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# On An Application Online In Full-Time Teaching and Learning at University

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**Abstract:** This article presents solutions to improve the quality of teaching and learning between students and the lecturers in the classroom with information technology through the use of tools Classroom to deliver homework, Reference to lectures of the subject so students can access to work and read more and more everywhere and every time before going to the class. The article also presents the results of the application for Basic Informatics subject 1, Management Informatics and English at Posts and Telecommunication Institute of Technology [1] located in Ha Dong to help students access lecture content and complete the exercise more effectively, students are excited to actively learn and take care of the subject more. As the assignment time is set to count down, the system will regularly remind the students of the content of the assignment and review questions to prepare and complete the content assigned before the lecture.

**Keywords:** Tool classroom, store content, students learn faster, ptit, class code.

## I. INTRODUCTION

Nowadays, the application of information technology in teaching has been applied and brought high effectiveness in teaching at different levels of education from general education to university and postgraduate education. However, with each application, the results will be different, such as the use of a combination of traditional teaching methods with computer and projector to transmit content to learners, etc. In addition, the teachers use email, community networks such as Facebook to create groups, and store content with online storage services for learners. Although the methods commonly used today are more effective than the traditional teaching methods in the past such as more lively lectures, so students learn faster. In the process of teaching the teacher can take the demonstration right in the classroom for the learners to overcome the disadvantages of traditional teaching methods in the past. In addition to the currently popular methods, the use of Classroom tools, email and online storage in support of full - time teaching and learning at university level is a more effective and more convenient method for students and lecturers. In addition to teaching and learning in the classroom, the lecturers will upload the course materials, course syllabus and reference materials, assignments and requirements for students to prepare before each lesson. To do this, the lecturers will create the Classroom with his email account and then send the class code to the student so that the student can log into the class. When students have class code they will log into the class with student email accounts, where students will see the materials, textbooks, lectures, questions and exercises teachers upload by computer desk, laptop or smart phone. In Fig. 1 is the interface on the teacher's account with classes created correspondingly the subjects that lecturers are teaching: Informatics 1, Computer Management, Microprocessor, Computer Architecture, Security information security, Basic information 3.

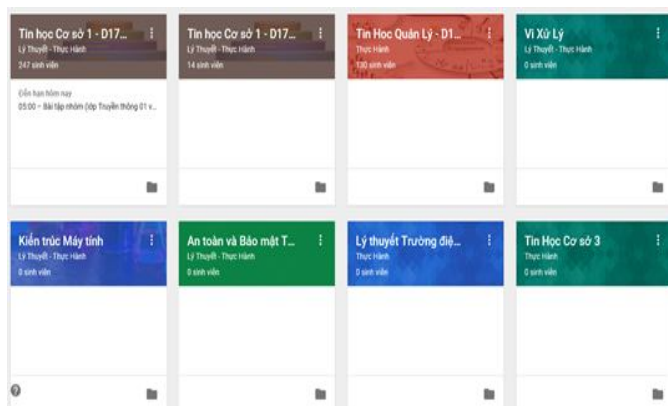


Fig.1 The interface on the teacher's account

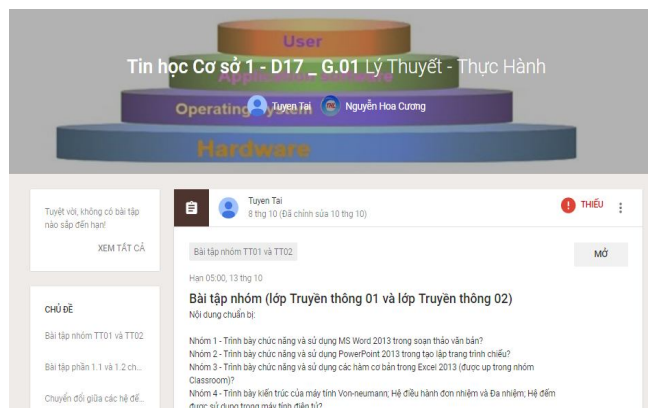


Fig.2 The interface on the student's account

As shown in Fig.2, after the students successfully enter the classroom, they will use the lecture material that the teacher uploads. When the teacher uploads the content of the questions, the students will receive a notification of the system sent to the students' email announcing the assignment, content preparation, revision content, etc. That will help students note and spend time on the subject.

## II. COMBINATION METHOD

### A. Combination methods are currently in widespread use

As presented in section 1 (Introduction), the traditional teaching with computers, projectors and boards is more effective in each lesson, especially for subjects requiring verifiable simulations or demos Fig.3.



