# Smartphone Based Learning To Improve The Quality of Vocational High School Graduates

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Abstract The world of education has now entered a new era in the learning process, development of information technology, supported by progress needs education provide constructive feedback to improve the quality of education itself. Vocational High School (SMK) is one of the vocational institutions that shelter under the ministry of education and culture of the Republic of Indonesia, the equivalent of high school that provides technical knowledge in order to work properly either work individually or works in a team. Vocational learning that there is now almost entirely using computer spring so it is considered will not have difficulty in a learning-based smartphone. Teaching materials presented at the SMK is also a large part of the teaching materials obtained from the ministry of education and culture and the industrial world. It is expected that all the knowledge is given in accordance with the needs of the existing vocational job. alumnus fraction compliant with world standards of work both in the government and the industry and are able to work independently and be accepted in the world of work, based on the knowledge gained during the implementation of vocational education for approximately three years. The method used is applied important that development process on learning conditions that exist today in the learning process and make changes gradually to the delivery of materials into the device-based digital base mobile. Tujuan this paper is to design, improve the ability/knowledge and design models learning in vocational school to be converted into a smartphone as a device that can be used to access the learning materials whenever and wherever students are so that students can study freely in accordance with the time available for 24 hours.

Keywords: learning Graduate SMK, based smartphones

#### I. INTRODUCTION

The development of information technology in today's era has entered a phase of development that will continue to evolve with advances in software technology to support the hardware. On the other hand, the data show that mobile phone users in Indonesia have reached 270 million active cards, this data according to the information submitted former minister of Communication and Information Tifatul Sembiring in 2014.

Most of the mobile users are users who are in their productive years, mostly among the mobile users are students. Civitas SMK is one such mobile phone users. SMK as one vocational institution that still uses textbooks as a learning resource is felt less productive in improving the quality of teaching alumni.Tenaga using old methods to present the material that is only to explain and clarify the subject matter using a support device as is, for example, markers and whiteboard, There are some teachers are still learning one method will maintain this direction because it is seen still feasible to be used, but this method has less suited the era of information technology development. There are some things that are often encountered that causes the faculty still use this method, among others: the adoption of the transfer of knowledge that is considered difficult, their thoughts always see more downside in usage, information technology, the other side of learners who are already very adept at using and utilize information communication technology devices to be bored in a learning model that resulted in learners lazy to follow A learning-teaching process, which will probably cause other effects by interfering with friends. The number of teaching materials will be very useful when the method is used in conveying the material (information) on vocational school students using digital data containing and combining all elements, ranging from text, sound, video, graphics, still image and animation. The presence of mobile phones with all the existing facilities can be used in teaching and

learning. In doing the digital implementation of this, the executive education in this schools needs to protect against Internet access that can be used by all students, so as to ensure the expected results, namely the achievement of the learning process fun for students of SMK which is expected to improve its quality.

The teaching materials would be very interesting if you combine these materials in the form of multimedia. Materials on SMK does require a lot of teaching materials that contain multimedia elements in its delivery to be more easily understood by students of SMK before doing the lab directly, for example in the subjects of computer networks that use simulations tracer study, then the application of learning in the control circuit, known as name Festo Fuidsim that will make it easier for students of SMK in the teaching and learning process because it can be done repeatedly without using paper, there's also Mindjet MindManager is the application of accounting learning and much more. Almost all subjects who have had no learning applications for understanding the changes are felt possessed students after using a digital-based learning method. All the applications mentioned above, it can largely be run using a browser that is application-based roaming website. With the development of the software implementation then all the applications mentioned above can be converted into mobile device-based smartphones.

### II. METHODS

In an article which states that learning can be done anywhere and anytime that is based learning ubiquitous learning is a learning system that allows the academic community (teachers and students) to interact with the computer continuously, anywhere, anytime, and how alone. [1] In this paper has the writer's objective to explore(find something), identifying the content and develop services that could be delivered to smartphones to support learning and communication in teaching and learning in the classroom at a university. Run private general these models can be used if it meets the necessary requirements.

Furthermore, paper adoption of technology in the process of teaching-learning, to present the instructional design elegant and suitable for use in a classroom environment for writing and explain the use of blended learning based smartphone that is, learning that combines face-to-face and online lectures in the classroom. [2] in this paper will be described in detail in the study a university method of adoption of smartphone technology in a learning system

Next is the influence of the smartphone that has also been discussed in the use of smartphones in the learning process which is seen from all points of view, ranging from hardware to software and to discuss the content and connections that are expected in the learning process [3] this paper describes the alumni scholars in cooperation with academic staff to see and establish the extent to which students are independent in using technology *smartphone* to support their learning.

