

Ugaling Pinoy: A Mobile Learning Game Application To Enhance Learning In Values Subject Of Elementary Pupils

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Abstract.

The fact that elementary students are still in the pick of their childhood who loves playing, learning values could be much easier if a game-type of learning will be used. The Ugaling Pinoy: A Mobile Learning Game Application About Edukasyon sa Pagpapakatao (Values Subject), is a mobile learning game developed to teach young children good manners and right conduct in different places and situations. This study was conducted to develop a learning game in values for elementary pupils and to evaluate its effect in their learning specifically in values subject. The system used various software to make the system more interesting and attractive to the end-users such as Basic for Android for coding, Adobe Photoshop for graphics, and Adobe Flash for animation. It was validated by ten (10) IT experts and five (5) values teachers. A total of 30 pupils were selected as the respondents of the study using purposive sampling. Mean, percentage and t-test were the statistical tools employed in the study. The result revealed that the developed learning game has a positive effect on the pupils' learning in values subject. It was concluded that the system was user friendly and is very good in its performance. Furthermore, the study identifies positive effects of learning games - an aspect of intervention plan and demonstrates the potential of such learning games in improving the good manners and right conduct of the pupils.

Keywords: learning values, mobile learning games, Filipino values, t-test

I. INTRODUCTION

The human race has always been fond of games. There are many games that people has been playing in the past few years. The forms and contents of the games have changed during the Stone Age but two things that keep gaming alive is the fun and entertainment of the people from it [4]. It motivates learning, and influences changes in behavior and attitudes. Thus, motivation provided by games should be taken as an opportunity to further explore its possibilities of use in education. Learning while having fun is possible through educational games. It gives an enjoyment to the people who are stress in their studies, work, and even in their personal lives. Furthermore, Values Education focuses on analysis [1], broader application in real-life situations and self-actualization of values processing. In 2012, the shift to k-12 began and it led to update and revise the values education program together with other learning areas in the Department of Education in the Philippines. Values Education had changed into Edukasyon sa Pagpapakatao (humane) and it became a major learning subject for the basic education. There is really a big comparison on the moral values of youths before and after as encountered by the teachers [3]. The use of game-based learning is highly effective for improving learning outcomes [8], dynamic learning and the ability to improve the cognitive and collaborative abilities of learners in their interactions with the environment and all changes are indispensable. Similarly, proposing a gadget where games are created with the aid of experts and academics, may lead to a good deliberation of seamless manner [11]. Also, this novel approach could be a help in a way that use of academic video games can easily be understood rather than the need of programming abilities.

The Department of Education, specifically in the basic education curriculum, mandated that at Grade 1 up to 4th year high school a Values Education subject should be incorporated in all learning areas or subject. With the vast mobile applications in the internet, playstore and google play, students can easily access unfiltered games and applications that may influence their young minds. Values should be a part of each lesson, each topic taken up irrespective of the subject being taught [5]. In this paper, the authors focused on importance of value education, and role of teachers in importing value education. As such, Values should be integrated in various aspects of life. To comply with this mandate, the researchers will develop a game application intended to promote various values topics that will influence the behavior of the children. This can be installed in a mobile phone with minimum requirements of 512mb RAM and 1GB storage capacity. The pilot testing will be done at the OMSC Basic Education Department. Both the students, parents and

teachers can be benefitted in this study since the system is free to be shared to others. The content of the system will be validated by a values teacher, specifically the Edukasyon sa Pagpapakatao-ESP (Values Subject) teachers.

The study aimed to develop A Mobile Learning Game Application. Specifically, it aimed to:

1. develop a mobile learning game application in ESP subject for elementary students with different game categories;
2. Evaluate the performance of game by using ISO questionnaire for software development; and
3. Identify the difference in learning of respondents.

II. METHODS

Research Design

This study utilized a descriptive method of research in evaluating the performance of the system. ISO 9126-1 evaluation tool for software development was used to assess the performance and functionality of the system.