Fig. 3 Combination between the writing board and the projector

### B. Application of tools Classroom, email and online storage as teaching aids

To be able to apply this method in teaching and learning, teachers and students must have an email account to log into the system and receive email every time the lecture content, questions and answers are updated in the system; Online storage for storing content when answering for students and storing lecture notes, references, word processing documents, pdf, ppt and video, audio etc. ... for teachers

C. Flowchart for application of a classroom

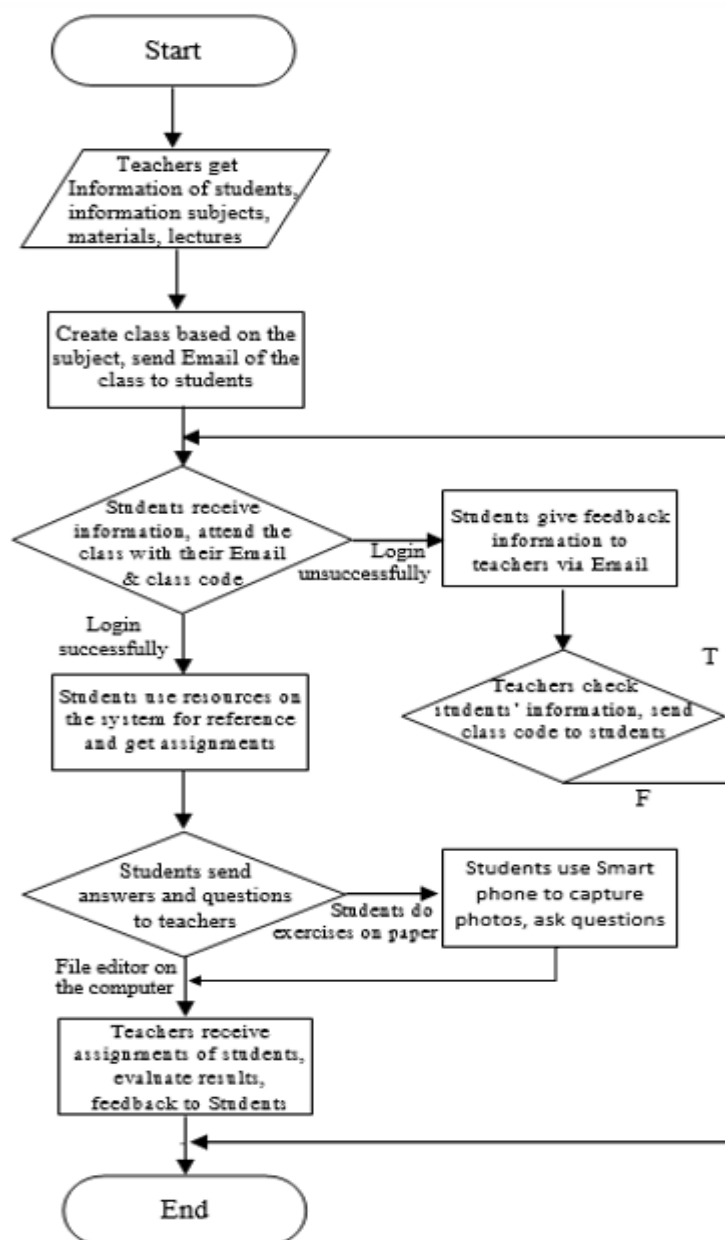


Fig.4 Diagrams of classroom creation and assignments for students

### III. TAKEN STEPS

Step 1. Lecturers create classes with the name corresponding to the subject taught in the classroom for the regular system according to the plan of the university, the academy such as: Informatics 1, Informatics 3, Computer Science, Theory of Electromagnetic Field and Ultra High Frequency, Computer Architecture, Microprocessor, English, etc.

Step 2. The lecturer draws the student list of the class (including student's name, date of birth, email address, phone number, signature). Getting a list of students will help the instructor identify the nick name when the student logs into the classroom. Because of the fact that many students do not use their real name in the email, they have to list their information for comparison.

Step 3. Instructors upload subject syllabus, lectures, and reference materials to the classroom (Data is stored online). Teachers can add content as word, pdf, ppt, video, audio, etc. for students to use.

Step 4. Inform the student to log into the class corresponding to the class code (class code consisting of a sequence of characters and numbers). Class code can be emailed to students or informed students right in the classroom and instructed students to enter the



classroom. When the student is a member of the class, he will see the content of the materials, questions and exercises that the teachers upload to do.

Step 5. Teachers upload exercises or content of a new lesson that needs preparing in the classroom (with time limitation) before and after each classroom session so students can read ahead and assemble lecture in class after each lesson and capture the contents of the lecture and complete the exercises before each class.

