Online Management System of UPI FKIP YPTK Padang Education Field Practice

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Abstract. This study aims to develop the management system of PLK in the form of online system based on FKIP UPI YPTK Padang website that is valid, practical and effective. This is because there is no special system to accommodate PLK implementation process as PLK’s online management system. The type of research that the authors use is Research and Development research better known as R & D. System test conducted on students at FKIP Prodi PTI UPI YPTK Padang. The test subjects consisted of the validity aspect of the system performed on 3 validators (expert), and the media practicality aspect that was done on 1 practitioner and 35 students who did the PLK. Instruments used in collecting data in the form of questionnaires of validity and practicality, and effectiveness. The data analysis techniques use Aiken’s V formula to find validity and calculate practicality percentages for practicality and use factor analysis techniques to search for the effectiveness of a website-based online management system. Based on the research that has been done, then obtained online management system based website PLK is www.fkipupiyptk.com, with validity value 0.80 Valid stated. While the average practicable result practiced by practitioners is 97.00% and is categorized as very practical, and the practical average by PLK students is 86.11% with very practical category. Effectiveness seen from the paired sample test t test, obtained a significance value of 0.000 (0,000 <0,05) means that there are significant differences in students who use manual systems with students who use the online system, thus the PLK online management system website is effective to use compared to the system manual.

1. Introduction
FKIP UPI YPTK is an educational institution that has a mission which is conducting good quality researches and is useful for society and academics life, therefore efforts to comprehend the mission continue to be carried out, such as to innovate the current use system. Through the use of the internet and information systems, this educational institution can develop good quality management. Like the technology used, namely information systems.

PLK is one of the compulsory subjects that must be taken and implemented by students. Placing students in partner schools that teach in the field relevant to the curriculum, in the partner schools students are given the opportunity to practice the knowledge gained both during lectures and practices related to their fields. The PLK program is expected to be able to bring FKIP to improve the quality of its graduates as human resources who can later produce professional teacher candidates. The PLK activity is directed through the PLK management that has been prepared in helping students carry out the registration process so that graduates have the ability as educators who are able to animate and explain noble tasks and are able to know directly and broaden their horizons about the organizational
structure and mechanisms of education in schools with presenting accurate, precise and easily obtainable information.

The implementation of the PLK program in the FKIP UPI YPTK has been running for approximately 4 years. During the PLK implementation, there were a number of problems faced because the implementation of the PLK process was still done manually, starting from the registration process where the PLK participants had to come directly to the faculty to register, this was less effective and took a long time. One of the steps taken by students is to register as a student at the selected partner school, at the appointed time. Most of the students came from areas far from campus and caused difficulties in registering themselves as PLK participants. In addition, the management process of the PLK registration in FKIP UPI YPTK Padang took a long time. The average time needed by each student is between 2 to 3 weeks.

Other facts found from the weaknesses of the PLK management system currently in use are: (1) the system has not been able to fully store and process the registration procedure of the PLK implementation of FKIP UPI YPTK which causes in some PLK archive data being damaged or lost (interview with the PLK chairman of FKIP UPI YPTK Padang); (2) registration must follow several stages, in accordance with the standard requirements that have been given by the lecturer who serves as the Chairperson of the PLK; and (3) the information needs of students for the profile of partner schools that will be chosen to become a place of practice have not been fulfilled, so that it does not synchronous between the areas of expertise students have with the competencies taught in schools and (4) The PLK participant registration site is less effective so it caused the dean room is full of students.

Based on the problems above, researchers will develop an online PLK registration system that can facilitate students in conducting the PLK registration process. The PLK online registration system that will be developed can carry out a series of data processing activities and will produce a registration system needed by FKIP UPI YPTK Padang. This research was entitled "Online Management System Of UPI FKIP YPTK Padang Education Field Practice."

2. Literature Review
Information system is a system within an organization that brings together the needs of daily transaction management, supports operations, is managerial and strategic activities of an organization and provides certain outside parties with the necessary reports. It was concluded that information systems are data processing activities that start from collecting, producing, analyzing, storing, and disseminating information for the progress and interests of an organization or

*Definition of Information Systems*
According to Leman (1998: 3) information systems are a system made by humans that consists of components in the organization to achieve a goal that is presenting information. According to Sutarman (2009: 13) information systems are: "Collect, produce, store, analyze, disseminate information for specific purposes". According to Al-Bahra (2005: 13) Information systems are "A system made by humans that consists of components in the organization to achieve a goal that is controlling the organization".

