The Effectiveness of WhatsApp Mobile Learning Shows The Existence of Kamal Historical Site Towards Student Interest

R W Hikmah¹, B Soepeno¹, R P N Puji¹* and Sugiyanto¹
History Education, Universitas Jember, Indonesia
Email: rully@unej.ac.id

Abstract. The development of Industrial Revolution 4.0 is very rapidly evolving, characterized by all areas connected through internet systems or cyber systems. The development of information technology leads to learning innovations, one of which is mobile learning. The COVID-19 virus is currently hitting the world. The closure of educational institutions due to the COVID-19 outbreak caused teachers to be instructed to teach through online learning platforms. Mobile learning is a learning model that uses mobile devices such as smartphones, tablets, etc. Students' lack of student interest can be improved by applying comparative methods and often used by students. The Jember region has many ancient relics, one of the antiquities in Jember is Kamal Site. Kamal Site has the potential for historical learning following KD 3.4. The method used is comparative research with a quantitative approach. The study sample was 36 students of SMAN Arjasa. Data collecting used questionnaires via a google form. Questionnaires were measured using a Likert scale. Researchers used a sample paired t-test. The results showed that the post-test value was higher than the pre-test value. Thus there is an increase in Student Interest after implementing mobile learning using WhatsApp. Before implementing mobile learning using WhatsApp the score of students was 30,31 and increased to 36,97. There is a different significance in the test results effect size of 0.66 with the medium category.

1. Introduction
Historical learning is a process of internalizing historical values, skills and knowledge. Several series of events are designed and arranged so that they can influence the learning process of students. History education aims to provide awareness to students of the process of change and development of society in the time dimension. The primary strategy to play an active role is through communication, such as engaging in class discussions, talking about the subject matter when outside the class, and listening effectively [1]. Availability of facilities is an ideal determinant aspect of history learning [2] [23] [27] [31].

Learning media in a learning activity has an important role. Utilizing history learning media is expected to reconstruct or build a past that is still unclear. Industrial revolution 4.0 is a digital age, where all fields are connected to the internet system or cyber system. Freud Pervical and Henry Ellington (1988) said that the development of information technology in the era of the 4.0 industrial revolution led to learning innovations that could take advantage of information technology facilities to improve the quality of learning. Technology is needed in education, tourism and social education at this time [3]. Information and communication technology-based learning is a necessity for students today [4] [28] [30] [32] [34].

Mobile learning is a term to denote learning that involves using a mobile device [5]. Mobile learning makes it easy for educators and students to access learning material anywhere and anytime without being bound by space and time, so users don't have to visit certain places at certain times. E-learning is a learning concept designed with the concept of distance learning by utilizing communication and information technology.

Mobile learning has advantages that can be applied to study various sciences such as language, science, mathematics, and technology [6]. The characteristics of mobile learning are 1) Portability (devices from mobile learning can be brought to different locations); 2) Fast network (mobile learning
devices can be used to access all information anywhere and anytime); and 3) Context sensitivity (devices from mobile learning can be used to find and collect real data) [7].

WhatsApp is an instant messaging application for smartphone users. Recent surveys show that WhatsApp as the only educational tool, used in combination with non-eLearning, use for ad hoc case discussions, literature updates and use for non-education (organizational instruction, social and emotional support) [8] with various features that aim to make it easier for users when communicating. The features provided by the WhatssApp application include Group Chat, WhatssApp on the Web and Desktop, WhatssApp Voice and Video Calls, End-to-end Encryption, Pictures and Videos, Voice Messages, and documents. For the last 10 years, the WhatsApp application has played an important role in mobile learning education [9].

The world is currently experiencing an outbreak of the COVID-19 virus. The rapid spread of COVID-19 prompted the World Health Organization (WHO) to declare it a 'pandemic' on 11 March 2020 [10]. The closure of educational institutions due to the COVID-19 outbreak has had an unprecedented impact on education. Teachers were instructed to teach through online learning platforms [11]. Various media can be used to support online learning, one of which is using mobile learning [12]. During these difficult times, it is very important to develop innovative ways to ensure a quality learning process while also maintaining educators and students [10].

