ISSN : 2548 - 4613
Vol. 5. Desember 2020

Proceedings

The 5th Annual
INTERNATIONAL SEMINAR on Transformative Education and Educational Leadership

Theme : Education Innovation in Globalization Practice

22 September 2020
Postgraduate School - Universitas Negeri Medan

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Schedule of The 5th Annual Internatioanal Seminar on Transformative Education and Educational Leadership (AISTEEL) 2020
Postgraduate School, Universitas Negeri Medan

22 September 2020

(Indonesian time)	Activities	PIC/Moderator
07.00 – 08.30 (am)	Preliminaries	committee
08.30 - 08.45 (am)	**Opening Ceremony** 1. MC Speech 2. Indonesian National Anthem 3. Pray 4. Chairperson Report 5. Welcoming speech of Director of Postgraduate School 6. Welcoming speech and official opening of Rector of Universitas Negeri Medan 7. Photo session	MC (Dr. Anni Holila Pulungan, M.Hum & Sofianto Gultom, S.Pd)
08.45 – 09.25 (am)	Keynote Speech 1: **Prof. Dr. Syawal Gultom, M.Pd** (Universitas Negeri Medan– Indonesia)	Dr. Rahmad Husein, M.Ed
09.25 – 10.05 (am)	Keynote Speech 2 **Prof. Emmanuel Manalo** (Graduate School of Education, Kyoto University, Japan)	Prof. Amrin Saragih, PhD
10.05 – 10.45 (am)	Keynote Speech 3 **Dr. Susan Ledger** (Head of Education, Murdoch University - Australia)	
10.45 – 11.25 (am)	Keynote Speech 4 **Prof. Dr. Ekkarin Sungtong** (Dean of Faculty of Education Prince of Songkla University - Thailand)	Mangara Simanjorang, PhD
11.25 – 12.05 (am)	Keynote Speech 5 **Assoc. Prof. Yuri Uesaka** **(**The University of Tokyo - Japan)	
12.05 – 13.30	**Break**	
13.30 – 15.30 (pm)	**Parallel Session 1** **(divided to 19 parallel rooms)**	Moderator/Operator
15.30 – 15.35 (pm)	Break	
15.35 – 17.00 (pm)	**Parallel Session 2** **(divide to 19 parallel rooms)**	Moderator/Operator
17.00 – 17.10 (pm)	Cloossing	committee

Proceedings of the 5th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2020)

Preface

The fifth Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2020) was held by virtual seminar on 22 September 2020. This seminar is organized by Postgraduate School, Univesitas Negeri Medan and become a routine agenda at Postgraduate program of Unimed now.

The AISTEEL is realized this year with various presenters, lecturers, researchers and students from universities both in and out of Indonesia participating in, the seminar with theme "Educational Innovation in Globalization Practice".

The fifth AISTEEL presents 4 distinguished keynote speakers from Universitas Negeri Medan - Indonesia, Kyoto University - Japan, Murdoch University – Australia, Prince of Songkla University – Thailand and from The University of Tokyo - Japan. In addition, presenters of parallel sessions come from various Government and Private Universities, Institutions, Academy, and Schools. Some of them are those who have sat and will sit in the oral defence examination. The plenary speakers have been present topics covering multi disciplines. They have contributed many inspiring inputs on current trending educational research topics all over the world. The expectation is that all potential lecturers and students have shared their research findings for improving their teaching process and quality, and leadership.

There are 180 articles submitted to committee, some of which are presented orally in parallel sessions, and others are presented through posters. The articles have been reviewed by double blind reviewer and 104 of them were accepted for published by Atlantis Press indexed by International Indexation, while 54 papers are published by digital library indexed by google scholar..
The Committees of AISTEEL invest great efforts in reviewing the papers submitted to the conference and organizing the sessions to enable the participants to gain maximum benefit.

Grateful thanks to all of members of The 5th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2020) for their outstanding contributions. Thanks also given to Atlantis Press for producing this volume.