*Educational Field Practice (PKL)*

a. PLK Philosophy
PLK is a series of activities programmed for FKIP students, which include both teaching exercises and training outside of teaching. This activity is a field for creating and developing professional competencies required by the work of teachers or other educational institutions. The target to be achieved is the personality of prospective educators who have a set of knowledge, skills, values and attitudes, as well as behavioral patterns that are needed for their profession and competent and appropriate to use them in organizing education and teaching, both at school and outside school (Oemar, 2009 : 171-172).
b. PLK FKIP UPI YPTK Management System

Educational Field Practices are carried out in schools. School that contains informatics and computer engineering lesson. The place for implementing the student PLK is determined by the Chairperson of the PLK. The next element which becomes the prerequisite of the PLK is the supervisor. The PLK supervisor is selected by the head of the department and department level PLK coordinator. Implementation administration of the PLK program as one of the elements of the implementation of the PLK was carried out starting and assessing the school where the PLK was implemented. The school where students carry out PLK is determined by students.

Relevant Research

Aneu (2017), examines the information system for managing field work practices for vocational secondary schools online at STT Garut. “Based on the discussion presented, this study can produce a new information system that can be applied in STT Garut to shorten the registration process for students who will submit field work practices at STT Garut and a series of work processes for users starting from filling out account data and bio in the registration form, upload a permit letter, see the status of the list, then print a reply letter. This series of work processes is adjusted based on the user and features, starting with the lecturer logging in, looking at the list of registrants, reviewing the reply letter, making admissions selection, viewing member data, viewing the registration report, and filling in the receipt quota amount. This system is designed as attractive as possible so as to facilitate the user in managing it.

Ashshohwah Mulia Ardli Pamungkas (2017) examines management information systems for field work-practices and final assignments ”. The results of this study concluded that with the management information system of field work practices and this final assignment, the time of field work practice can be carried out according to the academic calendar of the Muhammadiyah Pekalongan Polytechnic, and the making of daily activity reports and final assignment reports on fieldwork practices can be done through the system.

Alin (2014), examined the registration system and monitoring the field work practices of the informatics engineering study program ”. The results of this study conclude that the system changes the registration process of student practical work from manual to online, so that student registration data can be accessed by the admin and helps the admin to make the necessary files. The system also provides a new alternative in the field work practice guidance process between students, lecturers and field supervisors. The guidance process is carried out through a system by sending text messages, so that the guidance process can be done without having to meet in person. The Head of Department can monitor student practical work activities through the system.

3. Research Method

The type of research used is Research and Development (R & D). The research and development model of Borg & Gall was modified by the Puslitjaknov team (2011: 11) into 5 stages, namely:
1. Stage of Product Requirement Analysis
   The process of gathering product needs is done intensively to specify the needs of hardware and software so that the website can be understood as to what will be developed.

2. Early Product Development Phase
   This stage is the initial stage of developing an online management system based on the results of the analysis of basic needs.

3. Expert Validation Test
   At this stage a validation test for the product developed is in the form of the FKIP UPI YPTK online management system. Validation tests on this website-based online management system are carried out by IT experts to determine the feasibility of a website-based online management system that has been developed and expert system responses and suggestions for better system improvements. From these results it can be identified whether the product is valid or not.

4. Small Scale Trial
   This stage is the stage of developing small-scale test products from the results of the expert validation test stage. This small-scale trial is the stage for conducting research with practicality testing and product effectiveness testing developed by testing half of the research sample. Questionnaires were disseminated to students in small scale trials to obtain research data in practicality tests and test the effectiveness of the feasibility of products developed. At this stage the initial product revision will be carried out if the product developed is not in accordance with the standards of feasibility.

5. Large Scale Trial
   After conducting a small-scale test the next stage is a large-scale trial involving all research samples. Large-scale tests can be done if the product has been revised, after completing a large-scale test revision of the final product if it is not in accordance with the results of practical tests and test of effectiveness.

   The product developed was the FKIP UPI YPTK online management system. This research will produce a product that is valid, practical and effective.
4. Analysis

4.1 Data Analysis Technique

The data analysis technique used in this study is descriptive data analysis techniques, that is by describing the validity, practicality and effectiveness of using a website-based online PLK management system.