The next thing that is of concern is the impact of *smartphone* technology education and use of the application in practice. [4] This paper describes the condition of India in involving the impact *of smartphones* in the learning process to improve the quality of education. India began to prepare everything needed to meet the standard requirements to be implemented learning activities qualified teaching-learning process using *online* video.For these activities require access internet speeds are high and the availability of *smartphones* with high quality and above.

After learning-based *ubiquitous learning*, adoption of smartphones with *blended learning* using *cocoa Talk*, *The* Effects of Learning-based Smartphone, Impact Yang posed by *smartphones* in the last discussion this time will be explained about innovations that can be done in improving the quality of teaching and learning process based *smartphone*.Paper, as the reference time is Innovating for quality paper, discusses towards a new vision to improve the quality of education to make this as something important [5] This paper shows data for the number of learners around the world who do not receive a quality education, especially in countries it of low income. This paper sponsored by UNESCO international agencies dealing with education.

In Indonesia itself there is still happening Pros and Cons of a learning system that would use a *smartphone* as learning resources that exist, it is caused by relatively few factors:

- 1. There is still a lack of understanding in the use of mobile for learning purposes, this is the case in both the teaching staff and students.
- 2. a large number of responses and the notion that *the internet* is only used to achieve information in completing a job and a place for entertainment.
- 3. There is also an opinion that said learning using a *smartphone* is a learning system that is expensive.
- 4. Pembelajarab-based *smartphones* are used only for students in college.
- 5. Not the uneven development of information technology in several places in the area,
- 6. and much more, especially in the education environment.

that's the most problems are often found in people of Indonesia in implementing based learning digital, Though it takes care of these above can be solved by making a small step and simply as a solution.

### II. RESULT AND DISCUSSION

Learning *ubiquitous learning* is a learning system that allows the academic community (faculty and students) to

interact with the computer continuously, anywhere, anytime and how alone [1] this learning method is suitable for use in modern learning system that combines all the capabilities of the teaching force in delivering learning materials because it can use all the facilities of existing technology. The process of delivering the material can be delivered in the form of text, sound, pictures movable or immovable, animation and others. Ubiquitous learning has some benefits among others: can save the lecture hall in the face as a conventional teaching model. With the implementation of a ubiquitous learning, the number of face to face meetings can be reduced so that faculty and students can perform other duties effectively without being limited by time and space. This is supported by the development of technology both hardware and software that is supported by the support infrastructure. Another hand there are things that need attention, especially in a location that support that infrastructure has not met the requirements.

Adopting Smartphone based Blended Learning is one model of learning undertaken by combines elements of offline and online in conveying material as described in a literature review that the main purpose of the application of blended learning is to explore, identify and develop a number of interactive mobile services to support learning with multimedia information to be distributed through the existing computer networks in university. Applications used is cocoa Talk that benefits include: (a) to know how an application-based smartphone mobile community and cocoa Talk can be implemented in the learning process by using blended learning (a mix of offline and online both in class and outside of class. (b) for clicking evaluation of the effectiveness of learning blended learning for both lecturers and participants students.

Considering the smartphone learner: an investigation into student interest in the use of personal technology to Enhance Reviews their learning this paper is a case study which was appointed at an educational institution. in general, students are interested and open to accept to make the smartphone as one learning resources [3]. the learning activities that meant to cover the main activities in class as well as supporting activities outside the classroom that engage learners independently. this paper also combines collaboration method implemented by alumni and academics and innovation learners. Furthermore, the authors also provide information about the differences between existing information technology with information technology communication ICT in view of the interest of students towards the learning process using a smartphone.

The impact of the Evolution of Smart Phones in Education technology and its Application in Technical and Professional Studies: Indian Perspective in this section India as one of the developing countries very concerned about the impact that caused by the development of smartphones, existing especially in the field of education to improve the quality of teaching and learning. [4] India while respecting the philosophy of science knowledge and translate that learning gained by sitting at the feet of the master or teacher. Where teachers will deliver verbally science to students. This tradition is in India inherited and implement in educational institutions. Along with the development of information communication technology ICT India begin to show changes in the education system both literature and learning model. The growth of Internet has changed the educational system in teaching and learning. This is supported by the growth of the institution and the number of learners, especially in the field of technical education. India also still uses distance education to meet the needs of the society.

In the process of teaching and learning are the factors that influence the success of the various problems faced by the people of Indonesia, these factors are the most important part of an educational institution, among others: students, faculty, school facilities and infrastructure, curriculum, learning models as well as models of existing organizations. [6] but in the framework of the nation living as the mandate of the Constitution of the Republic of Indonesia, then the problem faced by approaching the finishing. One that does the school cooperates with State-Owned Enterprises that utilize co-operation in obtaining funds *Relationship Customer Service* CSR.