Construction is defined as having a constructive nature, when viewed in educational philosophy, namely "constructivism" which means an attempt to build a modern cultured life structure. Constructivism theory provides activeness for students to learn to find their competences, knowledge and technology, and other things needed to develop themselves. Vygotsky stated that learners should be provided with tools to help them build their knowledge [12]. Mobile learning can be used as a medium to increase and build knowledge in the learning process.

Lack of Student Interest from students can be increased by applying close and often used methods by students. According to Mangal, Student Interest is a significant force that drives a machine in the learning process [13]. According to Dewey, interest is very important for fun learning, and the results of the study indicate that student interest has a positive influence on motivation in learning [14]. Increasing the understanding of historical materials requires the application of methods that can improve cognitive aspects and varied to attract students' interest in learning.

The Jember region has high archaeological potential, archaeological remains from prehistoric traditions to the time of Hindu-Buddhist influence [24] [26] [25] [29] [33]. Soekmono said that cultural heritage objects or sites' function is that they can be used as religious, tourism, social, educational, cultural, scientific and technological interests. The Kamal site is one of the megalithic cultural heritage sites in the Jember area. Kamal's site has potential that can be seen from an educational aspect. Based on the relevance of the curriculum and history subject matter in class VII in junior high school level and class X grade in senior high school. The basic competency used is number 3.4 which reads Understanding the Results and Cultural Values of the Indonesian Praaksara Society and Their Influence in the Nearest Environment's Life.

This study's focus is to determine the effectiveness of mobile learning for Student Interest, showing the existence of the Jember Kamal Site, and finding out whether there are differences before and after using mobile learning in the learning process. This research is expected to be useful for educators as a learning innovation strategy to increase Student Interest in the learning process.

2. Methods

This research uses comparative causal correlation research with a quantitative approach. Comparative causal research is a systematic empirical investigation where the scientist does not control the independent variable directly because the variable's existence has occurred. Quantitative research is scientific research that deals with parts and phenomena and their relationships.

The sample used in this study were students in grade X. The sampling technique used was nonprobability sampling. The type of sampling used was purposive sampling. Purposive sampling is a
sampling technique with certain considerations so that it is feasible to be sampled. This research was conducted in one class containing 36 students.

The data collection method in this study was conducted to obtain accurate data and according to the researcher’s needs. The technique used is a questionnaire data collection method. The questionnaire is a technique in collecting data, done by giving a written question to the respondent to answer the question. The questionnaire was distributed to students of grade X social science class via google form. The questionnaire was given to the pre-test and post-test activities with the same number of questions and research. The questionnaire contains 10 items of the Student Interest indicator.

| No. | Indicator | Sub indicator |
|-----|-----------|---------------|
| 1.  | Pleasure  | a. Having a sense of pleasure when receiving something new  
     |           | b. Have a good feeling in the learning process |
| 2.  | Motivation| a. Having an interest in the lesson  
     |           | b. Trying to find something without giving up |
| 3.  | Attention | a. Learning process concentration  
     |           | b. Focus on the teacher’s explanation |
| 4.  | Need      | a. Feeling the need for subject matter  
     |           | b. Consciousness takes notes in the learning process |
| 5.  | Desire    | a. Having a high curiosity  
     |           | b. Enthusiastic to follow the lesson |

The questionnaire in this study uses a measurement scale in the form of a Likert scale. The Likert scale is used to measure the effectiveness of mobile learning on Student Interest. The assessment of each question on the Student Interest questionnaire uses a rating scale model which requires respondents to answer questions with a choice of answers from STS (Strongly Disagree), TS (Disagree), and SS (Strongly Agree). We can see the scale value of each answer in the table below.

| Questionnaires that have been distributed to students via Google Form have passed the validity and reliability tests. Validity is a measure of the accuracy and accuracy of an instrument when performing its measuring function. Reliability comes from the word reliability, which means that the extent to which a measurement results can be trusted. Researchers here use the Cronbach Alpha test technique. A good reliability coefficient value is above 0.7 (good enough) and above 0.8 (good).  

| Validity Coefficient | Interpretation               |
|----------------------|------------------------------|
| >0,35                | Very useful                  |
| 0,21 – 0,35          | Can be useful                |
| 0,11 – 0,20          | Depends on the circumstances |
| <0,11                | Useless                       |