The Editors

Bornok Sinaga
Rahmad Husein
Juniastel Rajagukguk

Table of Content

Development of Interactive Learning Media in Character Formation Kindergarten

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Abstract*— This study aims to determine: (1) The feasibility of developing interactive learning media with Adobe Flash CS6 on the character building of Kindergarten. (2) The effectiveness of using interactive learning media based on Adobe Flash CS6 in character building for Kindergarten. The stages carried out in this development are the needs analysis stage, the instructional media planning stage and the design stage. This research is a development research developed with the Dick and Carey development model combined with Borg and Gall, involving 40 participants who were randomly drawn from children aged 5-6 years from two classes of Sint Xaverius Kabanjahe Kindergarten. Validation questionnaires from experts are used to explore the feasibility of media and character building is developed and tested through the attitudes of children.Data analysis with descriptive statistics to develop the state of the data. Needs analysis and hypothesis testing were tested with inferential statistics. The analysis requirements with the lilliefors test were met. The development stage and the testing or validation stage. The results showed (1) The material expert test was very good (92.05%). (2) The qualification of the instructional media expert test is very good (87.15%), (3) the learning design test is very good (91.25%) (4) The individual test meets the requirements (93.60%), (5) The small group test meets the requirements very good (92.50%), (6) The qualification of the field test is very good (90.60%). There are differences in character building learning outcomes using stories and interactive multimedia based on Adobe Flash CS6, which are indicated by significant results between users of interactive multimedia based on Adobe Flash CS6 and storytelling models. Shown with results 30.05 > 24.50, α = 0.05. The results of hypothesis testing prove that there is a significant difference, this is indicated by the results of data processing t count = 3.53 at a significant rate = 0.05 t table = 2.57. It was concluded that the interactive multimedia based on Adobe Flash CS6 developed is feasible and effective to improve character building in kindergarten age children

***Keywords*—** *Learning Outcomes, Multi media, interactive, Adobe Flash CS6.*

I. INTRODUCTION

Early childhood education from birth 8 years old to bring up intelligence, social, emotional, language development and physical learning in Marjorie (2017: 3) early childhood education focuses on laying the foundation towards moral and religious growth and development, physical development, intelligence / cognitive in the form of thinking power, creativity, social and emotional (attitudes and emotions), language and communication in accordance with the uniqueness and stages of development in the age group that is passed so that children experience readiness to enter further learning, which is held in formal channels, non formal and informal.

When the child is between 0-6 years of age, the brain develops very quickly, up to 80 percent of Inayah (2013). At that age the brain receives and absorbs various kinds of information, not seeing good or bad. Those are the times when physical, mental and mental development is a very effective time to develop various potentials and personalities possessed by children. This development effort can be done in various ways, including through character education in learning. There is no best time to start a career in early childhood education, Unesco (2007).

Children whose education and care are high quality demonstrate a higher level of language development, better social potential, better ability to regulate children's behavior, and better academic performance than their counterparts in low-quality programs (Marjorie, 2017: 13) . Opinions formed by children are strongly influenced by educational experiences at an early age. Based on four decades of research, it is known that high-quality early childhood education programs can help children succeed in school and in their future lives Marjorie (2017: 5). Regarding the development of early childhood competence, the 2013 Curriculum PAUD Syllabus states that the core competencies in early childhood character values are religious values, care for the environment, responsibility, independence, discipline and honesty. According to Salahudin (2013: 45) character education is character education plus, which involves aspects of knowledge (cognitive), feelings (feeling), and action (action). The application of character education in children of this age can be stated in the daily program in each assigned work so that the child is ready to follow the next level of education and adulthood. This activity is not only related to cognitive abilities but also mental, social

and emotional readiness. Therefore, the implementation must be done in an interesting, varied and fun way.

According to Bertrand (2017: 24), the process of education and character building will bear fruit if there is interaction between students, teachers, parents and the community. Interaction is communication, contact and activities with adults that support the achievement of indicators and the development of skills related to the child. Interaction can also be through learning media so that students can interact directly. The use of instructional media at the teaching orientation stage will greatly assist the effectiveness of the learning process and the delivery of messages and lesson content at that time, so that the objectives of learning can be maximally achieved. Media can change children's behavior (behavior change), with appropriate learning media that will help teachers in shaping children's character.