Respondents of the Study

There were 10 IT experts and 5 ESP teachers who evaluated the developed system. There were 30 respondents from grade 3 pupils who used the system and subjected to pretest and post test.

Statistical Treatment of Data

To determine the significant difference on the learning of the pupils t-test was used utilizing the pretest and post test. The correlated t-test was utilized to determine if the students showed increased in their learning after using the learning game. Percentage and mean were used in analyzing the performance and functionality of the developed system which was assessed by IT experts and ESP teachers of Occidental Mindoro State College. The system was installed in the computer laboratory of the basic education department wherein students used it during computer laboratory hours and at the same time a copy of the system was made available for android phones which the students can ask permission from the adviser in acquiring the system. The adviser also informed the parents and guardians of the students that this application is highly recommended to be played at home with or without their supervision. In balancing the human-to-human interaction and e-learning contact with the students, the adviser used the system as a supplemental tool in teaching values subject.

III. RESULT AND DISCUSSION

Project Description

The Ugaling Pinoy: A Mobile Learning Game Application About Edukasyon sa Pagpapakatao, is a mobile learning game developed to teach young children good manners and right conduct in different places and situations. The system used various software to make the system more interesting and attractive to the end-users such as Basic for Android for coding, Adobe Photoshop for graphics, and Adobe Flash for animation. The system runs on android devices which supports operating systems like Lollipop, Marshmallow, Nougat and Oreo. It can also be installed in a laptop of personal computer.

Project Structure

The mobile application consisted the following windows and interfaces:



Fig 1. Main Menu



Fig 2. Character Selection Window.



Fig 3. Sample Game Category



Fig 4. Quiz Game Window



Fig 5. Fill in the Blanks game

Fig 6. Congratulations Page

Project Evaluation

There were 30 randomly selected respondents who evaluated the project. There were ten (10) IT experts/programmers, (5) ESP Teachers, and 15 selected users of the system. An evaluation result shown in table 1, proved that the system was excellent in its functionality and very good in all other criteria like content, organization and design, mechanics, comprehensibility, and maintainability. It is a good indication that the system is accepted by users and performs according to the set objectives of its development.

Table 1. Summary of Evaluation of the mobile application.

| Criteria | Mean | Descriptive Rating |
|-------------------------|------|--------------------|
| Content | 4.11 | Very Good |
| Organization and Design | 4.42 | Very Good |
| Mechanics | 4.41 | Very Good |
| Comprehensibility | 4.03 | Very Good |
| Functionality | 4.53 | Excellent |
| Maintainability | 4.15 | Very Good |
| Grand Mean | 4.28 | Very Good |

Legend: 4.51-5.50 – Excellent; 3.51-4.5 –Very Good; 2.51-3.50–Good; 1.51-2.50–Fair; 0.51.0-1.50 - Poor

Table 2. Summary of values in Testing the Difference Between the Pretest and Post test

| Test | Mean | Mean Diff. | t-Value | Critical Value | Interpretation |
|-----------|-------|------------|---------|----------------|--------------------------|
| Pretest | 12.35 | 7.9 | 8.6659 | 1.729 | Significant at .10 level |
| Post test | 20.25 | | | | |

*p =<.0.10

As shown in Table 2, the post test of the students was higher than the pretest with a mean difference of 7.9. The computed t-value which is 8.6659 exceeded the critical t-value which is 1.729 at 0.10 level. The data revealed that the developed learning game in ESP helped the pupils in learning good manners and right conduct and that this intervention had a positive effect on pupils learning and behavior.

IV. CONCLUSION

In consideration of the objectives of the study and the data gathered and tabulated, the following conclusions were derived:

1. The Mobile Learning Game in ESP was successfully created for elementary pupils that contains quiz and fill in the blanks game types with 4 categories:
 - a. Tahanan (Home);
 - b. Paaralan (School);
 - c. Simbahan (Church); and
 - d. Komunidad (Community)
2. The application was compliant to set standard of software development as it was evaluated “very goods” using the ISO 9126-1 evaluation tool.
3. A difference in the academic performance of the pupils was observed as revealed in their post test result which higher than the pretest result.

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