In this study, data analysis used Paired Sample T-test or paired sample test (paired two-sample difference test). Different tests were carried out to evaluate certain treatments on the same sample but the observation period was different [19]. Data processing in this study using SPSS. The SPSS (Statistical Package for the Social Sciences) is a computer program used to make statistical analyzes.
The difference between the pre-test and post-test results after using mobile learning was calculated using the Cohen effect size. The effect size was used to determine statistically significant differences [19]. The following is the effect size formula according to Cohen [19]

\[
\text{Effect Size} = \frac{t^2}{t^2 + N-1}
\]

The calculation of the effect size is then included in the classification of the criteria effect size. The criteria for the effect size are classified as follows.

Table 3. Effect Size Criteria

| Effect Size Score | Interpretation |
|-------------------|----------------|
| 0.1               | Small          |
| 0.6               | Average        |
| 0.14              | Big            |

(Source: Cohen)

3. Results and Discussion

3.1. Get to know Mobile learning

Mobile learning is a term to denote learning that involves the use of a mobile device. Mobile learning can be defined as "learning in various contexts, through social media and communication features, and using personal devices". This allows students to be able to access subject matter, notes, etc. wherever and whenever they feel comfortable [15].

Atlewell argues that mobile learning has several advantages, namely: 1) Helping students to improve their abilities; 2) Strengthening learning, both individual and collaborative learning; 3) Helping students identify parts that have not and need guidance and support for students; 4) Helping to become an intermediary between mobile hardware (gadget) with technology and information; 5) Helping students in the learning process and can increase the interest of students; 6) Helping students to stay focused on previous learning; 7) Helping to increase the self-appreciation of students; and 8) Helping to increase the level of self-confidence of students.

3.2. WhatsApp Social Media

WhatsApp is an instant messaging application for smartphone users. WhatsApp has several advantages, namely WhatsApp has features sending images, videos, voice, GPS, and documents; There is an incoming message notification when the cellphone is off and will be delivered when the cellphone is back on; there is a status message; there are Broadcast and Groupchat; and save bandwidth.

3.3. Student Interest

According to Mangal, Student interest is an important force that drives a machine in the learning process [13]. Several studies describe the categories of learning interest presented by Schraw and Lehman, including 1) latent interest (long-term interest); 2) actual interest; 3) task-based interests; 4) knowledge-based interest [16]. According to Firmani, the indicators of Student Interest are 1) Enjoyment; 2) motivation; 3) attention; 4) need or need; and 5) Desire.

3.4 Kamal Jember Site

From an archaeological context, a site is defined as an area in which there are artifacts, features, and/or ecofacts. The Kamal site has five hamlets that contain megalithic objects, namely Dusun Duplang, Dusun Klenceng, Dusun Krajan, Dusun Kendal, Dusun Kopang and Dusun Kopang Gumitir. There are several collections of megalithic relics at the Kamal Site, including dolmen, kenong stones, menhirs, stone mortars, stone holes, stone chairs, gilis, cobblestones, hollow stones and etched stones.
The kenong stone is a type of megalithic relic with certain characteristics found in other sites in Indonesia. The general shape of a kenong stone is cylindrical with a protrusion at the top. The function of kenong stone is as a foundation or pillars for house buildings because it is closely related to the aspects of the settlement, and is also associated with a sacred conception, namely as a means of worshipping ancestors.

Menhir is menhir means standing stone (standing stone) or upright stone (upright-stone). There are several versions of the interpretation of the menhir function. The first interpretation, the function of menhirs arranged in groups is as a symbol of their ancestors and at the same time a means of worshiping them. The second interpretation is to mark the grave or grave headstone. Dolmen means stone table. The dolmen's function has many versions, including as a place for activities related to traditional worship ceremonies and as a means of placing offerings in rituals forworshiping ancestral spirits.

The stone mortar is characterized by a single boulder with a round hole at the top of its surface. Lumpang batu has many functions, the first interpretation is as a ritual tool for worshipping the ancestors. The second interpretation is the means used for burial rituals. The third interpretation is a means of pounding grains such as coffee, corn, etc. Stone holes have the characteristic of having holes in the formation and irregular (sporadic) composition which are made on the surface of the rock. Stone holes have a function as a place to hold water and other tasks of rock holes, namely controlling floods and erosion.