1. Validity Test

The assessment of the validation of the IT expert team was carried out by providing data obtained through questionnaires, analyzed using descriptive statistics. The steps to carry out the analysis are:

a. Scoring for the answers by the following criteria:
   - SS = Strongly agree, the score is 5
   - S = Agree, the score is 4
   - KS = Less Agree, the score is 3
   - TS = Disagree, the score is 2
   - STS = Strongly disagree, the score is 1

b. Adding the scores of each validation for all indicators.

c. Using Aiken's V statistics which is formulated as follows:

\[ V = \frac{\sum s}{(m(c - 1))} \]

Source: Saifuddin Azwar (2014: 113)

Note:
   - s = r – l0
   - l0 = lowest validity rating (1)
   - c = lowest validity rating (5)
   - r = Number given by a validator

2. Practicality Analysis

Practical test data is obtained from data provided by the PLK chair lecturer and students. From all the item scores obtained, then tabulate and look for the presentation using the following formula:

Percentage value = (Amount of each answer item) / Number of items x 100

After the average value of the percentage is obtained, the results score of the analysis on the practicality by the PLK chair-lecturer and students are grouped in the following categories:

| Level of Practicality attainment | Interpretation   |
|----------------------------------|------------------|
| 81 – 100                         | Very Practical   |
| 61 – 80                           | Practical       |
| 41 – 60                           | Pretty Practical |
| 21 – 40                           | Less Practical   |
| 0 – 20                            | Not Practical    |

3. Effectiveness Analysis

Effectiveness test data obtained from questionnaires distributed to students who will do the PLK and students who have done the PLK to compare the effectiveness of the PLK online management system. The measurement technique using the semantic differential scale is a scale to measure attitudes, but
the form is not multiple choice or checklist, but is arranged on a continuum line where very positive answers are located on the right line, and very negative answers are located on the left side of the line, or vice versa.

Data obtained through measurements on a semantic differential scale is interval data. This form of scale is usually used to measure certain attitudes or characteristics that someone has in assessing a system or product. The measurement of the semantic differential scale can be done through the Paired Sample t-Test, that is a type of statistical test that aims to compare the average of two groups in pairs. Paired samples can be interpreted as a sample with the same subject but experience 2 different treatments or measurements, which are measurements before and after a treatment is performed. The requirements for this type of test are: (a) normally distributed data; (b) the two groups of data are dependent (interconnected / paired); and (c) the types of data used are numeric and categorical (two groups). The t-test formula used for paired samples is:

\[
t = \frac{x_1 - x_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2} - 2r\left(\frac{s_1}{\sqrt{n_1}}\right)\left(\frac{s_2}{\sqrt{n_2}}\right)}}
\]

Information:
\(x_1 = Sample\ Average\ 1\)
\(x_2 = Sample\ Average\ 2\)
\(s_1 = Standard\ Deviation\ 1\)
\(s_2 = Standard\ Deviation\ 2\)
\(s_1^2 = Sample\ Variance\ 1\)
\(s_2^2 = Sample\ Variance\ 2\)
\(r = Correlation\ between\ two\ sample\)

After measurement, the results showed that the online management system of PLK FKIP UPI YPTK Padang was effectively used.

5. Result and Discussion
The development of the website-based online PLK management system can then be accessed at fkipupiyptk.com which aims to provide a PLK management system that assists the process of implementing online PLK.

5.1 Validation Test Analysis
In general the results of the promotion website validation data from 3 validators in general the results of website validation based on the presentation of the data are as follows:

| No  | Validation Aspect       | Validator Response | Average | Category |
|-----|-------------------------|--------------------|---------|----------|
|     |                         | V1       | V2      | V3 |         |
| 1.  | User Ease               | 0.83 | 0.68 | 0.78 | 0.76 | Valid |
| 2.  | Information Quality     | 0.75 | 1.00 | 0.83 | 0.86 | Valid |
|     | Visual                  | 0.81 | 0.75 | 0.94 | 0.83 | Valid |
| 3.  | Communication           | 0.75 | 0.75 | 0.75 | 0.75 | Valid |
|     | Comptability            |         |         |     | 0.80 | Valid |
|     | Overall average         |         |         |     |       |      |
Based on Table 2, the average website validation obtained from five validators is 0.80 so it can be concluded that the online PLK management system website is in the "valid" category.

a. Results of Database Design
Databases are designed to facilitate data storage on a website-based online management system.

