IMPLEMENTING DIGITAL TOOLS TO MOTIVATE GRAPHIC DESIGN STUDENTS AT HVCT TO STUDY ACTIVELY IN THE PERIOD OF COVID19 PANDEMIC

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ABSTRACT

In the period of the Covid 19 pandemic, because of social distancing policy, students were not allowed to go to school in person. In that situation, a Graphic Design class (C18DHO) with 21 students was selected to study online. At the beginning of the course, half of them were not ready to study only as being at home. This article describes an online teaching procedure of 4 specialisms; three of them applied at least 3 digital tools to organise online class activities; the other one only used 2 tools to organise the online class. The author interviewed teachers, conducted surveys of students' opinions, collected results to analyse and evaluate them. The results showed that: digital tools help teachers manage their students learning effectively and attract them to get involved in the lessons; digital tools motivate Graphic Design students to study actively and gain good learning outcomes. It can be concluded that teaching Graphic Design students online can be successfully deployed if teaching procedure and suggested digital tools are implemented. This way of teaching can be applied to teaching courses that have the same characteristics as Graphic Design courses.

***Keyword**: Education 4.0, digital tools, active learning, teaching online.*

1. INTRODUCTION

Industrial Revolutions (IRs) has made big changes in human life and manufacturing activities, especially IR 4 (Diwan, 2017). The 4th IR strongly affects all aspects of life including education, so-called Education 4.0 (Edu 4.0). It requires changes in both teaching and learning mindsets which leads to differences in teaching and learning methods in order to adapt to the new era. In Edu 4.0, digital learning tools can promote deeper learning in which learners can personalize knowledge, be motivated with new experiences, learn more hours; they can make products, improve collaboration and problem-solving skills; they can get supports from numerous teachers on the internet, have more pathways to possess knowledge and skills and everything becomes much faster due to digital technology (VanderArk, 2012). Implementing digital tools in a small group of adolescents in high school can foster literacy practices (Beach, 2002). In 2019, Mei used a qualitative research method to explore how to use digital tools effectively in teaching higher education and she concluded that digital learning tools can really motivate learners. Vocational institutions, in which task-oriented learning seems to be a popular way of learning, digital media and the internet should be taken into consideration (Falk, 2015). However, there is not much research paper on implementing digital tools in teaching vocational students in Vietnam.

College of Technology II (HVCT) - Vietnam, is a vocational institution that trains both college and technical levels. A majority of students in HVCT do not have high-achievements in previous classes, are not really active in learning and their collaboration skills are not effective. Typically, vocational schools focus on training vocational skills so 70% of course duration is used for practising and in graphic design class, students mostly practice on graphic design software. In traditional

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classes, it takes time for teachers to provide and collect students' test papers or homework as well as to remind them to do homework. Therefore, digital tools are considered as significant supporters for teachers to save time, effectively manage classes, facilitate teaching and they are especially useful in the period of social distancing. This paper aims to figure out (1) the effectiveness of implementing digital tools in managing students' learning; (2) digital tools motivate Graphic Design students' learning and gain better learning outcomes. It can be concluded that online learning is suitable for Graphic design students in vocational schools.

2. METHOD

Participants and sites

Online learning becomes more and more popular and attractive to students because they have more options to choose online learning formats. There are 03 types of online learning to be considered as taking a course: asynchronous, synchronous online learning and blended learning. In asynchronous online learning, there is no time for a class meeting; every knowledge and assignments are provided with due days to be finished. Meanwhile, as taking synchronous online courses, students can participate in their classes from a distance and interact online with teachers In this study, blended learning based on collaborative web conferencing was implemented to teach C18DHO class with 21 students for the reason of social distancing during Coronavirus pandemic. They are good at computers and studying in all four classes: Multimedia technology, Interior design, Web design and Printmaking techniques. Online teaching had not been applied before at the college. Four teachers selected to teach the class online during the pandemic were experienced teachers; however, only three of them were trained to use digital tools. That was the reason why only three classes: Multimedia technology, Interior design, Web design were implemented digital tools to conduct activities in their classes. The author was one of the three trained teachers. The last teacher only used 2 digital tools to organize her online class.