Cobblestone is characterized by a collection of stones with a round cross section which is usually placed in one context with the punden berundak. A stone chair has the characteristics of a single stone or an arrangement of stone slabs in the form of a chair consisting of a seat and a backrest. The stone chair has a function of two interpretations, namely as a seat for leaders in performing rituals and as a throne for the arrival of ancestral spirits. A millstone is a tool that is used as a tool for grinding on one side where there is a spout as a channel for removing the grind, usually for grinding grain.

A stone with a hole is a stone with small holes on its surface. The function of the batu belubang is still not known. A stone with scratches is a stone with scratches on the surface of various patterns. The scratched stone functions as a means of sharpening or sharpening metal tools or weapons.

Figure 1. Batu Kenong
Figure 2. Batu Kenong Kembar
Figure 3: Menhir
Figure 4. Lumpang Batu
Figure 5. Kursi Batu
Figure 6. Lubang Batu
The following is a picture of the implementation of mobile learning using WhatsApp.

### 3.5 Data Analysis

#### 3.5.1 Validity and Reability Test

The validity test is used to determine whether the item is valid or not on the student interest indicator. Invalid item items will be discarded and not used, while valid items are used for pre-test and post-test to measure student interest. The data obtained are then calculated using the rough number Product Moment Correlation formula with the help of SPSS version 22 for window.
The decision-making criteria in this study used a significance level of 5%, then:
a) \( \alpha = 0.05 \) or \( \alpha = 0.10 \) with degrees of freedom \( (df = n-2) \)
b) Decision rule: If \( r_{\text{count}} > r_{\text{(table)}} \) product moment means valid and \( r_{\text{count}} < r_{\text{(table)}} \) product moment means invalid. If the significance value < 0.05 = valid and if the significance value > 0.05 = invalid. Based on the results of the questionnaire validity test before and after using mobile learning using WhatsApp, it can be seen that all items have \( r_{\text{count}} > r_{\text{(table)}} \) with the obtained significance value less than the 5% level (0.05), indicating that all question items are valid and can be further analysis was carried out.

Reliability test is used to determine which questionnaire items are reliable. The research instrument's reliability test was the Cronbach Alfa technique using SPSS version 22 for windows. The categories of reliability coefficients are as follows:
0.80 < \( r_{11} \) ≤ 1.00 the reliability is very high
0.60 < \( r_{11} \) ≤ 0.80 high reliability
0.40 < \( r_{11} \) ≤ 0.60 moderate reliability
0.20 < \( r_{11} \) ≤ 0.40 low reliability
-1.00 < \( r_{11} \) ≤ 0.20 reliability is very low (not reliable) [22].

| Table 4. Reliability test |
|---------------------------|
| \( \alpha \) | N Items | Interpretation |
|---------------|---------|----------------|
| 0.906         | 10      | Very High Reliability |

Based on the data in the table above, the questionnaire reliability test results before using mobile learning obtained Cronbach's alpha of 0.906 in the category \( 0.60 < r_{11} \leq 0.906 \) (very high reliability) indicating that the questionnaire item was reliable or the instrument used showed excellent consistency.

3.5.2 Normality test results
The normality test aims to determine whether the data is normally distributed or not. The normalization test was carried out on the students' pre-test and post-test. The normality test in this study used the Shapiro-Wilk test. This study used the Shapiro-Wilk Test because the sample tested was 36 students. The Shapiro-Wilk test is more suitable for small sample sizes (<50 samples) [17]. The decision-making criteria in this study used a significance level of 5%, then:
a) If Sig > 0.05 indicates that the data is normally distributed
b) If Sig < 0.05 indicates the data is not normally distributed
The results of the pre-test and post-test data normality test for Student Interest with the help of SPSS can be seen in the following table.

| Table 5. Normality test |
|-------------------------|
| N | Sig. | Interpretation |
|-------------------------|
| Pre-test | 36 | 0.122 | Data is normally distributed |
| Posttest | 36 | 0.013 | Data is normally distributed |

Based on the data in table 7 above, the pre-test and post-test data are above the sig value, (Pretest = 0.122) and (Posttest = 0.013) are greater than 0.05, so the pre-test and post-test data can be said to be normally distributed. Because the data were normally distributed, the Paired T-Test was carried out. Following are the paired statistical data results, paired correlation, and paired sample t-test based on the pre-test and post-test values.
3.5.3 Paired Sample T-Test

Different tests were carried out to evaluate certain treatments on the same sample but the observation period was different [19]. Paired sample t-test was used if the data were normally distributed. The results of the paired samples statistics data pre-test and post-test Student Interest with the help of SPSS can be seen in the following table.

