness of online teaching and learning. The move to teaching online was a catalyst for the instructors to question and reflect on their

philosophy and practices about teaching. In this paper I made an effort to understand the concepts of different modes of teaching in new era with lots of new technologies, mostly after corona pandemic. I studied the literature of the traditional and modern teaching techniques and analyzed how much patterns and methods of studying have been changed drastically over the period of last few years.

The study aimed to investigate that if children learning outcomes are better when they are learning with an interactive learning method or when they were learning with a traditional method. The results showed that learning outcomes were significantly easier, comfortable, and resourceful in the modern new age learning condition in comparison to the traditional condition. Furthermore, this study aimed to test the attitudes of children and teachers towards the use of interactive technology for educational purposes. With the help of different evaluation methods, it was found that children hold more positive attitudes towards the interactive new age learning method than towards the traditional learning method. Teachers that were interviewed also held positive attitudes towards the use of technology for education, but only if the central role of teachers remains the same.

This finally leads me to suggest that as the work of academics moves from a largely face-to-face mode to blended and online modes they should be provided the opportunity to critically question their own practices and discuss with their peers the adoption of new pedagogical practices for the new teaching spaces. This may provide a better understanding of teaching and learning processes in the online environment. For this type of dialogue to be successful there needs to be a climate of support, the participants need to be receptive to feedback from their peers, and they should engage meaningfully in reflective practice.

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