Multifunctional Interactive Instructional Method for 1:1 Digital Learning Initiatives: Gürgün's Method

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Abstract: Many approaches are being used in the schools and companies where tablets are used for education. LMS's which are introduced to the market and applications which can be reached from application stores are being used more effectively classrooms via web software.

The most important points that schools and teachers have to emphasize are:

(1) How to run the strategies of education with the help of BYOD or tablets given to students.

(2) To form 1:1 instructions for teaching with the help of iPads and tablets.

Modelling of education to be studied on is applied with functions like:

- Getting students involved before the lesson;

- Getting them taking part in the lessons in an efficient way;

- Make them a part of the process even when the lesson is over.

This instructional model has started at IELEV Educational Institutions with 310 students and 160 teachers during 2014/15 in Istanbul, Turkey. In this study, the focus is on the model that has been in progress.

Key words: tablet, learning, student, teacher, nano learning

1. Introduction

Currently, the most up-to-date news about education is the use of technology in classrooms and teaching via tablets. Education and technology are the two basic factors playing an important role in humans' lives. Education is the act of uncovering inherent powers and talents of humans and developing them as more powerful, mature and creative beings (Yaylacı & Yaylacı, 1999). Technology, on the other hand, helps humans to profit from their earnings, e.g., knowledge and competences etc., more efficiently and apply them more consciously (Alkan, 2005). Regarding this, the rapid development of technology and emerging novelties are reflected in education systems and influence teaching and learning processes.

The problems making educators look for new ideas and approaches can be summarized as follows:

The inability

• to serve crowds simultaneously,

• to consider students' abilities and interests,

• to give necessary information efficiently in a short time (Kaya, 2002).

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In today's world, economic, social and technological conditions shaping contemporary education systems are changing rapidly. As a result, the need to provide high-quality education to every individual emerges. Information and communication technologies serve very important functions in building a know-how society. In this way, attaining information and its transfer is getting faster and easier. The most important matter in this topic is to choose the right and applicable teaching model.

2. Subject of the Task

The biggest problem in educational institutions is how to run a teaching model in 1:1 teaching projects of tablets. Many institutions have problems in how to get teachers and students become involved efficiently during the process. Studies, which have to be shaped in classes or out of the classes, take time.

Being a part of Project-based teaching has to be taken into consideration in a different way. It is important how to use the educational technologies at the right time. Therefore, a new digital teaching model has been studied via taking different models into consideration. The question is: How can nano teaching be possible with the help of tablets? This has started at IELEV İstanbul Cağaloğlu and Çekmeköy Campuses with 310 students and 160 teachers.

3. The Aim and the Importance of the Study

The main aim of this study is to administer the process of the digital 1:1 teaching to be able to keep it effective and constant. The developed teaching model is focused on which material is important, where to teach and what sources we need to use. This method can be effective in the process that has come forward by the help of Nano teaching if it is used with the right school materials, the students and teachers. The e-teaching process will be one of the most important thing that if we use the technology in the right place and at the right time. The most important thing that we must not forget that using the educational technology is different from the technology which is used in education. It doesn't mean that to buy the equipment that is related to technology or to bring the computer into the classroom. It requires a lot more academic work. So, multifunctional interactive teaching method has helped to develop the process that has changed to educational technology from the technology in education.

4. Multifunctional Interactive Instructional Method Education via Tablets

"Multifunctional Interactive Instructional Method" has been created and developed by Serhat Gürgün was improved by taking pedagogical, cognitive, academical and technical feasibility and 5E learning modals by SAMR into account. The modal we discuss is a teaching modal which handles the features of getting attention, conceiving, applying and improving, measuring and evaluating, creativity, configuring, blended learning and flipped classrooms to the subject and acquisition dimension with different functions which are different strategies oriented. During the lead of teaching modal, teaching applications which strategies are in harmony with, digital teaching objects which are enriched and web based applications are presented to use. This teaching modal which is improved, is handled as an approach which actively handles 1:1 tablet-oriented teaching learning facilities and which provides participation interactively in the lesson in the frame of constructivist approach of students by measuring learning products during the process. There are 5 different functions which consist of 6 strategic steps

and the relation among those steps in the modal concept. Teachers are expected to manage these teaching-learning processes by using these functions. Functions can be chosen according to lesson, subject and acquisition. The suitable functions which are stated according to the planned lesson process can be used. *Entire function* where all strategic steps take place shows the highest level teaching facilities. The aim is to use the entire function effectively to manage teaching facilities efficiently. Function selection during the lesson and out of the class comes from being able to place to both activities and theoretical expression. In the name of being able to be used for entire function, it will be beneficial for the departments to shape their study for the purposes of modal action. Strategic steps and functions in the extent of modal are defined with their explanations below.