Digital tools selection

Digital pedagogy is the implementation of digital tools in teaching and learning based on pedagogical perspectives. For different pedagogical purposes, different digital teaching tools will be used in order to make sure that they can motivate learners to achieve their best learning outcomes. Bloom's taxonomy is considered as a standard for teachers to design learning objectives accompanied by order thinking. For the purpose of reminding teachers about what they are doing and facilitating teachers in choosing suitable digital tools, Allan Carrington combined Bloom's taxonomy and SAMR model which is developed by Ruben Puentedura to design and develop Pedagogy Wheel. The four teachers selected suitable digital tools based on 5 levels of the cognitive domain in Bloom's Taxonomy to make a new model of digital tools and applied to their class.

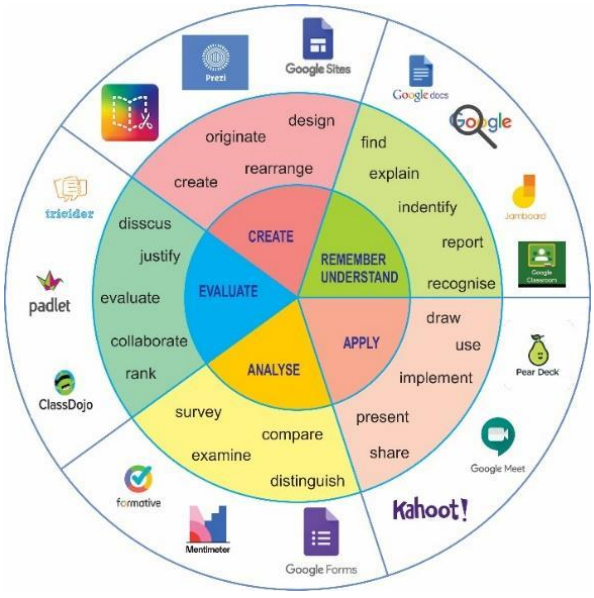

Figure 1. *The Model of digital teaching tools based on Bloom's Taxonomy*

Data collection

The four teachers were interviewed about the helpfulness of digital tools in

online teaching and the impacts of digital tools on students' attitudes and learning outcomes. Surveys on students' levels of agreement about organizing online courses, applying digital tools in teaching, advantages and disadvantages of studying online and students' levels of satisfaction were also conducted.

Procedure to conduct online class

❖ **Step 1: Course orientation**

This step is considered as the first and the most important step because it helps to motivate learning, including 3 following aspects:

➢ **Course introduction:** Students were introduced to knowledge, skills and attitudes that the course requires and provides; job opportunities after the course. It helped students clearly understand the significance of the course to their future jobs as well as their lives. Course outcomes also need to be shown in the order that students are aware of how and how much effort they need to put into the course. Moreover, this activity also introduced soft skills that students could accumulate to adapt themselves to era trends.

➢ **Online classroom rules agreement:** Teachers and students discussed and reached an agreement on some rules such as attending class frequently (at least 75% of the course duration), completing group and individual tasks to receive bonuses, etc. All the requirements and rules should be clarified at the beginning of the course and strictly followed during the course.

➢ **Online learning tools instructions:** The ability to use digital tools is a vital skill to study online. Students need to be trained how to access and work on Google Classroom – a learning management system, on which students can get learning materials, exercises and submit their work; and how to join online video conferences and activities on Google Meet.

❖ **Step 2: Organizing active learning**

With the purpose of improving students' critical thinking, students did not only listen and answered questions but also make questions, discuss in pairs or groups to gain some interesting experience after a class. The benefits of each online classroom activity need to be explained clearly. Selecting suitable digital tools ensured all students have opportunities to show their opinions, ideas and to get teacher's support at the right time. Checking students' attendance frequently with various digital tools helped to attract student attention and participation.