With the CSR is a little more greatly help boost the educational institutions in facilities and infrastructure. On the other hand, Government also require faculty who will act as a lecturer both in basic education institutions and higher education institutions, must be university graduates, especially undergraduate education. The resulting undergraduate education colleges have now been providing sustenance is considered sufficient to provide a method of teaching in educational institutions intended. In order to improve the quality of teachers has also been given support facilities for the provision of certification both in primary education institution even higher education institutions, which would give a moral responsibility to the students to be more responsible in carrying out the tasks assigned to educate the nation's children.

In it also supports educational institutions to reform in order to improve the quality of education by trying to improve the quality of learning by leveraging the development of Information Communication Technology ICT. In the process of digital learning also explain the concepts to be applied such as, understanding how learners can understand how learners can solve problems and discuss to find solutions for problems that exist and openly shared. This is done to train students, providing experience in presenting their opinions. The media is one device that can be used and exploited in order to improve the quality of learning. Methods that exist today are only using text and blackboard, developed with all the learning support are: Text, Voice, Picture Picture moves and does not move, animations and other necessary devices. All existing ICT devices used functions so that students will feel calm and comfortable in the learning process, which in turn is expected to improve the quality of the learners themselves. The presence of *smartphones* with sophisticated existing technology can be utilized for the learning process for all students. So that teaching and learning can take place anytime and anywhere, and in conditions that anyway. [1]

In the application of learning to use *the smartphone* as a source of knowledge, there are few teaching materials were distributed among others: methods of self-learningbased *smartphones* to improve the competence of motorcycle engines, development of instructional media in the application of the basic concepts of electronics and electricity, development of instructional media e-learning in web programming teaching materials and various other developments are constantly being developed as the needs and capabilities of human resources who can design, design, develop and implement in educational institute, from basic education to institutions of higher education institutions.



Figure 1. LessonsComputer Network

educationalSMK (SMK) is an educational institution level high school (SMA) prepared to fill existing jobs, in levels as younger workers. The process of teaching and learning in SMK yanga greatly affect the quality of the Alumni themselves. Alumni vocational competence level 3 in Curriculum Competence National Indonesia (KKNI) as standards in dumai benefits earned by this agreement between educational institutions with government agencies in charge of labor.

In order to improve the quality of Alumni SMK, then educational institutions still have a moral responsibility to the alumni at least able to provide and develop learning using a mobile *smartphone-based* learning, not just leave school subjects but also provide knowledge in both the business world and the self-employed information job market information. There are several educational institutions that already have and take advantage of ICT developments to monitor Alumni. Parties such as vocational education institutions can provide information services for the alumni as below:



Figure 2. Display Information in Job Search and information systems academic

With the information as a source of learning for Alumni eg containing job information and information subject expertise, is expected to be used as guidelines for learning outside of school. Information job vacancies contain data in accordance with the competence of alumni and contain terms and other things needed. From here the alumni can prepare competency abilities and utilize the school's academic information system that contains information subject matter expertise, along with troubleshooting guides.

Free Competence is consistent with existing majors, for example, Computer Network TKJ contains information about ICT tools latest with the workings and manuals, another example is majoring in automotive containing information machines the most widely used in Indonesia also contains manual and know the address distributors, the next instance of information is becoming young entrepreneurs Successful, this information provides tips and what steps are necessary for Alumni to become entrepreneurs, information marketing, finance, information how to collaborating with the source of the financiers, in this case, the bank, Human resources Management as well as related matters.

Later the alumni can choose whether a worker or be young entrepreneurs. In addition to providing steps, you should also display information luminaries successful in their fields, successful people Indonesia usually give a full address in the form of email or set up a nonprofit that can accommodate inspire the nation namely Habibie Center and how that should be taken if experiences Termination layoffs or declining business. This will greatly affect the psychological condition alumni.

## III. CONCLUSIONS

1. based learning *ubiquitous learning* is a concept and initial steps carried out by the educational institution to implement a learning system based *smartphone* this method combines face-to-face classroom and

meeting online conducted through electronic devices both *smartphones* and PC or laptop through *the Internet* 

- 2. Adoptionsmartphone with *blended learning* using a *cocoa* Talk.The applications in *the smartphone* actually specifically DAPT use and serve as a medium of learning online if done arrangements between faculty and students.
- 3. The effect of Learning-based *Smartphone* in the system of modern teaching that exists today, and advance the use of electronic devices, has an enormous influence in various usage whether done publicly or use in teaching and learning, and this has proven very give benefits for faculty or learners, if in the process of implementation eligible desired by the Ministry of Education both existing at primary school level and SMA or ministry Higher Education.
- 4. the impact that posed by the *smartphone* after determines the impact caused by the advancement of information communication technology ICT will have an impact that is positive impacts and negative impacts. The positive impact will provide benefits for faculty and students in the form of enjoyment in using ICT for the development of science and related information.
- 5. Innovations to improve the quality of education, the last thing that is needed in the use of technologybased learning *smartphone* this is an *innovation* because without innovation there is no assurance process teaching and learning can still take place.

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