Original Research Article

Fire Mitigation Game Assisted Project Based Learning Model Towards Elementary School Student's Cognitive Skill

Abstract

Cognitive skill was a needed effort for students in nowadays modern era that occurs continuously. The use of fire mitigation game application trough project-based learning was an effort to support the stage of cognitive skills. The main purpose of the research was analysed the model of project-based learning assisted by fire mitigation game in order to improve the student's cognitive skills. The method that applied in this research was quantitative research that conducted towards 55 SD Muhammadiyah 9 Surabaya students. The participant selection was purposive sampling based on the inclusion criteria that conducted by the researchers and the data collection was conducted by learning implementation observation and student's critical thinking level test. The data that collected in the research was statistically analysed trough correlational approach (correlational research) and linear regression. Based on the research it was showed that correlation coefficient gained significances values about 0,000 < 0,05 it was confirmed that H_0 was rejected and H_1 was accepted. Therefore, based on the analysis of the research data it was appropriate with normality test by histogram graphic with bell form without leaning right or left, so that the histogram graphic was recognized as normal. It was also recognized as normal because of normality pretest based on Q-Q plot that the plots was showed the fit line, so that the distribution recognized as normal, because the data above was following the normal line. Responding the result of the analysis that conduct by significances values (sig.) in the F-Test was 0,000. Because sig. 0,000 < $\alpha = 0,05$ it could be summed up that there are influence of Project-based learning model assisted by fire mitigation game towards the student's cognitive skills in elementary school.

Keywords: Project Based Learning model, fire education game, student's cognitive skills.

INTRODUCTION

The disaster problem was one of the exclusive attentions for the whole people in the world, because it has massive impact towards the life sustainability and security (Baryshnikova & Pham, 2019; Chantarat et al., 2019). Disaster was natural phenomena that often occur unpredicted by the people and sudden come over (Boudreaux et al., 2019; Machts et al., 2016). The natural disaster phenomena that often occur in the world were flood landslide, earthquake, and wildfire (M. Murray & Watson, 2019; Stephens et al., 2019). Generally, the natural disaster that often occur was wildfire especially in metropolis city that the community settlements were tight each other (Liu et al., 2019). The fire disaster can create some terrible impact since psychological impact and the people social-economy (Baryshnikova & Pham, 2019; Boudreaux et al., 2019). Fire disaster was become the one of the important things to noticed due to avoiding the rise of disadvantages in people social economy in general (Knijnik et al., 2019; Stephens et al., 2019).

The fire disaster that occurred must be the serious attention for the various circles including in the education circle in the form of early educated the students continuously (Kholodnaya & Volkova, 2016; Strandqvist et al., 2018). Due to the fire disaster that hardly predicted, so that the people must be given the comprehension and skills in the process of disaster management especially in fire due to minimalized the risk and impact of the disaster (Jara et al., 2018; Kiss et al., 2016). The minimalization of risk disaster were designed due to establish the continuous public safety by education (Kholodnaya & Volkova, 2016). The disaster education was one of the internal solutions in public especially students due to minimalized the impact of disaster, and habituated to aware towards the disaster that will happen (Fuermaier et al., 2019; Kiss et al., 2016). The disaster education has various forms since the disaster managements, disaster education to the disaster awareness, and local wisdom in disaster management (Knijnik et al., 2019; Muñoz-Murillo et al., 2020). The disaster mitigation activity in this digital era were must be designed interactively in the form of interactive and fun education (Albar & Southcott, 2021; Panskyi et al., 2019).

The interactive and fun learning media was needed to improve the student's learning interest that could be assisted to the development of the student's intelligence in the learning process(Wake et al., 2020; Xiao et al., 2020). One of the interactive learning media was the use of fire mitigation education games that collaborated by augmented reality (Cho et al., 2020; Potvin et al., 2021). The fire mitigation that designed by the education game that was integrated with mobile segmented reality media (Jossan et al., 2021; Yaqi et al., 2021). This mitigation game media was more emphasized in student's visualization in 3D picture that assisted by Augmented reality (AR) that consisted of education content, it will be more meaningful in the process of learning and running well (Brezovszky et al., 2019; Wood & Donnelly-Hermosillo, 2019). The teachers can used the game that integrated with the media and adapted with the implemented curriculum that needed (Ninaus et al., 2019). The advantages of the interactive's media will be more effective than using conventional media (Sahin & Yilmaz, 2020; Yang et al., 2021).