5. Strategic Steps

5.1 A: Handingout Introduction Parts of the Topic to the Students in Advance

Flipped Classroom application is performed here. That is, teacher gives information about the important parts for the students via related education applications or ready digital teaching objects (textbook, presentation, video, sound) before the work on the wide subject which is aimed to be taught. Teacher asks students to observe the related parts. The videos are short on this application and entire subject presentation is not done. The aim is to encourage students to come to the class well prepared about the subject and make the class ready to learn at some point. Time at lesson, subject and acquisition pace and explanation method can be differentiated according to the departments. For instance, for Maths lesson, the formulation of a problem and basic concepts can be emphasized but not the solution of a problem. For Social Science lesson, spark events about why The First World War began can be highlighted. For Physical Education lesson, basketball rules can be told as preliminary information.

5.2 B: Online Measurement of Students Being Ready before Lesson, Forming A Web Based Discussion Atmosphere

This step is used with the step A. By following the step A, to identify the learning level of information, a test/quiz prepared with online test/form applications (which may include optional, open ended, questions to mark, etc.) and/or a discussion on a web based platform are applied. As teacher will receive that report at that time, this will help teacher about how to start with that subject.

5.3 C: Evaluation and Application through Activities in Class

Nearpod or similar apps, which enable the teacher to enrich a topic's important sections and activities, are covered in a teaching-learning activity. This presentation allows the teacher to only use the necessary bits according to the lesson plan. Throughout the implementation, students manage their own learning environment by using interactive activities in the lesson.

5.4 D: Teaching a Topic with Whiteboard Applications, Lesson Presentations with Presentation Tools, Shared Implementation with Apps

Whiteboard Applications in the lesson are used throughout. Topics are covered on the whiteboard with applications such as Explain Everything and the lesson recorded can be shared with students. The lesson is done through presentations prepared by the teacher on apps such as Explain Everything, Keynote etc. The teacher asks students cover tasks individually or in groups with Google Apps.

5.5 E: Online Test Applications and Test/Quiz Classroom Applications at the End of Lessons and Topics

Test/quiz prepared with Google form etc. are applied in the classroom by planning the numbers of questions according to the condition of the subject at the end of lesson and acquisition. Thanks to this application, it is identified at what level the subject at the end of the subject, information given about what is taught is understood. In order not to make students experience the exam excitement, some gamification applications like Kahoot is used to make the application enjoyable at the end of subject.

5.6 F: Online Homework and Projects to Assign, Collect, Give Feedback and Evaluate

The aim on this step which is highly recommended to be used for all functions, especially at the end of the subject is to get evaluation of teaching process in force. The important point which is necessary not to confuse with E step is that F step includes a wide assessment and evaluation. It is discussed to send students and collect by forming large-scale tests, debates or projects by taking the advantage of feedback on the step E. Homework given up its seat to great projects on this step which takes place of homework given in classical teaching.

Functions (from easy to complicated functions):

Each function is formed by companying the strategic steps with each other. Letters state the strategic steps.

The letters following each other states related strategic steps in order:

Fn1: CDE (CE and DE sub-functions can be used separately)

Fn2: ABCE

Fn3: ABDE

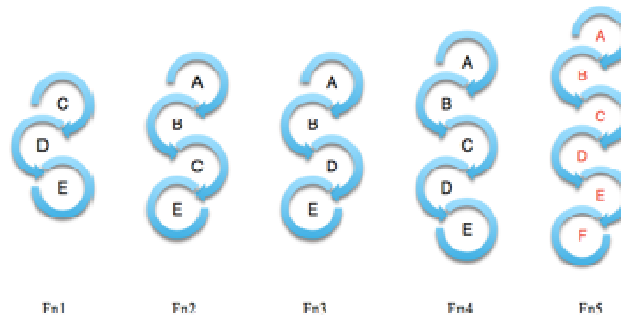Fn4: ABCDE

Fn5: ABCDEF (Entire function)

Figure 1   Functions

6. Conclusion

For one-to-one learning with tablets can be successful if we understand the main objectives. The teachers' role of this method should be explained so clearly. Teachers' training is also so important to accomplish this process. The applications which are recommended to use on strategic steps are the applications in which all necessary research and study are done, tested and found suitable for efficient teaching-learning atmosphere. The applications which can be used suitable for the aim can be used separately.

Explain Everything: Board in the classroom, presentation and projection preparation out of the classroom www.explaineverything.com.

Textbook: Interactive coursebooks prepared with iBooks Author

Nearpod: A lesson management classroom application www.nearpod.com

Google Apps: Google education applications. www.google.com/edu/apps

Kahoot: A game-based learning platform. http://getkahoot.com

Important points to take into consideration

• F step can be used for each function; but it should precisely be applied at the end of the lesson.

• E step should be applied for each function.

• If A step is applied, B step should exactly be applied.

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