SHIFTING FROM F2F TO ONLINE LEARNING

How does the shift from face-to-face/blended to online learning affect Students and Lecturers in time management and attention in their learning experience?

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Contents

Chapter 1 Introduction

How does the shift from face-to-face/blended to online learning affect Students and Lecturers in time management and attention in their learning experience?

1.1 Background and context to this study

This research study refers to the effects of students and lecturers learning experience when shifting from face-to face/blended learning to online learning.

Establishing the use of technology in education and considering the current circumstances of COVID-19 led the way of how we learn, requiring new skills to develop a distance learning activity as never before. Online learning educates our students differently from how it was previously done that is face-to-face and or blended learning.

Therefore, this research study aims to identify the effects on students and lecturers when shifting from face-to-face/ blended learning to online learning focusing on time management and learning experiences/practices.

To examine shifting effects an Evidence Based Practice (EBP) approach was applied to highlight the results and describe changes that effected time management, learning experiences and practises on both students and lecturers. This research also analyses primary data during the second semester periodic academic year 2019/2020, examining and describing the most common perceptions highlighted by the students.

The research indicates the efficacy of modalities that help to enhance students' knowledge related to performance and online communication.

This study addresses key considerations that bring us to discuss the need to a systematic teaching strategy especially for non-traditional students and lecturers.

Chapter 2 Literature Review

Introduction

Online learning differs from face-to-face (f2f) learning especially when it comes to communication and lesson delivery. When shifting from f2f to online learning the first thing several components need to be considered such as, how to connect, which platform to be used, how students and lecturers will adapt to online learning, managing time, implement appropriate online teaching practices and enhance an active contribution.

Mason 2011, cited in: (S Salter, 2017) states that in order to avoid a non-active online contribution *"a well-designed discussion framework and effective facilitation of discussions"* are to be implemented to improve interactive participation. The separation of synchronous and asynchronous communication will result in disengagement from both sides i.e. students, and lecturers.

Whiteley 2006, cited in: (S Salter, 2017) states that *"The temporal separation aligned to asynchronous learning results in a lack of momentum and focus for online participants which can negate engagement* .

Developing a communication strategy based on the key elements of asynchronous communication, promotes the exchange of information and sense of community. Liu et al., (2007) cited in: S. Salter (2017) states that *"Online discussions, however, despite their asynchronous nature, do provide a vehicle to promote a sense of community as well as enable the exchange of ideas and sharing of information."*

2.1 Students' needs

In this era of digitation, it is to believe that young people are digital native, *"research has shown that there is still a digital skills gap among students that require attention"* e.g. Goldhammer et al., (2016); Kaarakainen et al., (2017) cited in: (N. Bergdhal, 2019).

Aesaert et al., (2017); Johnson et al., (2016); Ng (2012) cited in: (N. Bergdhal, 2019) state that *"while students may appear to be digitally literate, they might not have the skills required in an educational context".*

The management factor is an important aspect of online learning and *"not all students have the digital skills needed to manage their education effectively"* Samuelsson (2014) cited in: (N. Bergdhal, 2019).

The primary components that make an effective e-learning environment need to "*include content delivery in multiple formats, management of the learning experience, a networked community of learners, and content developers and experts."* (Titthasiri, 2013)

A *"research to guide the adaptation and integration of new technology into the learning process can improve students' performance and boost success in the digital economy"* (Titthasiri, 2013).

Literature suggests a systematic means of digital education and a networked community of learners with a learning experience. A community of expertise in education will be able to adapt and integrate new technologies that can help students to acquire the necessary skills to manage time in an online learning environment and provide them with the necessary digital educational skills.

2.2 Time management and teaching practices

An e-learning environment provides time flexibility, comfort, and convenience of learning from home as well as 24/7 accessibility for students. All this brings more responsibility to the students for their learning that encourages self-directed learning. On the other hand, lecturers are to develop specific instructional design for conducive online learning.

Nafukho cited in: (Titthasiri, 2013) argues that *"Technology is only a facilitator; it cannot replace the teacher. There is still a need to investigate how E-Learning can be better designed for successful delivery and what kind of students are well suited for this E-Learning methodology."*

Online learning provides an equity space-time distribution among students that help them to adapt according to their circumstances, however, E-learning can be a challenge for those *"Learners who are more concrete, practical and oriented toward facts and procedures may feel uneasy in a web-based learning atmosphere"* Ku & Chang, (2011) cited in: (SAD, 2014).

Garrison, et al.; (2000), cited in: (G. J. Park, 2013)*"classify three elements of interaction between and among instructors and learners in online environments through which learning may occur: (1) cognitive presence, where participants' understanding or content is constructed through interactions with one another, (2) social presence, or the extent to which each participant can display unique personalities, considered to be essential in supporting cognitive presence, and (3) teaching presence, or facilitation, which involves the design and presentation of the content."*

This requires *"the facilitator to explicitly solicit additional feedback or comments with greater frequency and to invite comments related to a specific issue"* (G. J. Park, 2013)

2.3 Teachers Experiences

Online learning has a lack of social- interaction when compared with f2f learning. This may lead to high dropout rates and an increase in failure rates. The New York Times - Editorial, (2013); Xu and Jaggars, (2013) cited in: (J.R. Van Droon, 2014) published *"Columbia University's Community College Research Centre conducted a 5-year study and found that among 51,000 students taking both f2f and online courses, higher failure rates occurred with the students who took online courses."* In addition, results show that *"university dropout rates, coupled with the need for student retention, has led to research evidence suggesting that different student profiles do exist, and maybe these student cohorts have culturally different ways of learning."*

Lecturers need to evaluate with accuracy based on a clear instructional design ensuring accessibility and usability for different learning styles. Varvel, (2007), cited in: (S. Kumar, 2019) state that *"Instructors also need to evaluate the instructional effectiveness and value of learning resources, ensuring those selected align to the given context, curriculum, and outcomes, and instructors must adjust materials based on credibility, clarity, validity, reliability, accuracy, currency, accessibility, usability, and quality of course resources "*

2.4 Evidenced Base Practice (EBP) research approach.

Snow (2019) argues that *"evidence-based practice' refers to the collection of data on the performance of individual students, so that teachers can (a) monitor their progress and (b) make educational adjustments, such as the provision of extra supports if needed."*

This research study applies EBP methodology to collect data supporting credibility, clarity, validity, reliability and accuracy focusing on students' perceptions, time management and teaching experiences with the aim to propose online learning adjustments for a better communication structure, teaching practice and time management.

This exercise will contribute to identify best synchronous and asynchronous methods for online learning and evaluate other elements such as teaching experiences, teaching practices and time management for a more rigorous online learning approach. Referring to the literature review the research study will apply EBP approach by implementing a systematic review examining (a) students' perceptions, (b) intervention, (c) comparison (d) outcome.

Chapter 3 Methodology

The objective of this research study is to re-evaluate online learning structure and investigate the shift from Face-to-Face (f2f)/blended learning to Online Learning, by focusing on students' perceptions, teaching experiences/practices and time management, with the aim to describe recommendations for an efficient online learning path strategy.

3.1 Research Strategy

The research study applies a qualitative Evidence-Based Practice (EBP) methodology. EBP literature identifies relevant data that distinguish methods of delivery between f2f and online learning as well as describe recommendations. Primary data was collected to analyse students' perceptions, time management, and teaching experiences/practices.