![Figure 2. Database Design](image)

b. Admin Page Layout

![Figure 3. Admin Page Layout](image)

5.2 Analysis of Practical Test
Practical test data on the PLK online management system website were taken from questionnaires that had been distributed to the PLK chairman and students.

1. Practicality Test Data Based on Response of PLK Chairperson
Practicality is related to the simplicity in using the PLK online management system website. Practical data is obtained through a questionnaire filled in by the Chairperson of the PLK, namely:

| No | Name          | Position                  |
|----|---------------|----------------------------|
| 1  | Menrisal, S.Pd.,M.Pd | Chairperson of PLK FKIP UPI YPTK Padang |

Based on the questionnaire, it can be seen the practicality of the PLK online management system website. The results of the assessment of the practicality of the online PLK management system are summarized in the following table:
Table 4. Table of PLK Chairperson Response of PLK Website Practicality Results

| No | Practical Aspects | Practical Response% | Ket     |
|----|-------------------|---------------------|---------|
| 1  | user convenience  | 96,00               | Very practical |
| 2  | content           | 96,00               | Very practical |
| 3  | Display           | 100                 | Very practical |
| 4  | Benefit           | 100                 | Very practical |
|     | Overall average   | 97,00               | Very practical |

Based on the table above, it is found that the practicality of the PLK chairperson is 97.00% so that it can be concluded that the PLK online management system website is in the "Very practical" category.

2. Large Scale Practicality Test Data Based on Student Response

The practicality of online PLK management system website requires input in the form of a response from students where students are the main users who will use the website. This data is obtained after conducting research by distributing products and questionnaires with several statement items to 35 students who will do the PLK on the PLK registration management system, through questionnaires given to students.

5.3 Large Scale Test of Students who Use the Manual System with Students Using the Online PLK Management System

Large-scale testing is a trial using the entire number of research samples. Testing the effectiveness of this website is by observing and comparing the average of two groups in pairs. Paired samples can be interpreted as a sample with the same subject but experience 2 different treatments or measurements, namely measurements before and after a treatment is performed. The effectiveness testing is carried out by paired sample t-test analysis techniques. From the results of the effectiveness test conducted, it was found that hypothesis testing was carried out by paired sample test using the SPSS program. There were significant differences between students using manual systems and students using online PLK management systems. The decision criteria are if the significance value <0.05, there is a significant difference between students using manual systems and students using the PLK online management system. Based on the tests carried out obtained a significance value of 0.000 (0.000 <0.05) means that there are significant differences between students who before and after using the PLK system.

The results of data processing described above can be concluded that the effectiveness test of students using online website-based PLK management systems is better than students who have not used online PLK management systems or using manual systems. So the online website-based PLK management system was declared effective compared to the PLK manual system based on the t test.

5.4 Discussion

The final result of this research and development is a valid, practical and effective website-based online management system. On the other hand, the application is one of the systems that help in the process of implementing the PLK in FKIP UPI YPTK Padang.

6. Conclusions, Implications And Suggestions

A. Conclusion

Based on the results of a web-based online management system research, it can be concluded that this study provides an online management system website that can be accessed through www.fkipupiypk.com. This website can help students to do PLK registration, check the grade and activities during PLK via the internet without being limited by space and time.
**B. Implications**

The use of m-commerce-based promotional applications, the implications of the results of this study are the logical consequences of online management systems. This online management system website can facilitate the PLK FKIP UPI YPTK management in registering the PLK implementation such as a lecturer entering grades, seeing student activities while in the PLK period at school and for students in registering, seeing the grade and activities of PLK through the internet. Students can register and choose PLK partner schools independently without significant obstacles and disturbances. This website is designed as appealing as possible so that it can be easily used by users, such as lecturers and students.

**C. Suggestion**

1. It is recommended that the PLK FKIP UPI YPTK management provides full support for a website-based online management system so that it can be used as an online system to simplify the PLK management system.
2. It is suggested that the students of FKIP UPI YPTK gave full support to the online management system in order to create an easier implementation of PLK activity in FKIP UPI YPTK.
3. Further researchers are expected to conduct further development research on the PLK FKIP UPI YPTK online management system website.

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