**Table 6. Paired Samples Statistics**

|       | M   | N  | SD   | Lower | Upper | t     | df  | p value |
|-------|-----|----|------|-------|-------|-------|-----|---------|
| Pre-test | 30.31 | 36  | 4.603 | -8.182 | -5.151 | -8.932 | 35  | 0.000   |
| Postest  | 36.97 | 36  | 1.993 |       |       |       |     |         |

The table of paired samples statistics shows the descriptive value of each variable in paired samples. Based on the table above shows the pre-test average value of 30.31 and Std. Deviation is 4.603, while the average post-test score is 36.97 and Std. Deviation of 1.993. The average post-test score is greater than the pre-test score. So it can be concluded that there has been an increase in Student Interest after implementing mobile learning using WhatsApp. After conducting a paired statistical analysis, the next step is to do a paired sample test analysis.

The mean in the table above shows the average difference in the values of the two variables tested. This average is the difference between the initial test mean and the final test mean. A negative number indicates that the post-test mean score is greater than the pre-test. So there is a difference of -6.667 after applying mobile learning using WhatsApp to Student Interest.

The paired sample test table above shows the significance value (2-tailed) is 0.00. The significance value is smaller than the 5% confidence level threshold (0.00 <0.05). So that the results of the initial test and the final test experience significant changes. Based on the descriptive statistics of the pre-test and post-test, it is proven that the final test is higher. It can be concluded that mobile learning using WhatsApp is effective to increase Student Interest.

3.5.4 Effect Size

The increase in Student Interest was 6.66. This can be seen from the average before using mobile learning of 30.31, then after using mobile learning it increased to 36.97. The effectiveness of mobile learning using WhatsApp displaying Kamal Sites to Student Interest can be calculated using the Effect Size test. Following are the results of calculations using the Effect Size test.

\[
\text{Effect Size} = \frac{t^2}{t^2 + N-1}
\]

\[
= \frac{-8.932^2}{-8.932^2+(36-1)}
\]

\[
= \frac{70.44}{70.44+35}
\]

\[
= \frac{70.44}{105.44}
\]

\[
= 0.66
\]
Based on the calculation of the Effect Size test, it is known that the Effect Size value of 0.66 is in the medium category. The conclusion is that there is a significant difference before using mobile learning and after using mobile learning, showing the Kamal Site to Student Interest with an effectiveness level of 0.66 in the moderate category. The following is a diagram of the increase in Student Interest after using mobile learning.

![Student Interest increase](Diagram 1)

Based on the table above, it can be concluded that the application of mobile learning using WhatsApp is effective to increase Student Interest. The effectiveness of mobile learning using WhatsApp as a learning medium can increase Student Interest with an average pre-test value of 30.31 and an increase in the post-test score with an average of 36.97. Mobile learning using WhatsApp has been shown to increase student interest in historical lessons on the Kamal Site. Mobile learning using WhatsApp is very useful in making students more enthusiastic and enthusiastic in the learning process, and is also very suitable to be applied in this COVID-19 period. Because learning with mobile learning using WhatsApp can be anywhere and anytime. Another opinion that strengthens the results of this study is research conducted by Juliana J. Willemse, Karien Josste and Vivienne Bozalek in 2018, the results of this study indicate that mobile devices provide a learning platform, the application of mobile learning increases engagement, learning in groups makes learning more easier, the time spent completing a task is more flexible [18]. Research conducted by Jongpil Cheon, Sangno Lee, Steven M. Crooks and Jaeki Song in 2012, the results of this study indicate that 87.2% of higher education in America must adopt learning using mobile learning media [20]. Research conducted by Sharifa Alsayed, Nusrat Bano and Hend Alnajjar in 2019, the results of this study indicate that most students use their WhatsApp social media in class to record and document class activities and access websites [21].