The EBP approach will apply a veridical concept approach for this research study. *"David Hargreaves, in his now (in)famous TTA (Teacher Training Agency) lecture in 1996, expresses views akin to veridical evidence."*. He argues that a veridical evidence approach *"demonstrates conclusively that if teachers change their practice from x to y there will be a significant and enduring improvement in teaching and learning, and (ii) has developed an effective method of convincing teachers of the benefits of, and means to, changing from x to y"* David Hargreaves, cited in; (Kvernbekk, 2016)

The aim of this study is not to propose pedagogical changes, however, to describe recommendations based on changes that are to be adapted for the efficacy of online learning. Veridical EPB strengthens the objectivity of this research. The latter identifies changes from *x to y* variable which are necessary for an efficient online learning structure.

3.2 Study Selection

Articles associated with the keywords, time management, teaching practices/experiences, students' feedback, f2f, and online learning, were carefully screened for eligibility. Articles and records were researched for relevancy in accordance to the criteria required. A rigorous review between two researchers was completed to identify any consistency and inconsistency for the final inclusion criteria of selected literature.

The study selection strategy followed the PRISMA (BMJ, 2009) statement guidelines as follows:

- ***Identification:*** *Number of records identified through database research.*
- ***Screening:*** *Number of records after duplicates removed and number of records excluded.*
- ***Eligibility:*** *Number of full-text articles assessed for eligibility.*
- ***Included:*** *Number of studies included in the qualitative synthesis.*

The databases PubMed National Library of Medicine, ERIC Institute of Education Sciences, Research Gate and Academia.edu were searched using the keywords "shift", "transition", "face-to-face/ blended learning", "online learning", "teaching experience", "teaching practices" "technology" and "time management". The research yielded 20 articles; 13 articles were excluded because of inconsistency between reviewers and no accurate relevance was associated with the research study. 6 articles (30% of the total review) were appraised and examined as a medium to high-quality relevancy, in which two of the papers are specifically related to COVID – 19 current situations related to online learning. Refer to *"Figure 12 Systematic Review list"* in appendices.

3.3 Data Collection and Conceptual Framework

This research study applies the PICO model to collect data using the following framework.

P	I	C	O
Problem	Intervention	Comparison	Outcome
Examining the shift from f2f to online learning to identify inefficiencies in teaching practices and time management.	Analyse primary data to collect students' perceptions and teaching experiences. Secondary data (EBP). Rigorous research to examine shift from f2f to online learning focusing on time management and teaching practices.	Shifting experiences through EBP, focusing on teaching practices and time management sustained with primary data.	Describing recommendations for a better online adaptation teaching and learning experience.

Table 1Table 1: Source Website of Northern Arizona University 2020

3.4 PICO Process

The PICO model will support a mechanism of rigorous research which will incorporate relevant and specific primary data to answer the research question that is;

"How does the shift from face-to-face/blended to online learning affect Students and Lecturers in time management and attention in their learning experience?"

Pamela Snow, (2019 p.?) argues that *"evidence-based practice' refers to the collection of data on the performance of individual students, so that teachers can (a) monitor their progress and (b) make educational adjustments, such as the provision of extra supports if needed."*

In this case EBP will collect data identifying adjustments for online learning adaptation when compared with f2f/blended learning such as teaching experiences/practices and time management. A systematic review will be used for a statistical report to summarise the results of this study and ensure an updated pedagogical practice that examines the problem, investigates and compares data, and describes the outcomes.

Glass *et al*., (1981) and Hunter *et al*., (1982); cited in (L.Cohen, et al., 2007) suggest eight steps in the procedure of meta-analysis. Since this is a small-scale study this research will focus on the first three steps:

"1. Identify the variables for focus (independent and dependent). Which variables are:

(a) Students' perceptions (b) Lecturers' experiences/practices (c) Time management.

2. Identify all the studies which feature the variables in which the researcher is interested. Six articles were identified and examined as high to medium quality, in which one paper is specifically related to COVID – 19 learning strategies.

3 Code each study for those characteristics that might be predictors of outcomes and

effect sizes." A Meta-analysis of primary and secondary data will be completed to describing recommendations.

3.5 Validity and Reliability

L. Cohen, et al., (2007) state that *"Threats to validity and reliability can never be erased completely; rather the effects of these threats can be attenuated by attention to validity and reliability throughout a piece of research".*

This study is to gather primary data from reliable sources and will rigorously examine relevant and specific evidence to reduce as much as possible the lack of validity and reliability.

3.5.1 Primary data

This study gathered primary data through a survey involving *n=15* participants. Participants were randomly chosen from a total of 30 students with an average age of 18 years. The sample size has a male prevalence of 80%. All participants are ICT students following an Advanced Diploma in IT. The unit taught during this study is Web Design. The survey will measure students' perceptions with regards to General issues, Communication, Time structure, Multimodalities resources, and Assistance. Due to the reality of COVID-19, a contingency for the limitation of sample size was planned.

L. Cohen, et al., (2007); argues that *"External validity refer to the degree to which the results can be generalized to the wider population, cases or situations."* Secondary data will be referred to as an external validity to strengthen reliability of the primary data collected. Synchronous and asynchronous online teaching sessions will be analysed and integrated with the EBP's final report.

3.5.2 Secondary data

"The foundation of good research and of good decision making in EBP is trustworthiness" (Eldridge, 2020).

Eldridge, (2020); defines reliability "*as the consistency or repeatability of test results. And Validity as the degree to which the results are truthful".*

Relevant articles were accurately selected to provide a degree of validation and truthfulness. To ensure consistency articles were repeatedly reviewed by two researchers to determine which articles meet the inclusion criteria linked to this study. A further review was done to determine the exclusion of irrelevant studies.

All included literature are available as full text and a data extraction sheet will be developed and included in the final report. A systematic review will be compiled according to a Critical Appraisal Skills Programme (CASP) checklist to provide a descriptive synthesis of the findings.

Ethical Procedures

- A full identity background of the researcher will be presented to the Director of MCAST ICT Institute.
- Information sheet will be presented to the director of MCAST ICT Institute for approval.
- The director will receive a draft copy of the theoretical tests.
- The above qualitative ethical procedures are in accordance with the EU ethical guidelines Commission, (2007), ethical considerations vis-à-vis MCAST code of practice presented by MCAST (MCAST, 2019).

Chapter 4 Data Analysis and Reflective Discussion

This chapter examines students' perceptions towards online learning deriving from primary data and a reflective discussion by applying EBP that included the keywords: students' perception, lecturers' experiences, lecturers' practices, and time management. This analysis and discussion intend to describe best practices of teaching and learning, and the timing of synchronous and asynchronous communications.

After the students have completed their first assignment, an online survey was conducted to collect primary data to analyse students' perceptions related to online learning. During the delivery of online lessons and assessments, Microsoft Teams was used as the main channel of synchronous and asynchronous communication platform and MOODLE as the main learning Management System (LMS) platform. An online questionnaire was submitted to the students to define the following variables: - general issues, communication, time structure, multimodalities resources, and assistance.

The sample size targeted *n=15,* however, *n=13* responses were collected.

4.1 Students' Perceptions Analysis

1.Do you think you have sufficient training and guidance in the use of online / blending learning methods?