❖ **Step 3: Surveying and assessing students**

The results of surveying and assessing students after a lesson or a unit reflected students' work results. Teachers gave comments, evaluations of student attitudes, collaboration, knowledge and skills, and collected students' feedback, the expectation at the same time to make appropriate adjustments for the next class activities. Two or three different digital tools should be used for each activity to create interesting interaction.

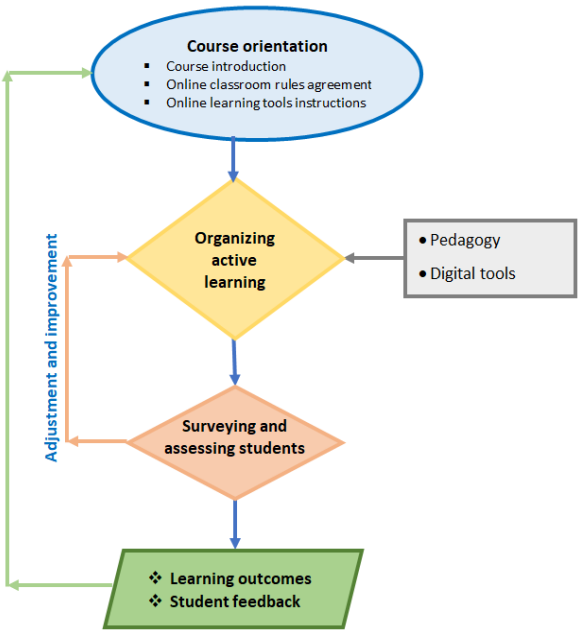

Figure 2. *Online teaching procedure*

3. RESULTS

3.1 Teachers' opinions

Effective learning management

In specialisms of Graphic Design course, there are plenty of tasks for students to practice in each class. In traditional classes, it took a long time to provide exercises, feedback and mark students' work. Other than that, in case students were absent from class or could not finish exercises in class, they may find it difficult to understand the lesson and could not redo the exercises. With the support of Google Classroom, all the teachers participating in teaching online agreed that it was a very convenient tool to send students exercises and lectures, to schedule sending and submitting exercises for individuals or whole class, and to manage students' learning process individually. Teachers saved much time while following and supporting students became much more effective. To students who were absent from class or could not finish exercises, they could easily follow the lessons as well as get and finish exercises via the Google Classroom Reminder system. This platform also reminded students to complete exercises on time. Therefore, the number of completed exercises were increased in comparison to the ones in traditional classes. Google Classroom stores and synthesizes students' learning results as individual profiles so that teachers can easily follow students' learning process so as to encourage and support students to get over difficulties.

Figure 3. *Records of learner's performance on assignment in Google Classroom*

The four teachers found that hosting an online meeting during the period of online teaching was rather easy with Google Meet. With this tool, teachers delivered their lectures, shared screens and acted as a model; in the meantime, students could also share their screens to present their products. Teachers and students discussed, made and answered questions via a conversational function. The feature of automatically taking attendance was added on Google Meet that helped teachers control students list in real-time. Therefore, with digital tools support, teachers can manage students learning effectively.

3.2. More active learning activities

Apart from Google classroom and Google meet, the teachers of Web Design, Interior Design, and Multimedia Technology used 2 to 3 other tools for active learning activities. Not only individual work like answering questions, doing exercises, students can also join group work activities and improve critical thinking such as making presentations, group discussions, critical comments and evaluating other groups' work. Padlet and Trecider are the two useful software to implement those activities easily and effectively. All students' ideas and opinions are stored on one page. Teachers can give comments, assessments on that page and save them as references for students. These activities were really attractive to students and helped them to concentrate on lectures and became more active in class.