Learning by using computer software will be more effective than other tools. This is in line with the view of Heinich (1993: 215) which says that computers can enrich teaching techniques, and through computers as a complement in delivering memorable and quality teaching. One of the software that is rich in interactive animation is Adobe Flash CS6 software. Adobe Flash CS6 is a software specially designed by Adobe and a professional standard authoring tool application program that is used to create animations and bitmaps that are very attractive for the purposes of building interactive and dynamic web sites. Adobe Flash CS6 provides a variety of features that will really help animators make animation easier and more interesting. Adobe Flash CS6 is expected to make it easier for children in Kindergarten to understand the material presented by the teacher.

The development of teaching materials for character building materials includes religious values, caring for the environment, responsibility, independence, discipline and honesty using Adobe Flash CS6. Adobe Flash CS6 interactive media can help the teaching and learning process, because the software is equipped with various forms of media so that students do not only hear or see, but students can play an active role (independent learning) in the learning process. Effective and fast learning means that students must see, hear and feel. The development of this teaching material is expected to form the character of early childhood, especially at the age of 5 - 6 years. According to the needs analysis and observations of teachers and students in Sint Kindergarten. Xaverius Kabanjahe is (1) the average number of students in one class is 25 students who are accompanied by one teacher. This results in the teacher being less than optimal in interacting with students, so that the child's personality is not paid attention to, (2) Learning activities are still not optimal because teachers tend to give learning by lecturing stories (3) limited interesting learning media so that the learning objectives conveyed are less right on target, (4) children's character, especially personality is still lacking, for example speaking ethics, mutual assistance, and cooperation among students is low, (5) the lack of using appropriate character education approaches and methods in shaping early childhood character, then the process learning will be passive and not provide concrete experiences for children, (6) there is a lack of synergy between school and family education. Based on the description above, interactive, interesting and fun learning media will be developed. So it is hoped that character building through examples in interactive media with Adobe Flash CS6 software can be a provision for students now and when they are adults, this interactive media can also be used by parents at home to build children's character. Because this interactive media is packaged on a CD, so that parents and teachers can jointly shape children's character through learning CDs and the role models of parents and teachers at school. This interactive media is expected to be able to overcome the difficulties of teachers in building children's character due to the lack of teaching staff, this media is also very effectively used in learning. Sadiman (2011) states that there are 4 (four) benefits of interactive teaching media, namely: (1) to clarify the presentation of the message so that it is not too verbalistic, (2) overcoming the limitations of space, time and sensory power, (3) to overcome passivity students, and (4) make it easier for teachers to convey the content of the subject matter ". Through interactive learning media, teachers in delivering subject matter are expected to be clearer and easier for students to understand. The teacher no longer needs to convey all the subject matter through lectures, but the teacher serves as a facilitator in solving learning difficulties experienced by students

II. METHOD

This study uses the Research and Development (R&D) method. It is said that because the research product offered is the development of interactive multimedia learning based on Adobe Flash CS6 in geography learning. Gall, Gall and Borg (2003: 569) say that development research is characterized by the presence of research products and procedures that can be systematically tested in the field, validated / evaluated, and improved until the product meets several criteria, including effectiveness, quality, and standards. standard. For this reason, in this research and development, products in the form of interactive learning multimedia based on Adobe Flash CS6 will be tested for their feasibility and effectiveness. This research will use the research and development model (Reasearch and Development) from Borg and Gall (2003) combined with the instructional development model from Dick and Carey (2001). This learning product development model is a model that is programmed in a systematic order and meets the characteristics of students in learning. In the research and development model of Borg and Gall, there are ten steps, namely: (1) research and data collection, (2) planning, (3) initial product development, (4) initial field trials, (5) product revision of trial results initial field trials, (6) main field trials, (7) product revision of the main field trials, (8) operational field trials, (9) final product improvement, and (10) dissemination and implementation. This research was conducted at TK Sint Xaverius Kabanjahe which is located on Jalan Lieutenant Average Warin-Angin no 11, Gung Leto Village, Kabanjahe District, Kabanjahe academic year 2018/2019 odd semester. The population in testing the effectiveness of the development product was all students of class B roses. Samples will be taken from populations where