In the 21st century skills nowadays were emphasized on the technology as the best way to gave the expression space to the students in the process of learning (Kaghat et al., 2020; Schöbel et al., 2021). This game media was conducted by project-based learning (PjBl) in Social-science subject (IPAS) that more emphasized to product the project by exploration learning process, assess, interpreted, synthesize, and gaining information (Dell & Chudow, 2019; Visser et al., 2019). By PjBl model and fire media that applied could improved the student's cognitive skills in elementary school (Cole & Ruble, 2021; Sandrone & Carlson, 2021). In the other sides the PjBl model become the learning process that oriented to produce a project, that the students can develop based on the either theme or topics in the realistic learning (Hernáiz-Pérez et al., 2021). In the other way, the implementation of project-based learning (PjBL) through fire mitigation media was support the creativity, independence, responsibility, confident, critical thinking and student's analytics (Keys et al., 2021; Ruslan et al., 2021).

The implementation of the project-based learning model trough fire mitigation media was needing relatively long time and focused on the student's activities (Baryshnikova & Pham, 2019; Machts et al., 2016). In understanding either concept or principal by truly investigating about the problem and found the relevant solutions and implemented on the process of project (Bardach & Klassen, 2020; Boudreaux et al., 2019). Therefore, the students could have some experience about the meaningful process of learning by establish their self-cognitive skill (Garzón et al., 2020; Machts et al., 2016). In the simple way, the development of student's cognitive skills was influenced by learning situation and how the teachers applied the learning model that appropriate with the needs and more interactive (He et al., 2021;

Martins et al., 2016). Due to improve the student's cognitive skill it needs an activity that the students could analysed the problem by themselves through processing the materials, make a prediction, stating the problem, observe and communicate about the result (Sallam et al., 2021; Sansevero et al., 2016).

By the model of PjBl learning that combined with the augmented reality technology with fire mitigation design gave the expression space for the students, so that the students were felt free to self-actualization based on their stage of skills (Gruneberg et al., 2016; Pascapurnama et al., 2018). Education about fire disaster mitigation through project-based learning model with the orientation make the students interests and easy to understand the materials, because the learning model confront the students to be the centre of learning and practice and produce a project directly (Liu et al., 2019; M. Murray & Watson, 2019). In the process of conducting the project, the students were assisted by fire mitigation media with mobile augmented reality (Pourebrahim et al., 2019; Proulx & Aboud, 2019). The education media was totally assisted the students due to conducting the project and will be finished in the form of e-poster with interesting and aesthetic display that conducted by the students group by their own imaginations (Gnambs & Appel, 2017; Pan et al., 2021).

METHOD

Research Design

This research was using quantitative method by simple-linear regression analysis technique. The subject of the research was students of SD Muhammadiyah 9 bahari, Surabaya with treatment such as project-based learning assisted by fire mitigation game as an effort to improve the student's cognitive skills in elementary school. The independent variable in this research was project-based learning model assisted by fire mitigation game. Whereas the dependent variable that used to influenced in this research was improving the student's cognitive skill in elementary school.

Participants

Due to decide the respondents in this research, firstly Elementary Schools Muhammadiyah in Surabaya was recognized as the setting of the research. The researchers recognized SD Muhammadiyah 09 Surabaya as the location of the research. The location recognized by purposive sampling that conducted directly from the population without analysis the structure of the population first. The drawing sample model that used by the researchers was cluster random sampling. Cluster random sampling was the way to collect the sample based on the group of people and did not take the sample individually. The criteria of respondents in this research were the students of SD Muhammadiyah 09 Surabaya. The subject of the research were 60 students that participate well to this research. The age average of the students were 10-11 years old in 5 (five) grades.