Figure 4. *Results for student's discussion and argument on Tricider*

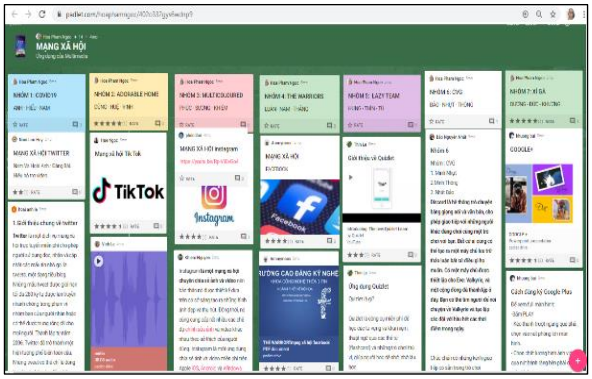

Figure 5. *Results for student's discussion and argument on Padlet.*

3.3 All students have opportunities to participate in active learning activities

Kahoot, Mentimeter and PearDeck make interactions to get students involved in the lessons. In a traditional class, teachers can only call a few students to show their opinions because of time limit or students' shyness; whereas in class with digital tools, all students have more opportunities and feel more comfortable to show their opinions then their self-confidence can be built up also. It is also a chance for teachers to note students' opinions to encourage them and facilitate those who are in difficulties. It can be clearly seen that thank to digital tools all students have opportunities to participate all online class activities as well as express their opinions.

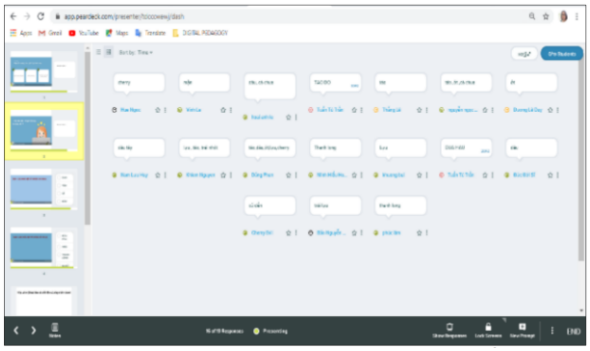

Figure 6. *Student interactions on Pear Deck*

3.4 Survey results

3.4.1 Organizing online courses

At the beginning of the course, students have clearly introduced course objectives, course syllabus, course requirement and online classroom rules that help to orient and motivate students. They were also instructed to fluently use Google Classroom and Google Meet to join online classes. Teachers'care, support and active learning activities are important factors to contribute successful online teaching. It can only be done with digital teaching tools.

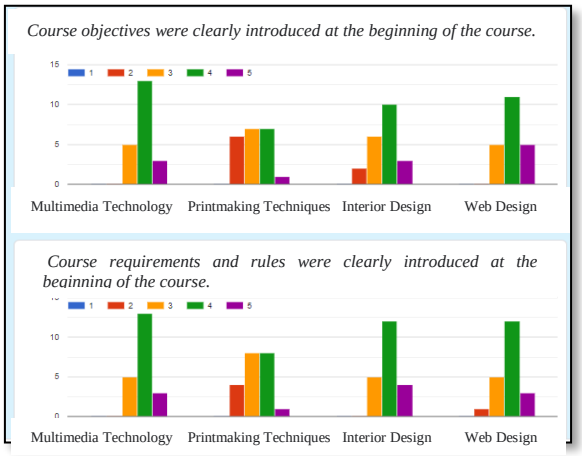

Figure 7. *The level of students' agreement on introducing online class objectives and rules.*

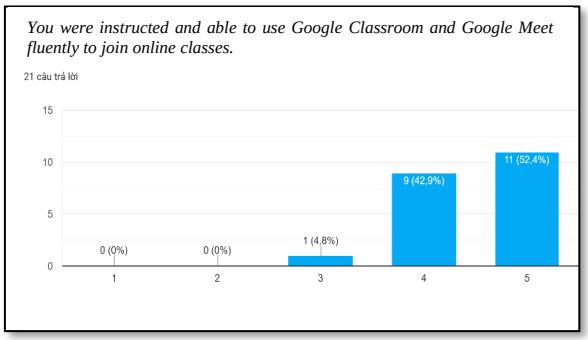

Figure 8. *The level of students' agreement on being instructed to use Google meet and Goodgle Classroom online*