Class B Mawar I as the class will be given learning using interactive learning media based on Adobe Flash CS6 and class B Mawar II who will be given learning using storytelling media. Data analysis in this study used quantitative descriptive analysis. All data will be analyzed using descriptive statistical techniques which are quantitatively separated according to categories to sharpen the assessment in drawing conclusions. Qualitative data in the form of the statement "Very Poor, Poor, Moderate, Good and Very Good" is converted into quantitative data with a scale of 1 to 5. The results will be averaged and used to assess the quality of the learning courseware developed. Courseware criteria will be converted into avalue on a scale of five using a Likert scale which is analyzed descriptively with the percentage formula as follows:

Percentage = (number of scores obtained) / (ideal number of scores for all items) x 100%

Determination of the eligibility criteria for developed interactive media products is presented in Table 1

Table 1. Product Eligibility Level Criteria

Percentage (%)	Criteria
0 – 20	Very Poor (Not Eligible)
21 – 40	Poor (Not Eligible)
41 – 60	Fair (Fair Enough)
61 – 80	Good (Decent)
81 – 100	Very Good (Very Decent)

For the effectiveness test, a two-party test formula will be used:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$ (Sudjana, 2005:239)

Before carrying out the t test, several prerequisite tests were carried out which included: (1) data normality test using the lilliefors technique, and (2) data homogeneity test using the Fisher test. The research hypotheses to be tested are:

Ho = there is no difference in learning outcomes for character building of students who are taught using interactive learning media based on Adobe Flash CS6 with students who are taught by telling stories.

Ha = There are differences in the learning outcomes of character building students who are taught using interactive learning media based on Adobe Flash CS6 with students who are taught using storytelling media.

III. RESULTS

Based on product validation through a series of trials and revisions that have been carried out, the Interactive learning media based on Adobe Flash CS6 has a valid status. The trial was carried out in 4 stages, namely: (1) evaluation of the instructional design experts, and instructional media experts, (2) individual trials, (3) small group trials, and (4) field trials.

1) Material Expert Validation Results

Validation of material experts on the development of interactive learning media based on Adobe Flash CS6 was carried out by two learning material experts. The assessment was carried out to obtain information used to improve the quality of interactive learning media based on Adobe Flash CS6, especially in the formation of children's character. Material Expert Validation Results

Table 2. Expert Assessment Scores for Learning Materials

No	Aspect	Reviewer		Score	Average	Percentage (%)	Remarks
		1	2				
1	Content Feasibility	42	43	85	7,73	92,05	Very Good
2	Presentation Feasibility	39	39	78	7,80	97,50	Very Good
Average Total Score					7,76	97,05	Very Good

According to the expert on the quality of Interactive Flash learning media based on Adobe Flash CS6 from the aspect of the quality of learning materials worth 7.76 which is in the range of very good criteria (97.05%) which means "worth to use".

2) Media Expert Validation Results

The validation of learning media experts was carried out by two instructors of learning media. Learning media experts validate the product aspects of learning media including the design of instructional media consisting of covers, media layout, use of letters, and illustrations in images. While the design aspects of Interactive learning media content based on Adobe Flash CS6 based on Adobe Flash CS6 consisting of elements of layout, typography of letters and image illustrations.

Table 3. Learning Media Expert Rating Score

NO	Aspect	Reviewer		Score	Average	Percentage (%)	Remarks
		1	2				
1	Media Design	34	30	64	7,11	88,89	Very Good
2	Media Content Design	64	72	136	7,16	89,47	Very Good
Average Total Score					7,13	89,18	Very Good

According to learning media experts the quality of Adobe Flash CS6-based Interactive learning media from the aspect of media skin design and media content design is worth 7.13 which falls within the range of criteria "worth testing after being corrected". The percentage of total scores from learning media experts was 8.18% which was included in the "Very Good" category.