4. Conclusions
The research results on the use of mobile learning using WhatsApp to display the Kamal Site to Student Interest were tested with a significance level of data normality and a normality test was carried out with the results of normal pre-test and post-test data. The results showed that the post-test score was higher than the pre-test score. The conclusion is that there are differences and increases in Student Interest. Data analysis was carried out by using paired sample t-test to test the data and showed a 2-tailed significance result of 0.000 which stated that there was a difference after the use of mobile learning. The Effect Size test results prove that mobile learning using WhatsApp has an effectiveness level of 0.66 in the moderate category. The conclusion from these data shows a significant difference after implementing mobile learning using WhatsApp on student interest and mobile knowledge using WhatsApp has been shown to increase student interest. The recommendation of this study is that educators can apply and develop the use of mobile learning using WhatsApp as a learning innovation strategy. Educators can also hone the potential of students.
Acknowledgments
The author would like to thank Mr / Ms Prof. Bambang Soepeno, M.Pd., Mrs. Rully Putri Nirmala Puji, S.Pd., M.Ed., and Drs. Sugiyanto, M.Hum. who have taken the time to provide guidance and advice for the completion of this journal. The author also thanks those who have helped the author and provide encouragement and support.

References
[1] Linvill D 2014 Student Interest and Engagement in the Classroom Relationships with Student Personality and Developmental Variables Southern Communication Journal 79(3): 201–214
[2] Azizah, Umamah, N., Sumardi and Surya, R. A 2020 Development of Inquiry-Based Stopmotion Learning Media in Historical Learning in the Industrial Revolution Era 4.0. Jurnal Historica. 4(1)
[3] Alamsyah MRB et al 2019 Information media on historical tourism: probing into public perspectives in Jember regency IOP Conf Series: Earth And Environment
[4] Elisva, S. Umamah N and Sumardi. 2019. The Effectiveness Of Prezi Media For History Learning Of The Eleventh Grade. Jurnal Historica. 3(1)
[5] Crompton H and Burke D 2018 The use of mobile learning in higher education A systematic review Computers and Education 123(April) 53–64
[6] Sung Y et al 2019 The quality of experimental designs in mobile learning research A systemic review and self-improvement tool. Educational Research Review 28(February 2018) 100279
[7] Cheon J et al 2012 An investigation of mobile learning readiness in higher education based on the theory of planned behavior Computers and Education 59(3) 1054–1064
[8] Pandya, Aadi., Mohammed, E. E., and Kenar, D. J 2020 Use of Semiprivate Smartphone Communication Applications in Nephrology Education Smartphone communications applications 40(3) 303-308
[9] Mohesh, G., & Semmal, S. M 2016 Perceptions on M-Learning through WhatsApp application Journal of Education Technology in Health Sciences 3(2) 57-60
[10] Hughes, B. A., Stallard, J., and West, C. C 2020 The Use of WhatsApp as a Way to Deliver Plastic Surgery Teaching During the COVID-19 Pandemic Journal of Plastic Reconstructive & Aesthetic Surgery 73 1-2
[11] Kapasia N et al 2020 Impact of Lockdown on Learning Status of Undergraduate and Postgraduate Students During COVID-19 Pandemic in West Bengal India Children and Youth Services Review 116 1-5
[12] Bensalem E 2018 The Impact of WhatsApp on EFL Students’ Vocabulary Learning Arab World English Journal (AWEJ) 9(1) 23-38
[13] Rellensmann J and Schukajlow S 2017 Does students’ interest in a mathematical problem depend on the problem’s connection to reality? An analysis of students’ interest and pre-service teachers’ judgments of students’ interest in problems with and without a connection to reality ZDM - Mathematics Education 49(3) 367–378
[14] Kahu, E., Nelson, K., and Picton, C 2017 Student Interest as a Key Driver of Engagement for First Year Students Student Success 8(2) 55
[15] Almaiah, M. A., Alamri, M. M., & Al-Rahmi, W 2019 Applying the UTAUT Model to Explain the Students’ Acceptance of Mobile learning System in Higher Education. IEEE Access 20 1-17
[16] Lee, Y. J., Chao, C. H., and Chen, C. Y 2011 The influences of interest in learning and learning hours on learning outcomes of vocational college students in Taiwan: Using a teacher’s instructional attitude as the moderator Global Journal of Engineering Education 13(3) 140–153
[17] Shapiro SS and Wilk MB 1965 An analysis of variance test for normality (complete samples) Biometrika 52 ¾ 591-611
[18] Willemse, J. J., Karien, J., and Vivienne, B. 2018 Experiences of Undergraduate Nursing Students on an Authentic Mobile learning Enactment at a Higher Education Institution in South Africa Nurse Education Today 1-25