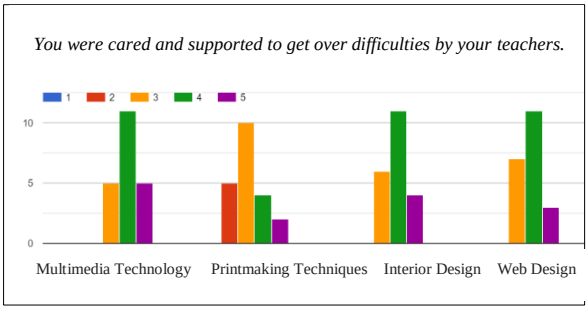

Figure 9. *The level of students' agreement on being cared and supported to get over difficulties*

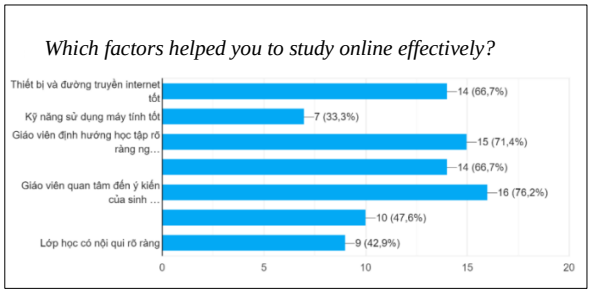

Figure 10. *Factors lead to successful online learning*

3.4.2 Implementing digital tools in teaching

Students admitted that plenty of active learning activities were implemented in class. Especially, implementing digital tools to make interaction activities in Multimedia Technology, Interior Design and Web Design classes makes students concentrate on lessons and learn better.

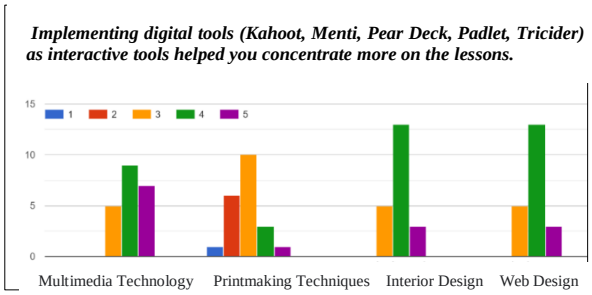

Figure 11. *The level of students' agreement on digital tools helps to be more concentrated on the lessons.*

They also believed that they got learning materials, assignments and easily submitted their work everywhere and every time. This feature is particularly useful to those who could not join the class or complete their tasks in class. Communicating with teachers and other students is not a problem as learning online with the support of Google Meet.