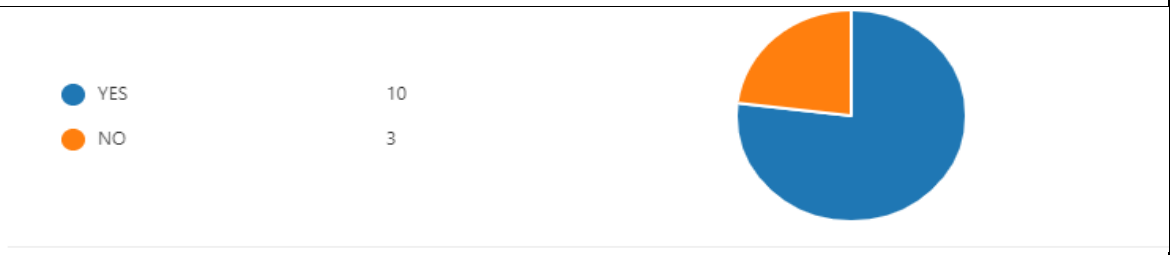

Figure 1

Most of the students answered that they have sufficient knowledge with regards to the use of online/blended learning. It is to be considered that all students are ICT students; therefore, it is assumed that the use of online/blended learning should not be an issue and that the 3 students answering *"no"* might support the variable of having learning difficulties. Referring to literature review Samuelsson (2014) cited in (N. Bergdhal, 2019) states that *"not all students have the digital skills needed to manage their education effectively"*. Even though students are digital native this doesn't mean that they can use educational technology and or manage effectively their studies independently, especially in circumstances where they need to be responsible for their own learning path such as learning online.

2. If you answered NO for question 1 please state what type of training would you like to have. No responses

3. Which type of media helps you to understand better online/blended lessons?

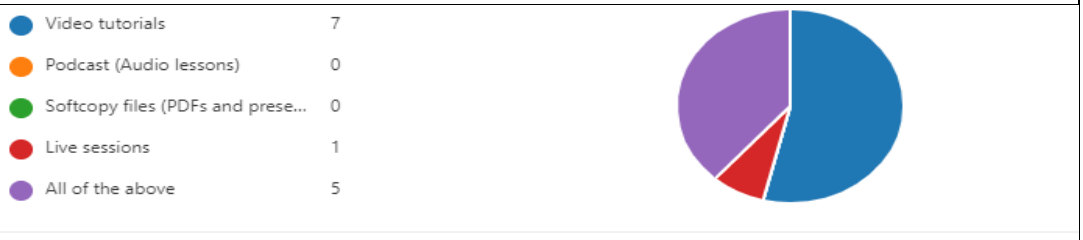

Figure 2

Results gathered from Question 3 inevitably show that students prefer multimodality communication with a slight preference for video lessons. One of the students argued that *"More video tutorials* [are preferred], *instead of live sessions as it can be watched at any time you want and it is more informative."*

4.What was the MOST effective aspect of using online/ blended learning?

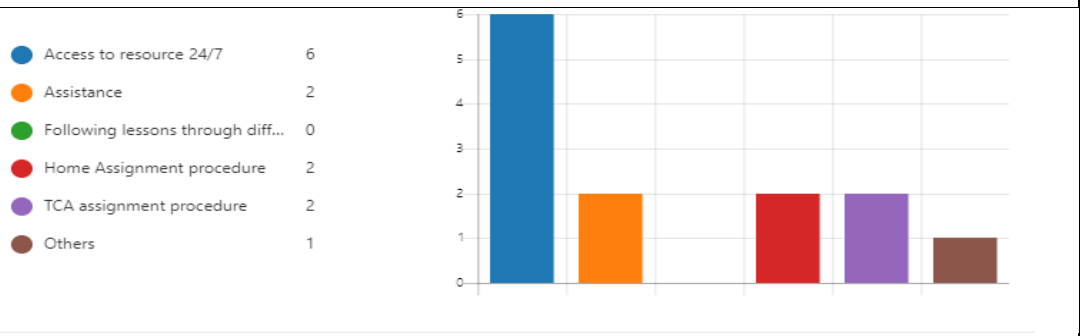

Figure 3

The response of this question demonstrates that time plays an important role and students are concerned that they can access resources 24/7, however, this doesn't mean that they are assisted 24/7 or that the lessons are structured in a way to be delivered 24/7. It is not a coincidence that assistance and other methods of delivery produced a low response. This demonstrates that a framework structure needs to be designed. Mason (2011), cited in (S Salter, 2017) states that to avoid a non-active online contribution *"a well-designed discussion framework and effective facilitation of discussions. Need to be implemented to improve interactive participation."*

5. If your answer to question 4 was others mention at last one. No response

6. What was the LEAST effective aspect of using of blended learning as a teaching method?

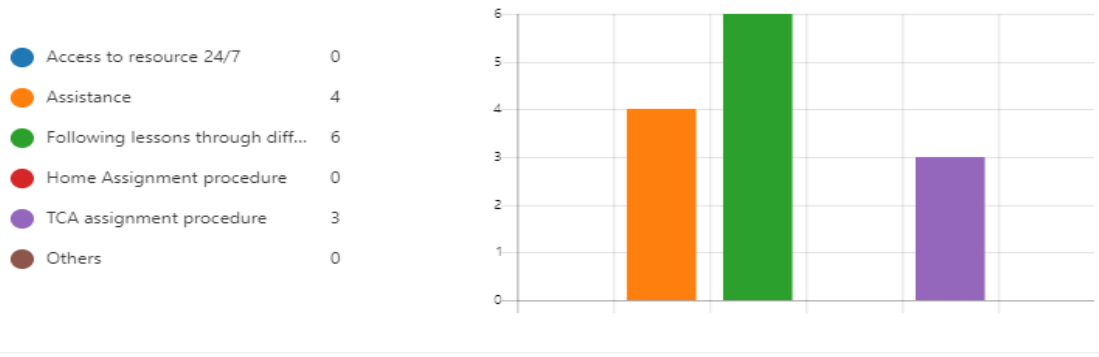

Figure 4

Results for question 6 support responses in question 4 that is; access to sources 24/7 are effective but there is lack of assistance and use of technology tool. In this case Interoperability can provide a better online educational structure reducing margin of errors, costs and improves teaching experience.

7. If your answer to question 6 was others mention at last one. No response

8. When comparing lessons to the traditional teaching in the classroom, how would you describe the QUALITY OF coursework in general?