[19] Pallant Julie 2010 SPSS Survival Manual Open University Press

[20] Cheon, J., Lee, S., Crooks, S. M., and Song, J. 2012 An investigation of mobile learning readiness in higher education based on the theory of planned behavior Computers and Education 59(3) 1054–1064

[21] Alsayed, S., Nusrat, B., and Hend, A. 2019 Evaluating Practice of Smartphone Use Among University Students in Undergraduate Nursing Education Health Professions Education 6 238-246

[22] Guilford, J.P. 1956 Fundamental Statistics in Psychology and Education New York: Mc Graw-Hill Book Company Inc

[23] Noviyanti, Magfiroh F, Wahyudi AN, Puji RPN 2020 Analysis of Changes in Student Activity and Learning Patterns During the Pandemic: Case Study of High School Students in Jember Regency. Pancaran Pendidikan. 9 3 10.25037/pancaran.v9i3.297

[24] Waton S, Oktarini R. Ratnasari T and Puji RPN 2020 Bhetoh so’on batik feature creations: promoting the stonehenge van java in Suling Wetan Village, Cermee Sub-District, Bondowoso Regency IOP Conf Series: Earth And Environmental Science 485 012044 doi:10.1088/1755-1315/485/1/012044

[25] Subchan W, Puji RPN, Pratama AR and Lestari RD 2020 Education environment society buffer forest Wonousari Betiri Meru National Park through approach participatory IOP Conf Series: Earth And Environmental Science 485 012139 doi:10.1088/1755-1315/485/1/012139

[26] Alamsyah M R B, Puji RPN and Soepeno B 2020 Information media on historical tourism: probing into public perspectives in Jember regency IOP Conf. Ser.: Earth Environ. Sci. 485 012138

[27] Puji RPN et al 2020 The Students’ Prior Knowledge at The Department of History Education within Tertiary Education IOP Conf Series: Earth And Environmental Science 485 012041 doi:10.1088/1755-1315/485/1/012041

[28] Hidayah B, Na'im M, Puji RPN 2020 Technological content knowledge of history teachers in Jember IOP Conf Series: Earth And Environmental Science 485 012132 doi:10.1088/1755-1315/485/1/012132

[29] Samad A, Hartanto W, Puji RPN 2020 Situs Duplang: Pembelajaran Berbasis Multimedia Animasi Interaktif Di SMA Dalam Perspektif Sejarah Lokal Sindang Jurnal Pendidikan Sejarah dan Kajian Sejarah 2 1

[30] Puji RPN et al 2019 Historical geography: the analysis of geographic condition of Egyptian and Chinese civilizations IOP Conf Series: Earth And Environmental Science 243 012157 doi:10.1088/1755-1315/243/1/012157

[31] Puji RPN and Umamah N 2018 Edmodo Multimedia: Supporting Technology for Media Learning at Higher Education International. Journal of English. Literature and Social. Sciences 3 2456 https://dx.doi.org/10.22161/ijels.3.1.9

[32] Priskilla M et al 2018 Interactive Multimedia Based on Computer Assisted Instruction: Development Efforts on the Learning Interest and Effectiveness in the History Learning International Journal of Humanities and Social Science 5 43 http://www.internationaljournalsssrg.org

[33] Rismayati F A et al 2017 Reyog Ponorogo National Festival as the Cultural Conservation Efforts and Character Education for the Younger Generation The International Journal of Social Sciences and Humanities Invention 4 3768 DOI: 10.18535/ijsshi/v4i8.12

[34] Puji RPN and Ahmad AR 2015 Learning Style of MBTI Personality Types in History Learning at Higher Education Scientific Journal of PPI-UKM 3 289