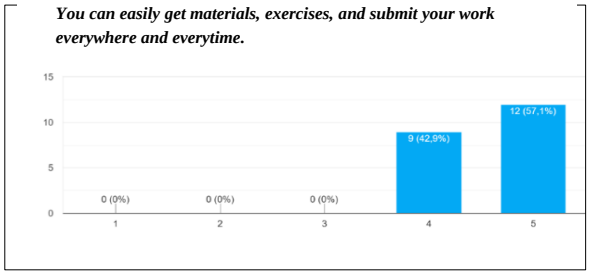

Figure 12. *Survey on the convenience of Google Classroom*

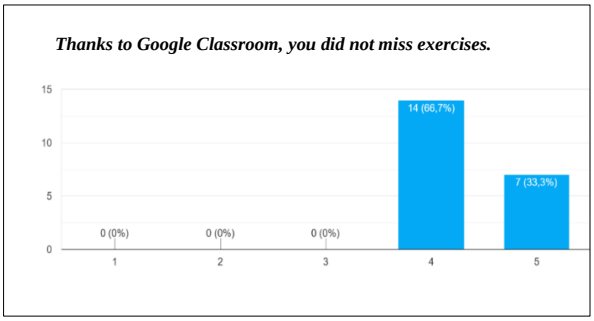

Figure 13. *Survey on the convenience of Google Classroom*

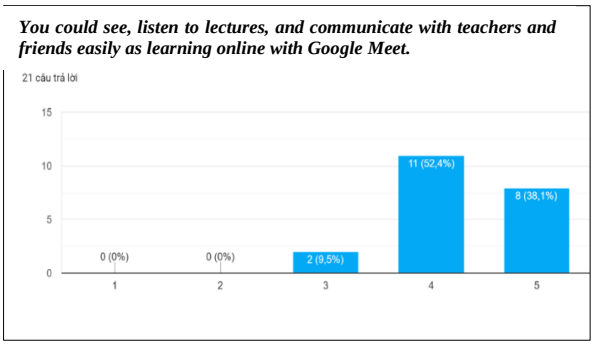

Figure 14. *Survey on the convenience of Google Classroom*

3.4.3 Advantages and disadvantages of learning online

According to the survey, the students appreciated learning online for it advantages: saving time for commuting (85.7%); reading materials, watching lectures and doing assignments at any time (71.4%); having opportunities to participate in all online class activities (66.7%)

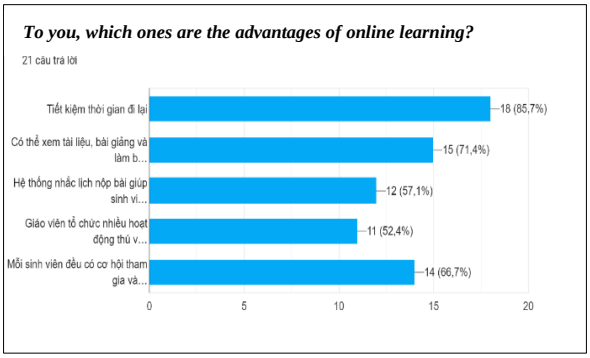

Figure 15*. Advantages of online learning*

On the other hand, the students also had to face some difficulties as learning online. Most difficulties were not caused by teachers' pedagogy but mostly by device problems or

internet connection that interrupted their learning and somehow caused negative effects on learning outcomes.

3.4.4 Levels of student satisfaction

According to the survey, most students were satisfied with those 4 online courses. Especially the levels of student satisfaction on Multimedia Technology, Interior Design and Web Design were higher than the one of Printmaking Techniques. It could be understood that the courses implementing more digital tools to organize online class activities were appreciated and satisfied. After experiencing pilot online courses, most of C18ĐHO were ready to participate in next online courses. In comparison with half of students who did not want to join online courses at the beginning of the courses, this result is considered a big success of the teachers.

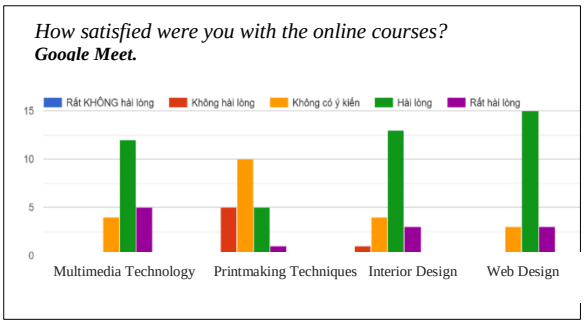

***Figure 16**: Students' satisfaction with the online course*

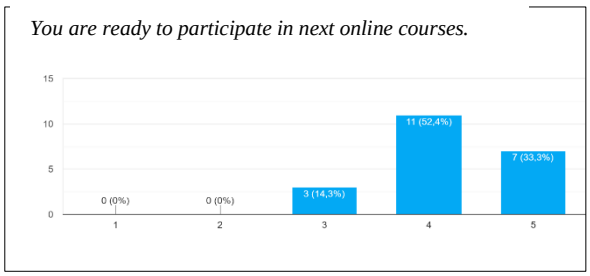

***Figure 17**: The percentage of students ready to join online courses*

3.5. Learning outcomes

3.5.1. Diligence

Regarding diligence, most students attended classes with acceptable classtime (70% or over) in the three courses using more digital tools.