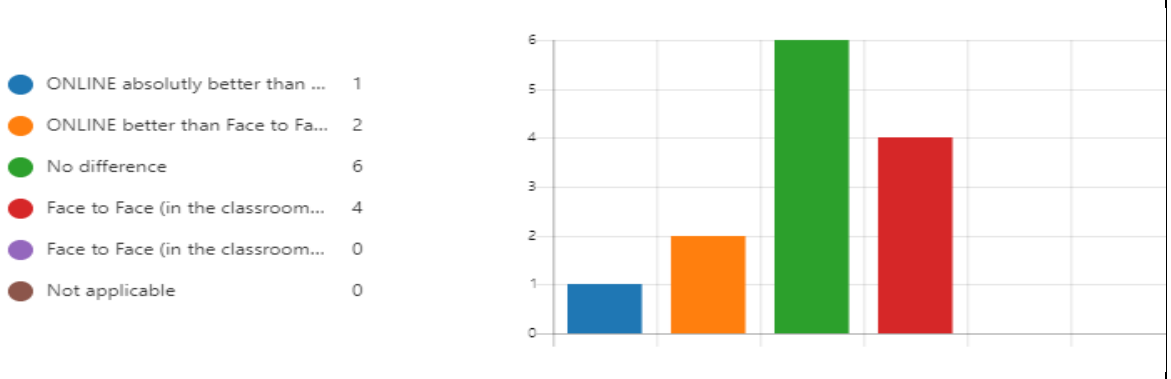

Figure 5

This outcome supports Varvel, (2007), cited in: (S. Kumar, 2019) stating that *"Instructors also need to evaluate the instructional effectiveness and value of learning resources, ensuring those selected align to the given context, curriculum, and outcomes, and instructors must adjust materials based on credibility, clarity, validity, reliability, accuracy, currency, accessibility, usability, and quality of course resources."*

The students' responses are balanced between *"f2f"* and *"no difference"*. This tends to demonstrate that students are not sceptic about the method of delivery, in a state of fact the highest response indicates *"no difference"*. Results show that the real concern is a proper instructional design that applies a proper methodology adapted for all students involved.

9. What type of teaching method do you prefer?

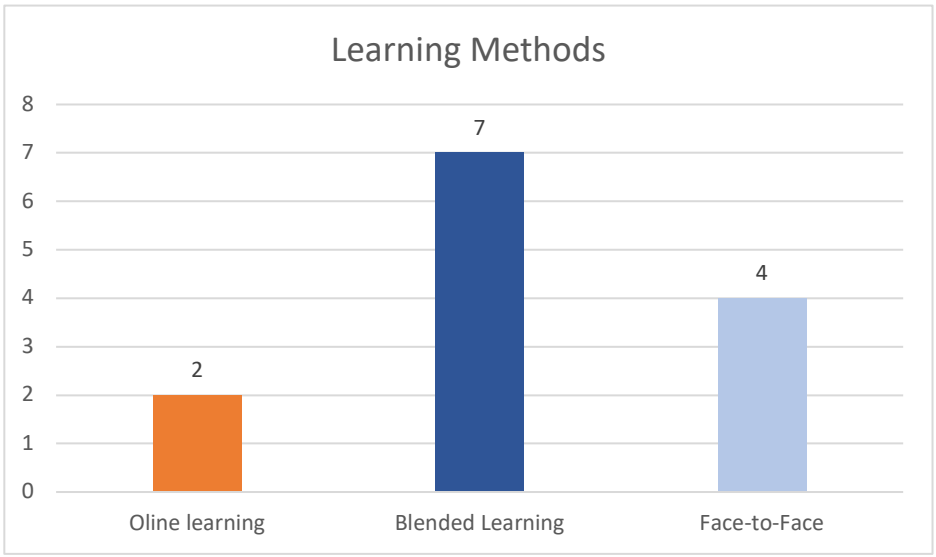

Figure 6

The results above provide enough evidence that students prefer blended learning. This response stands to demonstrate what Aesaert et al., (2017); Johnson et al., (2016); Ng (2012) cited in: (N. Bergdhal, 2019) argue that *"while students may appear to be*

digitally literate, they might not have the skills required in an educational context".

Considering that participants are ICT students therefore not only digitally native but also digitally and technologically literate, shows that is not about the knowledge of using technology but in which context technology is to be used.

10. Due to the extraordinary circumstances, online lessons had to take place and communication changed its form What type of communication you prefer with your lecturer

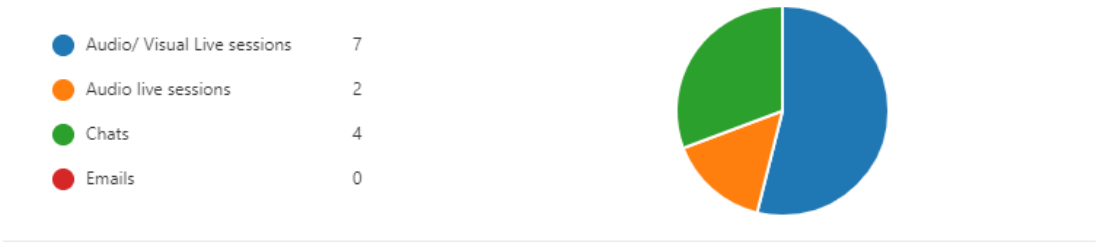

Figure 7

The responses show a preference towards synchronous communication, however asynchronous is not being discarded, chats are also acceptable. The outcome of this response supports Whiteley 2006, cited in: (S Salter, 2017) stating that *"The temporal separation aligned to asynchronous learning results in a lack of momentum and focus for online participants which can negate engagement."* This argument demonstrates that even though students are aware of different ways of communication (due to competencies in digital literacy) they still prefer real-time communication which makes them feel more assisted by their Lecturer.

11. Which is the appropriate time for an online lesson?

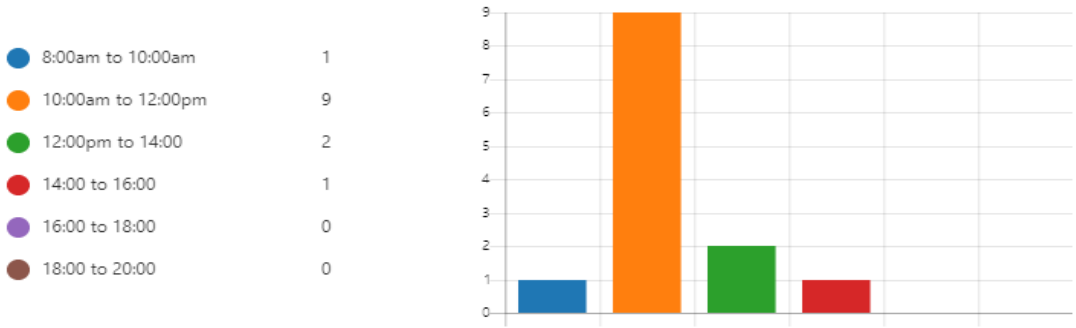

Figure 8

Results deriving from Question 11 show that students are quite selective in their preferred time for learning which is from 10:00am to 12:00pm. This question provides enough evidence that students do not like to wake up early and do not like to work late in the afternoon.

12. Mark the difficulties that most created issues to follow online lessons.

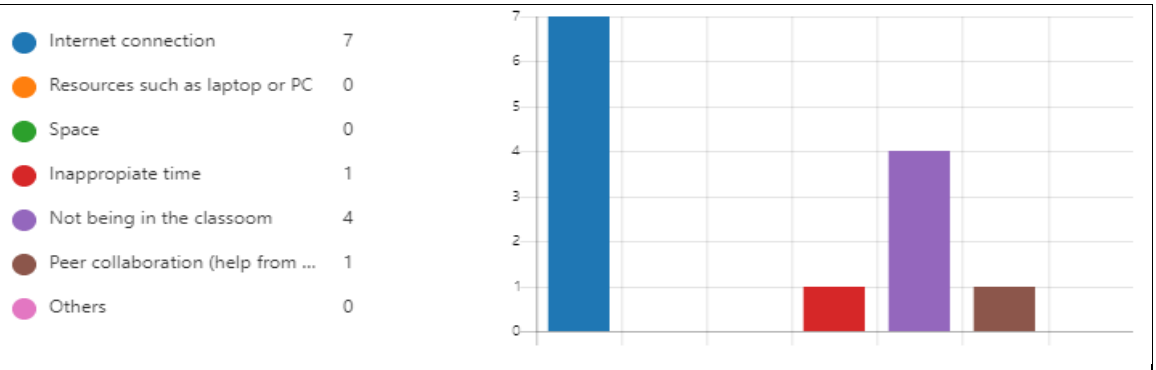

Figure 9

The results clearly show that there are no issues with regards to technology devices. Students' main issues are internet connectivity and not being in a classroom. This confirms that students are concerned about the lack of proper communication and assistance during online lessons. Referring to question 4 *(What is the MOST effective aspect of using online/ blended learning)* Assistance, was very low, which stands to demonstrate the students' concern with regards to Lecturers' assistance.