Step 6. Students do homework (students can do on the computer and upload files or on paper then use Smartphone to take pictures, after that they upload to the Classroom). Once the content has been up, the teacher can check and suggest answers for the student to complete the answer and the content of the lesson.

Step 7. Evaluate the results and statistics of the percentage of students involved and complete the content of assignments, the lecture content is delivered before each new lesson. Teachers report results on Classroom.com to students.

#### IV. APPLICATION ON GOOGLE PLATFORM

Now with google there are many popular applications for the community such as email, google drive [2][3][4], etc ... and the classroom application creates online classes so everyone can join classes from anywhere without being confined to geographic distance, time. On-line application for full-time undergraduate teaching and learning support (Assist in the delivery of materials, lectures, assignments, questions) so students always receive notification information. from the system whenever teachers update information. At the same time, teachers will also receive feedback from students as they upload their responses to the classroom so that teachers can see and support students to complete their assignments before the new lessons.

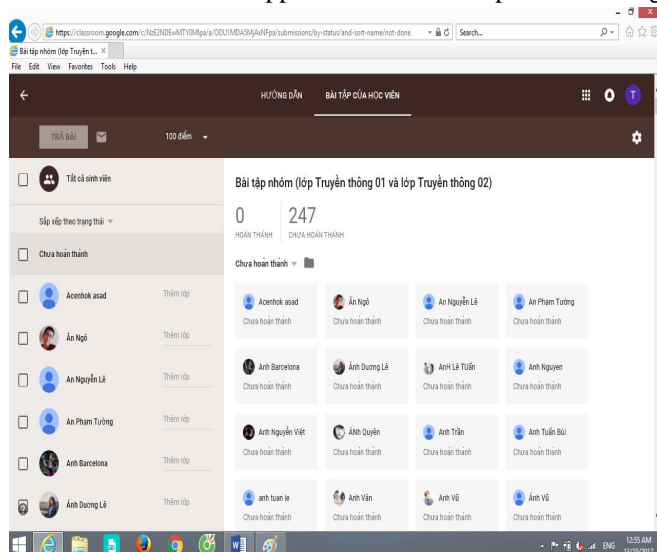


Fig.5 Students participate in the classroom

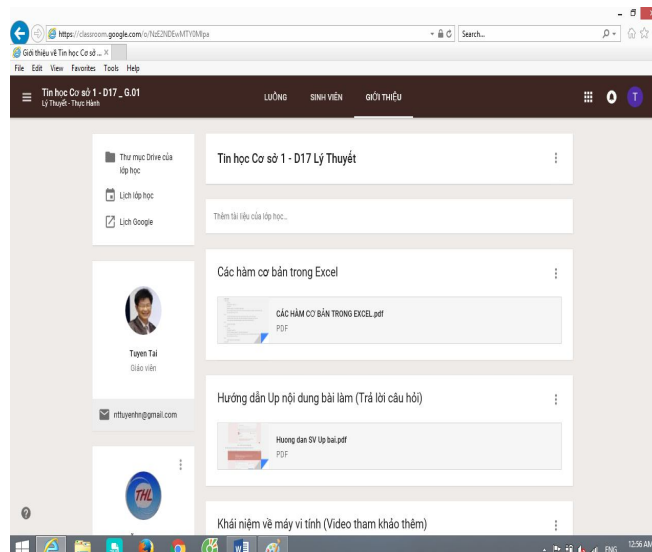


Fig.6 Teacher assigns assignments and materials to students in the classroom



Fig.7 Notification of student work on smart phone

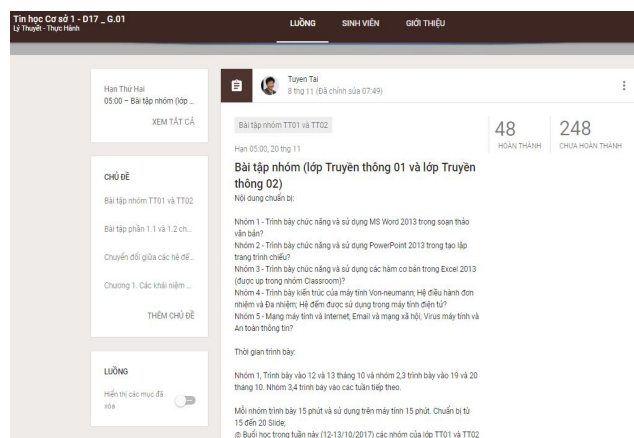


Fig.8 Teacher gives students exercises

## V. EXPERIMENTAL RESULTS

The application of the Classroom tools, email and online storage in full-time teaching and learning support at university was experimented by the authors at Post and Telecommunications Institute of Technology. The result was that students participating in the online classroom regularly receives reminder of exercises from the system and students regularly communicate with the teacher about the contents of the previous lecture and the new one.