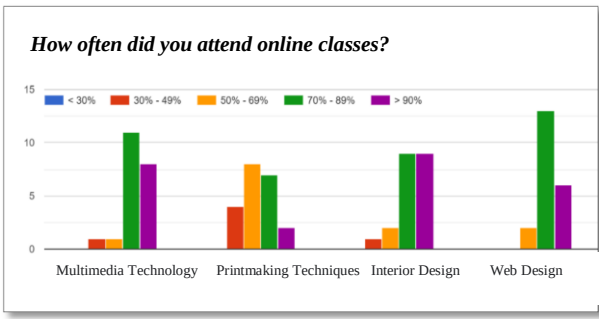

***Figure 19.** The frequency of students' online class attendance*

3.5.2. Learning outcomes

Concerning learning outcomes, analysing each student's final scores in 4 courses, the results show that they all had final scores of more than 5; there were a lot of students gaining high scores. There was one exception - student number 19-his Printmaking Techniques final score was lower than 5 and he did not have scores for Interior Design. It can be explained by his diligence. He attended only about 30% of Printmaking Techniques and Interior Design class time because he had a part-time job at that time. The statistics show that a majority of Printmaking Techniques students' final scores were lower than the ones in the other 3 courses.

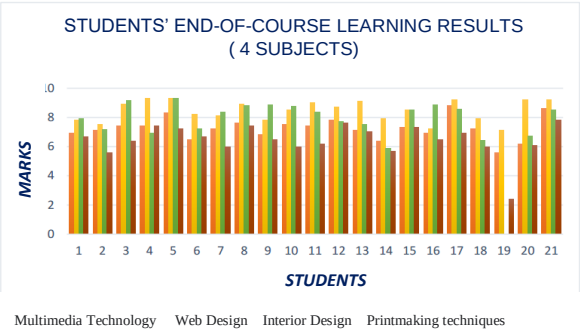

***Figure 20.** Students' end-of-course learning results*

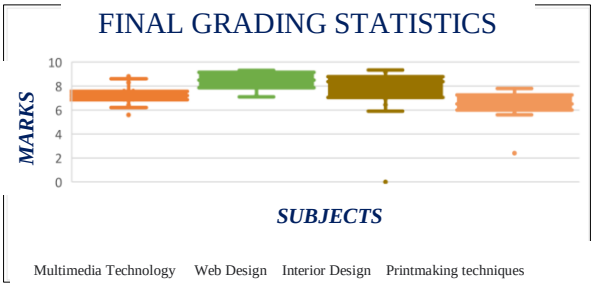

***Figure 21.** Final grading statistics*

The figure compares the spectrum score of the four courses. It can be clearly seen that the spectrum score of Multimedia Technology fell between approximate 6 to 9. Most of them got 6.5 to 8, there is only one under 6. In Web Design, the highest score was 9.3 and the lowest one was 7.1. Most of the Interior Design scores were from 7 to 8.5, however, there was one student having 0 because he did not participate in class. The spectrum score of the Printmaking Technique is the lowest of four. The scores were mostly from 6 to 7.5. The highest score was 7.8 and the lowest one was 2.4.

The average of Printmaking Techniques final score was lower than the others. In the three courses which applied more digital tools to organize online class activities, the average of final scores was higher with many good scores.

4. CONCLUSION

Due to piloting teaching 4 specialisms online of Graphic Design course during the Covid-19 pandemic, it showed that digital tools helped to manage students learning effectively and to attract students; it motivated C18ĐHO students to study actively and gain better learning outcomes.

Therefore, with the characteristics of Graphic Design, the advantages of digital tools and suitable online teaching procedure, we can implement online learning to vocational college students.

Online teaching procedure can be adjusted to be appropriate to other majors which have similar characteristics with Graphic Design.

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