13. If you answered others in question 13 mention at least two issues. No response

14. If the next scholastic year lessons have to be delivered online what would like to change?

Students' Comments

- *More Communication and a fixed time table.*
- *More immersive feedback. Since we are not in the classrooms, we need more detailed explanations then before.*

- *More live session or at least video tutorial, since there is voice and visual aid it's much easier to understand.*
- *Attitude of teachers and take things seriously.*
- *Keep it face to face lesson.*
- *Better methods to contact teachers.*
- *Lecture timing was a bit more flexible; it would be appreciated.*
- *We will have a timetable like school and we will do daily online lessons.*
- *More video tutorials, instead of live sessions as it can be watched at any time you want and it is more informative.*
- *Help from teachers.*
- *Proper help, guidance and assistance from all lecturers.*
- *Would like it if there was a fixed timetable that you can also find on Classter.*

The keywords mostly repeated from the students in their comments are:
Fixed timetable, live sessions, visual communication, video tutorials, and Lecturers' assistance. Students' comments indicate that focusing on a consistent timetable, frequent synchronous communication and feedback including good video tutorials, will adapt to their online learning needs. Students 'comments re-confirm the need for assistance and a structured online system based on a fixed time and an effective communication strategy.

15. How would you rate the online sessions for this scholastic year?

4.1 Overview Students' Perceptions Analysis

If e-Learning environments are to be considered as part of our daily teaching and learning method without any doubt a system needs to be implemented. The students pointed out the need for a structured system and consistent time frame. Based on the survey analysis and literature review being digitally native or digitally literate does not mean that a student can manage online learning effectively. Students brought up 5 main factors that need to be taken into consideration while designing an online learning system.

1 Frequent and consistent synchronous communication;

2 Fixed timetables;

3 Visual/audio live lessons and sessions;

4 Audio/video resources of good quality;

5 Good internet connectivity.

Chapter 5 EBP Reflective Discussion

Introduction

This reflective discussion investigates the changes that transpire when shifting from face-to-face to online learning, focusing on the keywords; students' perceptions, lecturers' experience/practices, and time management. The research applies a systematic review methodology that yielded 20 articles of which 13 articles were excluded and 6 articles included (30% of the total review). The *"Systematic Review Table Figure 12"* (Refer to Appendices) provides details of the selected articles including reasons for inclusion and exclusion.

5.1 Students' Voice

During a f2f lesson, feedback becomes spontaneous, through verbal communication with the potential of developing further discussions. Online learning tends to weaken this pedagogical relationship between the lecture and the students. Students' perceptions show the importance of the lectures' presence during online learning asking for constant feedback and clarifications to answer their difficulties. Another important concern raised by students is the social aspect. Online learning is not a social media environment which by default tends to become a formal type of communication which might create a barrier between the Lecturer-Students social relationship. The study demonstrates that students need a sense of social presence which makes the online learning environment more interactive between lecturers and students. Sharing informal information such as the lecturers' and students' backgrounds

and providing interactive exercises based on gamification methods, stimulates activities and strengthen online Lecturer- Students social relationship.

The study shows that students' perception with regards to time is totally in favour of a fixed time-table and structured time-frame. A proper timeframe will produce a logical flow of lessons on a regular basis and timely manner to reinforce students' learning providing proper outcomes and expectations for students to achieve the knowledge and skills required.

5.2 Teaching Experiences and Practices

Rogers, 1983 cited in (TEAL Centre, 2010) defines student-centred learning *"as an approach to learning in which learners choose not only what to study but also how and why that topic might be of interest"* When shifting to online learning the concept of student-centred approach must be supported with flexible learning to define; "*how and why that topic might be of interest."*

To put in practice the definition of how and why the subject taught might be of interest, proper timelines and guidelines must be established by planning and designing structured activities and identify appropriate learning platforms.

Limiting the number of students during online sessions will help to monitor students effectively and actively involving them during online activities stimulating interest in the subject taught.

Compared to f2f courses online courses require more planning. In a f2f human communication enables a smooth connection with students and knowledge is perceptible to transfer. Online courses need thorough preparation and planning before the start of the course because every instruction needs to be interpreted in a variety of methods and multimodal tools for the development of appropriate and relevant teaching and learning resources.

Online learning puts more responsibility and pressure on students for their learning. The development of assignments plays an important role. This study reveals that students' perceptions mainly focuses on constant feedback and online social environment. An unbalanced summative evaluation also Time Constrained Assignments (TCAs) tend to go against the social and frequent communication between students and lecturers moving towards distance learning rather than online learning. A balance of formative and summative assessment needs to be developed based on continuous assessment framework in order to stimulate communication and enhance an online Lecturer-Students social relationship.

5.4 Time Management

Constant and frequent feedback to answer students' questions and clarify other matters, requires the Lecturer's presence even after normal working hours and can become intensive both for the Lecturer and for the Students. The first step is to provide a timeframe for a structured synchronous and asynchronous communication. Research study shows that age is one of the main factors that affects the teaching-learning time cycle. Young students typically prefer morning and early afternoon online sessions rather than evening online sessions. While

older students prefer afternoon and evening sessions and adult students evening sessions and distance learning.

PLOS one published a Journal article including a study which demonstrates how age factor modifies learning time cycle as shown in the graph below:

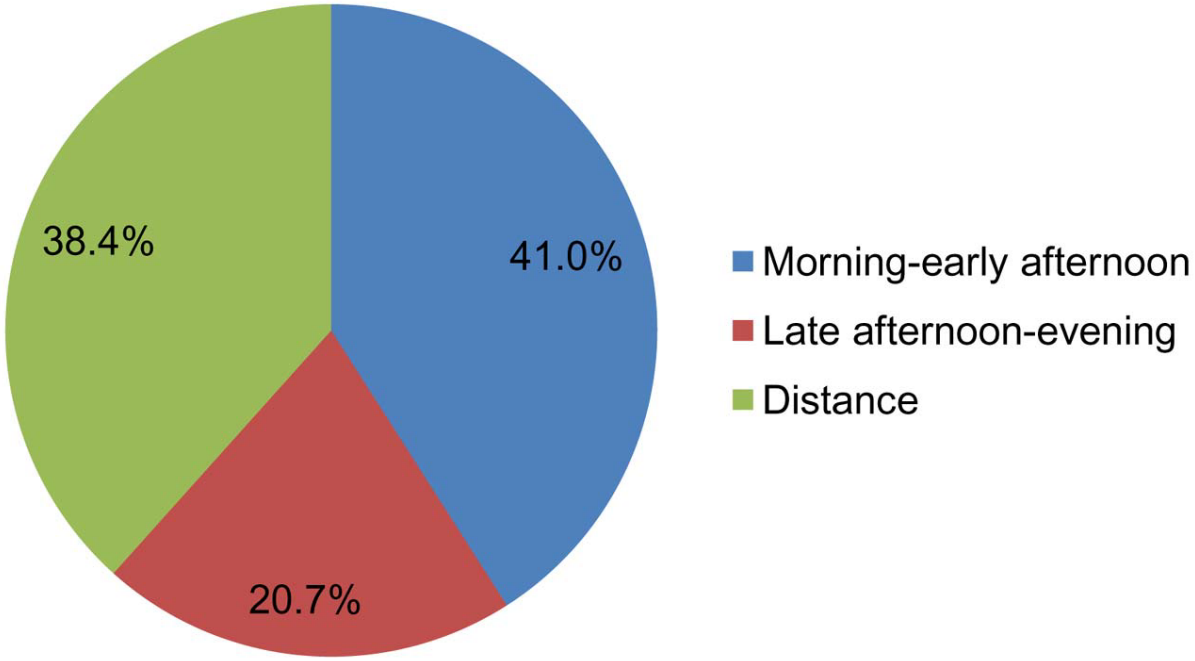

Figure 10:doi:10.1371/journal.pone. 0096052.g001

(Soblechero, et al., 2014)

The study enrolled 1,133 students with an age variable ranging from 15 and 58 years. Results show that morning early afternoon classes the age variable is 18 years, for late afternoon-evening the age variable is 21 years, and distance learning average age 25 years.
This supports the data collected through the survey related to Question 26www. students (with average age 18 years) "*Which is the appropriate time for an online lesson?"* They opted 10:00 am to 12:pm falling under the morning-early-afternoon category.

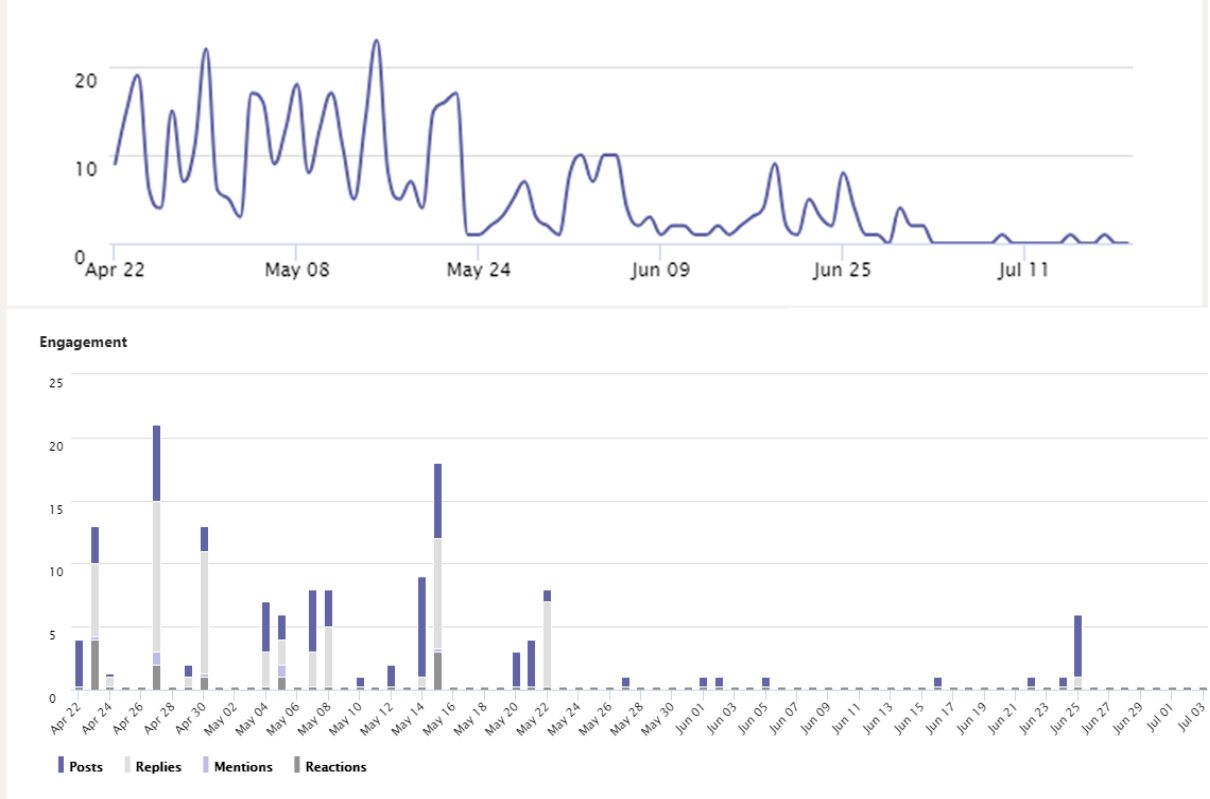

Figure 11 Microsoft Teams Graphs

The graphs above present 90 days records of online sessions held via Microsoft Teams during COVID-19 lockdown with ICT students average age 18 years. The highest points of engagement, measuring posts, replies, mentions, and reactions are during morning sessions form 8:00 am to 13:00.

- Monday, April 27th live session 8:00 am to 10:00 am
- Thursday, April 30th live session 10:00 am to 12 pm
- Friday 8th May live session 12:00 pm to 13:30
- Friday 15th May live session 10:00 to 12:00 pm
- Thursday 21st May live session 12:00 pm to 13:30

In June 2020, assignments were issued and the only assistance offered for clarifications and difficulties were related to assignment. This is the reason why the graph shows a low activity during the month of June. The outcome results support the study published in May 2014 by PLOS one Journal article.

The age factor also affects the lecturers' time-frame. May et al, (1993) cited in (Gernsbacher, 2015) states that *"The older we get, the earlier in the day we find our peak time for performance."* On the other hand, the American Academy of Pediatrics, (2014); cited in (Gernsbacher, 2015) states that *"Even if students have tried to get a good night of sleep, their biology dictates against morning hours".* This contradicts the results presented and discussed in the previous section of this study demonstrating that students prefer morning hours rather than afternoon hours, however, the American Academy of Paediatrics didn't indicate a specific time in the morning while data collected from students identify a specific time in the morning (figure 8) that is; 10:00 am to 12:00 pm. Given this scenario, lecturers can prepare online material early in the morning and publish lessons during students' peak time. For example, lectures can be prepared from 8:00 am to 10:00 am and live sessions can be held from 10:30 am to 12:30 pm.

A fixed timetable was one of the students' expectations, a structured timetable can help to capitalize on an optimal time and at the same time students can be self-directed to make the most of their own time.

Chapter 5 Conclusion and Recommendations

5.1 Recommendations

In the space of 3 weeks, all lectures from the classroom shifted to online learning. The COVID-19 condition has accelerated the trend towards online education and raised more fundamental questions.

During this academic year, the feeling of physical distance has been reduced, students and lecturers had to adapt to online learning facing different challenges. One of the main challenges that students had to face was a slow internet connection or no internet connection at all.