3) Learning Design Expert Validation Results

The validation of the learning design expert was carried out by two learning design experts. The learning design expert validates the product aspects of learning design including aspects of the attractiveness of physical appearance consisting of the attractiveness of colors in the media, proportional (layout of text and images), aspects of accuracy in the use of design consisting of the accuracy of topic selection, compatibility of material with learning indicators, aspects of format suitability consisting of format conformity, aspects of presentation with target characteristics consisting of clarity of material description in the media, clarity of examples given in learning media, use of new information, aspects of clarity of media instructions consisting of the use of instructions in instructional media, explanation of terms on the media, the use of texts, the ease of learning media, the clarity aspects of the material consisting of the material presented, the relevant material, and the suitability aspect of the evaluation with the material consisting of exercises and questions.

Table 4. Learning Design Expert Assessment Scores

No	Aspect	Reviewer		Score	Average	Percenta-ge (%)	Desc.
		1	2				
1	Winning Physical Appearance	15	14	29	7,25	91	Very Good
2	Appropriate Design	24	23	47	7,83	98	Very Good
3	Conformance Format	4	4	8	8,00	100	Very Good
4	Dishes with Goal Cataracts	12	12	24	8,00	100	Very Good
5	Clarity of Media Guidance	22	20	42	7,00	88	Very Good
6	Clarity of Material Exposure	12	12	24	8,00	100	Very Good
7	Conformity Evaluation with Material	4	4	8	8,00	100	Very Good
Average Total Score		7,54		94			Very Good

According to learning design experts the quality of Geography learning media from the aspect of Adobe Flash CS6-based Interactive learning media has a value of 7.54 which is within the range of very good criteria. The percentage of total scores from learning design experts is 94% which falls into the "Very Good" category.

4) Results of Phase I of Individual Trials

Individual trials were conducted at TK Sint. Xaverius Kabanjahe. Individual trials were conducted on 3 students consisting of 1 person with high achievement, 1 person with moderate achievement, and 1 person with low achievement. The purpose of this individual trial is to identify deficiencies in learning products after being reviewed by experts. The assessment and input of this trial is about the presentation of learning products including the feasibility of content, the feasibility of presentation and the feasibility of language. The students' responses in the individual trial at TK Sint Xaverius Kabanjahe that this interactive learning media from the aspects of content feasibility, presentation feasibility, and language feasibility are assessed overall, each of them is included in the “Very Good” criteria, namely 95.81%.

5) Results of Phase II Small Group Trials

Small group trials where interactive learning media based on Adobe Flash CS6 were implemented to 9 students at Sint Xaverius Kabanjahe Kindergarten, namely 3 high achieving students, 3 medium achieving students, and 3 low achieving students. This small group trial data is used as initial experience before the product is tested in the field. The trial conducted at Sint Xaverius Kabanjahe Kindergarten which was conducted by 9 students showed that the total score percentage was 96.10% so it can be said that Interactive learning media based on Adobe Flash CS6 from the aspects of content feasibility, presentation feasibility, and language feasibility are included in the criteria " Very good".

6) Results of Phase III Field Trials

Field trials were carried out after individual trials and small group trials were carried out. Field trials were carried out at Sint Xaverius Kabanjahe Kindergarten for 20 students of class B Mawar. Field trials were conducted in the classroom and each student was divided into 5 groups, in which each group consisted of 4 students. Each group of students used 1 Interactive learning media based on Adobe Flash CS6. Field trials produce data that will later measure the feasibility of the product being developed, and to find out the benefits of the product for its users.

The results of students in the field trial at TK Sint Xaverius Kabanjahe in class B Mawar odd semester explained that interactive multimedia learning media based on Adobe Flash CS6 from the aspects of content feasibility, presentation feasibility and language feasibility in the overall value of each

belong to the category " Very Good ", the percentage of the total score from all aspects is 94.81% so that if it is included in the percentage category according to Sugiyono (2011) then the validation of Interactive multimedia learning media based on Adobe Flash CS6 is categorized as" Very Good ".

Product Effectiveness Test

Data Normality Test

The data normality test is used to find out whether the data obtained is normally distributed or not. This test uses the lilliefors test formula with the criterion that the data distribution is normal if the Lhitung results <Ltable, then the data is normally distributed, otherwise if the Lhitung results> Ltable are declared abnormal. this normality is used to find out the sample used whether it comes from a normal distribution population or not. Thus there are two groups of normality tests, namely:

Group I: Learning Geography results before using Interactive multimedia based on Adobe Flash CS6

Group II: Geography learning outcomes after using Interactive multimedia based on Adobe Flash CS6

Calculation results for the significant level ɑ = 0.05 obtained Lh values for all groups smaller than Ltable, this can be seen in the appendix. Thus it can be concluded that the learning outcomes data for all data groups I and II are from normally distributed populations.