The results of the group of students participating in the online classroom

### A. Students do not attend the Classroom

Students who do not attend the Classroom usually forget what they have learnt in the class and what they are asked to do at home when the lessons finish. The reason is that they have a lot of lessons during the week, extracurricular activities, even that they are addicted to online and offline games. Therefore, students do not prepare for the new lessons. Then, it is difficult for them to acquire new lessons, which leads to the lack of enthusiasm for new study and also leading to the worse quality of students' learning. On the other hand, students who do not attend the classroom are also restricted from accessing lectures uploaded by the teachers for reference. Students do not have the opportunity to discuss how to solve assigned assignments and problems arising from the lessons. Non-classroom students are grouped by teachers on the Facebook community to exchange learning content. But it is inconvenient for the students to answer the question as it is difficult to find information in the group due to the drift. It reduces the effect. The result is shown in Figure 8 with the number of students joining up to nearly 400 students.

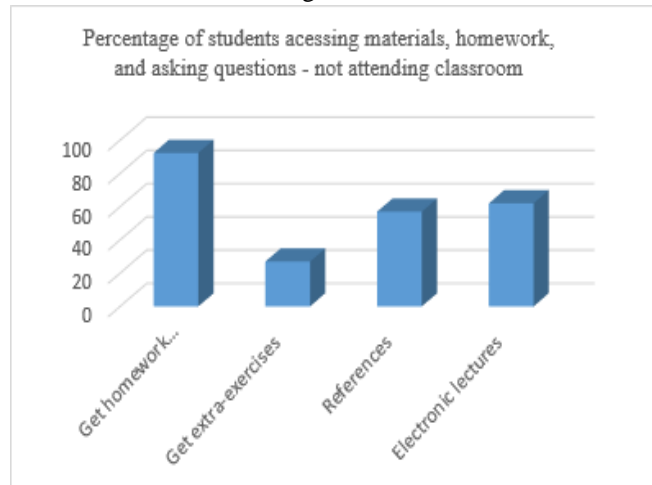


Figure 8. Non-online classroom students

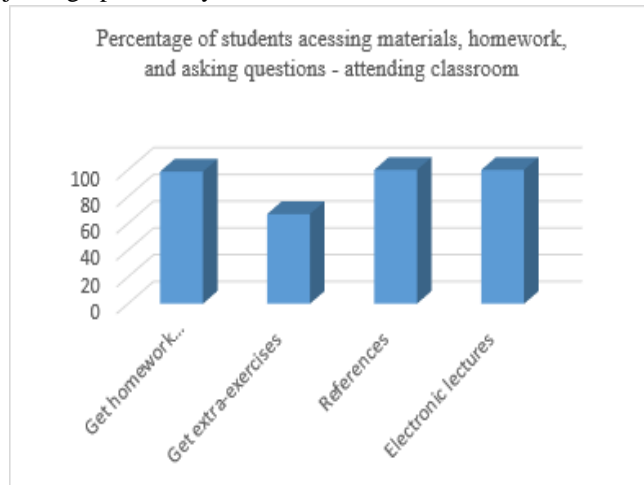


Figure 9. Students attend online classroom

### B. Students participate in Classroom

With the groups of subjects experimented for 2017 students including Basic Informatics 1, Management Informatics and English for nearly 400 students attending the classroom shows that students regularly participate and ask teachers questions about contents of the lectures, questions and assignments. Every time the teacher uploads questions and assignments to the classroom, students will receive a notice and will be reminded of their preparation before each new lesson and the results are shown in Figure 9.

## VI. CONCLUSION

The research and experiments to improve the quality of teaching and learning between students and the lecturer in the classroom, combined with the use of Classroom to deliver homework, extra exercises, the lectures on Basic Informatics 1, Management Informatics and English at Posts and Telecommunications Institute of Technology in Vietnam has helped students to access the lecture contents and complete their exercises more effectively than students who do not use online Classroom. Students are more motivated to learn and take care of the subjects. Students are regularly provided with information about the contents of the assignment and review questions to prepare and complete the contents delivered before the new lecture.

students' performance in the online classroom was higher than that of students who did not use the online classroom. It is clearly shown in the figures 8 and 9 that the number of students who remembered their tasks accounted for 6.4% higher with homework exercises; 40% higher with extra exercises; 43% higher with reference access and 38% higher with electronic lectures access.

With the application of Classroom tools, email and online storage in full-time teaching and learning support, combined with traditional methods will help improve the quality and expectation to be widely applied at different training levels.



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