Planning and designing online courses has become a fundamental factor given the circumstances not only from an instructional design point of view but also from an infrastructure point of view. The research indicates that planning and designing online teaching and learning is essential especially for the future which leads to education 4.0.

Teaching in a classroom and teaching online requires different strategies and teachers that are not familiar with online learning and the use of Learning Management Systems (LMS) should be allowed appropriate training and practice. The lack of standardization, training, and knowledge left many lecturers overwhelmed resulting in a vast number of lessons without timeframe structure, resulting with building up pressure.

Lecturers have to exploit whatever resources the college already has, including collaboration with lecturers to reduce the learning curve period and provide students with appropriate online resources so to facilitate online delivery.

To maintain continuity, it should be clear when lecturers and students need to be logged in, a structured timeframe and fixed timetable ideally during peak time should be planned. Peak time can vary for different reasons; this research shows that age is the main factor that affects time, research indicates that students average age 18 years prefer peak time for learning

between 10:00 am to 12:00 pm. Some colleges and universities set a morning live session/lesson and students have the afternoons to work independently assisted by lecturers during their lesson hours.

Students learn differently and the use of technology for delivering lessons is another important factor. The use of audio and visual modalities can be used synchronously and asynchronously. Results show that students prefer audio-visual live sessions, this is an example of synchronous audio-visual modality, they also prefer video tutorials this is an asynchronous method of audio-visual modality. Different formats of delivery with the use of multimodalities need to be appropriately mapped according to different learning needs to reach out to all students and avoid dropouts.

5.2 Conclusion

Because of the circumstances, the future is unpredictable and changes constantly require appropriate adaptations and updates. Education is no exception. We need to plan and adapt to

different strategies of teaching and learning. The COVID-19 situation accelerated the process of virtual learning and most of us were caught unprepared. Three scenarios that can happen in the coming future are:

1. In September the college can open its physical doors welcoming f2f learning again.
2. If the pandemic will extend through December 2021, in this case education has to be virtually prepared.
3. A more complicated scenario could be multiple waves of the pandemic and the college will have to switch back and forth from virtual to f2f.

The study indicates that online learning strategy needs to be implemented immaterial of the circumstances because the future shows clearly that technology will play an important role in education and industry environments this force us to be prepared for any eventuality.

It is of the utmost importance to design an online learning strategy that reflects upon the College Mission Statement *"To provide universally accessible vocational and professional education and training with an international dimension, responsive to the needs of the individual and the economy."*

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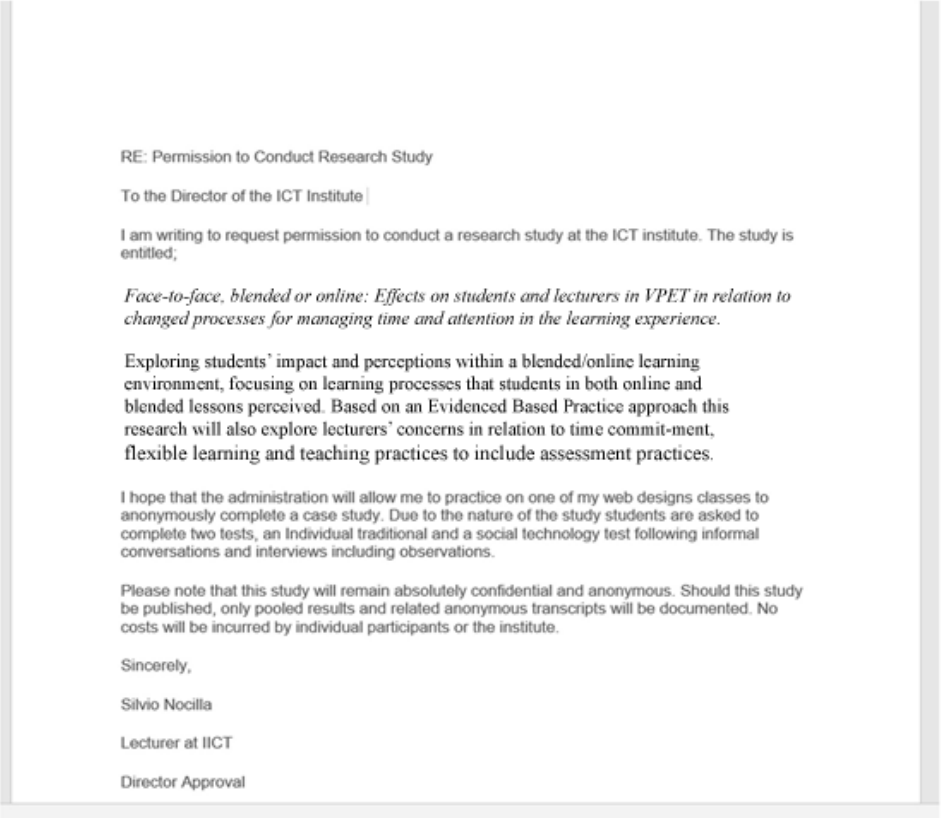
Appendices



RE: Permission to Conduct Research Study

To the Director of the ICT Institute

I am writing to request permission to conduct a research study at the ICT institute. The study is entitled;

Face-to-face, blended or online: Effects on students and lecturers in VPET in relation to changed processes for managing time and attention in the learning experience.

Exploring students' impact and perceptions within a blended/online learning environment, focusing on learning processes that students in both online and blended lessons perceived. Based on an Evidenced Based Practice approach this research will also explore lecturers' concerns in relation to time commit-ment, flexible learning and teaching practices to include assessment practices.

I hope that the administration will allow me to practice on one of my web designs classes to anonymously complete a case study. Due to the nature of the study students are asked to complete two tests, an Individual traditional and a social technology test following informal conversations and interviews including observations.

Please note that this study will remain absolutely confidential and anonymous. Should this study be published, only pooled results and related anonymous transcripts will be documented. No costs will be incurred by individual participants or the institute.

Sincerely,

Silvio Nocilla

Lecturer at IICT

Director Approval

[Link to Survey Questions]