Table 5. Recapitulation of Data Normality Test Results

Group	Number of Samples	L_{hitung}	L_{tabel}	Conclusions
I (Without Interactive Multimedia based on Adobe Flash CS6)	36	0,011	0,147	Normal
II (With iteractive multimedia)	36	0,007	0,147	Normal

From the table above it can be seen the calculation results for student learning outcomes before using Interactive Flash based Adobe Flash CS6 multimedia conducted at TK Sint. Xaverius Kabanjahe for a significant level α = 0.05 obtained a maximum Lhitug of 0.011. In the list of critical values of L for the Liliefors test with n = 36, namely Ltable = 0.886 / (√n) = 0.886 / (√36) = 0, 147 Because the value of Lhitung <Ltable, which is 0.055 <0.147, it concludes the student learning outcomes data before using Interactive Flash-based Adobe Flash CS6 multimedia that was carried out at TK Sint. Xaverius Kabanjahe with normal distribution.

To conduct a homogeneity test in this study carried out using the Fischer Test. Samples have a homogeneous variance if Fhitug <F table at significant α = 0.05, calculated using the formula:

F = (greatest variance) / (smallest variance)

The amount of variance for tests that do not use Interactive Flash based Adobe Flash CS6 multimedia with n = 36 is 5.96 and the variance for tests that use multimedia with n = 36 is. 10, 27. Then Fcount in the homogeneity test is 1.72.

Determine the F table in the homogeneity test that is by db numerator = k-1 (for the largest variant) and db the mentioner = k-1 (for the smallest variant). Then the db numerator is 36-1 = 35 and the mentioning db is 36-1 = 35 then the F table at the significance level = 0.05 is 1.78. Then Fhitug = 1.72 <F table = 1.78, the homogeneity test using the Fisher test concludes that Ho is accepted and has the conclusion that the two data groups have the same or homogeneous variants

Adobe Flash CS6 based Interactive Multimedia is appropriate to use because using multimedia in the classroom is one of the good activities to encourage students to learn (Jianing, 2007). Similarly, Constantinescu (2007) stated that multimedia refers to computer-based systems that use various types of contents such as text, audio, video, graphics, animation, and interactivity and this media can improve student learning outcomes.

According to Arsyad (2011: 35) the benefits of using instructional media in the teaching and learning process are as follows: (1) Learning media can clarify the presentation of messages and information so as to facilitate and improve the process and learning outcomes. (2) Learning media can increase and direct children's attention so that it can lead to learning motivation, more direct interaction between students and their environment, and the possibility of students to learn independently according to their abilities and interests, (3) Learning media can overcome sensory limitations, space, and time, and (4) Learning media can provide students with a shared experience about the events in their environment.

From the explanation above, it can be concluded that the Interactive Multimedia based on Adobe Flash CS6 is feasible because Adobe Flash CS6-based Interactive Multimedia is compiled based on existing theories so that the learning media is feasible to be used in learning.

IV. CONCLUSION

Based on the results and discussion of interactive multimedia development research conducted, it can be concluded as follows:

Interactive multimedia with Atmospheric material is feasible to use with presentation of material validation 92.05% included in the category of "very good", validation of media experts 87.15% included in the category of "very good", validation of learning design experts 91.25% included in the category of "very good". Individual trials gave a presentation of 93.60% included in the "very good" category, the results of the small group trials received a presentation of 92.50% in the "very good" category and the results of the field trials obtained a percentage of 98.57% included in the "very good" category.

Student learning outcomes Geography taught by using interactive multimedia is higher than learning outcomes Student geography that is taught without interactive multimedia is tested through a statistical test t with the test results showing a price of 30.05 > 24.50, α = 0.05. Based on

the results of this study also obtained data on average value of students who were taught by using interactive multimedia higher, namely 31.38 compared to the average value of students who were taught without interactive multimedia, which amounted to 26.58.

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