Figure 12 Systematic review List

Include / Exclude	Title & Article Details	Reason
Excluded	The Costs of Online Learning: Examining Differences in Motivation and Academic Outcomes in Online and Face-to-Face Community College Developmental Mathematics Courses. (M.K. Francis, S.V Wormington asn C. Hulleman, Curry School of Education and Human Development, University of Virginia, Charlottesville, VA, United States, 2019)	The article doesn't focus on the specific research study keywords, even though there is slight relevance with regards to students' motivation. The article focuses on the community of practice based on a specific unit (Mathematics). The objective of this research study is to examine efficacy related to student teachers in the context of time management, experiences, and practices.
Excluded	A Comparison of E-Learning and Traditional Learning: Experimental Approach. (Asst.Prof., Dr. Wanwipa Titthasiri, Department of Computer Science Faculty of Information Technology, Rangsit University PathumThani, Thailand, 2013)	This article focuses on students' achievements and performance comparing f2f and online learning. The relevance of this article doesn't justify the inclusion of this article since it focuses on eLearning compared to traditional learning. The research study is not investigating the differences between online learning and traditional learning but the best adaptation of learning when shifting from f2f to online learning..
Excluded	A COMPARISON OF STUDENT VIEWS ON WEB-BASED AND FACE-TO-FACE HIGHER EDUCATION. (Suleyman Nihat SAD Corresponding Author Curriculum and Instruction, Faculty of Education, Inonu University, Malatya, TURKEY, Ozlem GOKTAS Doctoral Student, Curriculum and Instruction, Faculty of Education, Inonu University, Malatya, TURKEY, Ilhami BAYRAK Doctoral Student, Curriculum and Instruction, Faculty of Education, Inonu University, Malatya, TURKEY, 2014)	The article focuses mostly on students' perceptions of online learning and f2f. Even though students' perceptions are part of this study the article's relevancy doesn't' cover other aspects of this research study such as; *time management and teaching experiences/practices.*
Included	A comparative study of classroom and online distance modes of official vocational educationLópez (Soblechero MV, González Gaya C, Hernández Ramírez JJ. and training. PLoS One. 2014)	The relevancy of this article covers almost all of the criteria specifically addressed to Vocational Education shift from f2f to online learning which is highly linked to this research study which is also based on Vocational Education. **(High relevancy)**
Excluded	Examining the Roles of the Facilitator in Online and Face-to-Face PD Contexts. (Gina J. Park University of Michigan, Heather Johnson Vanderbilt University, Richard J. Vath The University of Michigan, USA vathrich@umich.edu,Beth W. Kubitskey Eastern Michigan University, USA mkubitske1@emich.edu, Barry J. Fishman The University of Michigan, USA fishman@umich.edu, 2013)	This article focuses on teacher experiences and practices and covers the criteria related to the role of teaching experience as well as practices for online and f2f. This is just one of the main criteria to be examined in this research study. The data analyzed in this article is not enough relevant for this research.

Excluded	Face-to-face or Face-To-Screen? Undergraduates' Opinions and Test Performance in Classroom vs. Online Learning. (Nenagh Kemp and Rachel Grieve, 2014)	This article addresses students' opinions examining advantages and disadvantages when comparing f2f to online learning. The content of this article is not relevant for this research study since most of the results concern students' preferences online learning vis a vis F2F.
Excluded	Disengagement, engagement and digital skills in technology-enhanced learning. (Nina Bergdahl, Jalal Nouri & Uno Fors, 2019)	This article focuses on the use of technology by students and the issues of the digital skills gap. The main criteria covered in this article are students' eagerness for the use of digital technology and the difference between using technology for learning and technology for other purposes such as social media and entertainment.
Excluded	Comparing face-to-face and asynchronous online communication as mechanisms for critical reflective dialogue. (School of Health Sciences, Faculty of Health, University of Tasmania, Launceston, Australia Correspondence S.Salter@utas.edu.au ,Tracy Douglas &David Kember, 2016)	This article aims to compare f2f and asynchronous communication with an emphasis on communication modes. This is only a part of the criteria to be covered through this research study, however, this article doesn't cover topics such as *time management and teaching experiences/practices.*
Excluded	Online Education Today (A. Frank Mayadas1, John Bourne, Paul Bacsich, 2009)	This article examines the economical aspect of online learning and the necessity of online learning. The approach of this research doesn't meet the criteria for this research study. The objective of this research study is to demonstrate how and when to use online learning with efficacy rather than the economical aspect of online learning.
Excluded	Student perceptions and learning outcomes of blended learning in a massive first-year core physiology for allied health subjects. (Janelle Page , Terri Meehan-Andrews , Nivan Weerakkody 1, Diane L Hughes , Joseph A Rathner, 2017)	The article demonstrates students' perception examining blended learning, there are no results that demonstrate changes and or methods of adaptation when shifting from f2f to online learning. This research study aims to describe reccomandations for online adaption strategy.
Excluded	The quest for knowledge transfer efficacy: blended teaching, online and in-class, with consideration of learning typologies for non-traditional and traditional students. (Judy R. Van Doorn and John D. Van Doorn, 2014)	This article identifies the differences between f2f, blended learning, and online learning, analyzing different methods and modalities of delivery for both methods. Even though this article covers an important part of this research study it doesn't cover other aspects with regards to time management and shifting from f2f to online learning experiences.
Included	Moving from Face-to-Face to Online Teaching. (Muneeza Esani University of Texas Medical Branch at Galveston, 2010)	This article examines the shift of f2f to online teaching based on medical students. The context of this article covers the most important aspects of shifting from f2f to online learning. **(High relevancy)**
Included	COVID-19: Strategies for Online Engagement of Remote Learners. (Z. Zayapragassarazan, 2020)	This article do not reach all the criteria of this research study but covers a very important aspect of this study time experince and practice for an engaging online learning. **(Medium relevancy)**
Included	Examining the Roles of the Facilitator in Online and Face-to-Face PD Contexts. (Gina J. Park University of Michigan, Heather Johnson Vanderbilt University, 2013)	This report examines both roles f2f and online learning. The outcome of this report identifies the differences between f2f and online learning in the context of personal development. The relevancy of this report covers all the criteria related to teaching experience, practices, and in certain circumstances time management. **(High Relevancy)**
Included	The quest for knowledge transferefficacy:blended teaching,online class,withconsiderationoflearningtypologiesfornon-traditionalandtraditionalstudents. (Judy R.VanDoorn and JohnD.VanDoorn, PsychologyDepartment,TroyUniversity,PhenixCity,AL,USA 2 International RelationsDepartment,TroyUniversity,Columbus,GA,USA,2014)	The article examines time ration efficacy and class time distinguishing between f2f and online learning as well as practices and teaching methods between traditional and non-traditional students. This article defines traditional as f2f and non-traditional as online students. **(Medium relevancy)**

Excluded	Whyinternet-basededucation? (MortonAnnGernsbacher* Department of Psychology,UniversityofWisconsin–Madison,Madison,WI,USA, 2015)	This report describes why it is important the use of web-based learning examining all aspects including teaching experiences/ practices time management, however, the content of this report tends to be biased toward online learning and therefore it was decided to exclude from the selection list to strengthen the validity of this research study.
Excluded	The Task is Not the Challenge": Changing Teachers' Practices to Support Student Struggle in Mathematics. (Janette Bobis University of Sydney, Michelle Tregoning NSW Department of Education)	This literature focuses on the teachers' experiences and changing practices to support students in various circumstances mainly referring to f2f rather than online learning. Online is referred to as performance and learning tools.
Excluded	Behavioral Engagement Shifts Among At-Risk High School Students Enrolled in Online Courses. (Jennifer Darling-Aduana Vanderbilt University, 2019)	This article examines the shift from f2f to online learning, however, it focuses on the students' behavior criteria. This is part of the shifting transition which this research study is examining. Some of the results can be relevant such as the effect of time and technology skills on students, however, the number of criteria analyzed in this article doesn't meet the necessary relevancy of this research study.
Excluded	ORIGINAL RESEARCH ARTICLES The seven principles of online learning: Feedback from faculty and alumni on its importance for teaching and learning. (Cynthia Janet Tanis* Department of Kinesiology, Azusa Pacific University, Azusa, CA, USA, 2020)	This report investigates the effectiveness of online learning addressing the importance of collaboration and exchange of knowledge between students in an online environment. The objectives of this research are too different from the objectives of this report resulting irrelevant for this research study.
Included	Shifting to Online Learning in the COVID-19 Spring	This article covers all aspects of the current situation. The research study's objective is to identify online learning adaptation when shifting from f2f tom online learning considering the fact of COVID-19. This article's data are highly relevant to this research study. **(High relevancy)**