Data Collection

The data collection in this research conducted in august 2023. Before the research was begin, the instruments wrote and submitted to the experts to check the worthiness of the research. Implement the learning model by the instruments such as observation sheets that contains of opening activity, main activity and closing activity. Whereas, the dependent variable in the form of cognitive skill and critical thinking ability were conducted by observation sheet and tests instruments. The researchers communicated to the teachers that whole the information that collected will be secreted. In the implementation of learning by project-based learning model assisted by fire mitigation game was conducted 3 times of reflection. Furthermore, to found the student's cognitive skill data was conducted by the test that refers to the taxonomic bloom indicator.

Data Analysis

The analysis of data was using descriptive statistics to found out the distribution of independent variable and inferential statistic due to check the relation between independent variable and dependent variable. The descriptive statistics analysis using frequency and percentage, whereas the inferential statistic using regression test and one way ANOVA (Analysis of variances) to evaluate the difference of values based on the independent variable and dependent variable. Pearson rank correlation analysis was to understand the relation between problem-based learning model assisted by fire mitigation education games integrated with augmented reality as the independent variable then the critical thinking skill was the dependent variable. The normality test was used to conducted the test towards the sample to found out whether the data was distributed normally. In this research the data that used for the normality test and homogeneity test using *Kolmogorov-Smirnov* method by SPSS software application with the latest version.

Result

The research result was conducted through project-based learning model assisted by fire mitigation game towards the student's cognitive skill in Muhammadiyah Elementary School in Surabaya recognized successfully and compatible with the aim of research. Based on the research sample that conducted through experiment with exclusive consideration, so that the researchers decided the sampling by establish the special characteristics that appropriate with the purpose of the research. The learning model that used in this research was project-based learning (PjBL) that has an orientation the students are able to invent the product based on the learning process. Nowadays era was full of challenge, so that the setting of learning process by the teachers must be focused on the development of the 21st century skills. The stage of learning process using project-based learning (PjBL) model assisted by fire mitigation game in Muhammadiyah Elementary School in Surabaya were elaborated and explained on the following table.

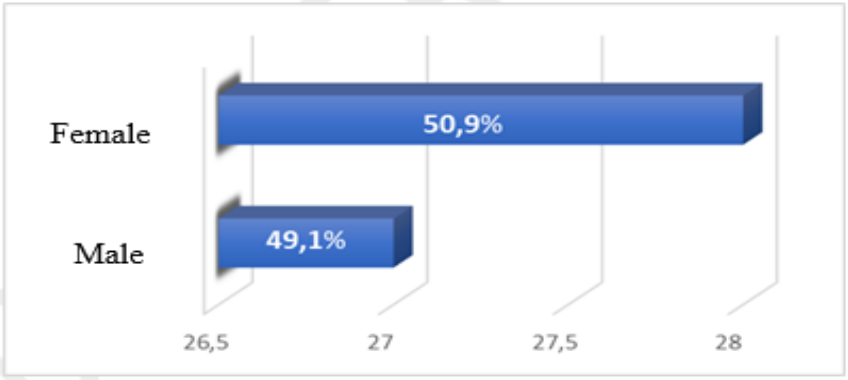
Table1. Stages of the PjBL Model through the Fire Metigation Game

Learning stages	**Activities**
Determination of Basic question	the learning process began by an important question, with the question that make the students got a task in doing any activities. This question could be from the teacher or students spontaneously. This important question was the center of PjBL. The activity conducted by choose the topic that appropriate with the real life and started with a deep investigation and match with the topic based on the students knowledge.
Designing the project plan	The students were working on the group due to planning the project to finish the question that given on the first activity. Therefore the students were expected to maximalize themselves to produce the appropriate project. Planning was about the procedure in the activity that could supporting to answer the previous questions and found out the tools and materials that able to access due to help to complete the project.
Set the scedule	Students and teacher were set the schedule together in finishing the project. The learning activity in setting the schedule by make a timeline to complete the project, make time allocation in finishing the project, lead the students to make steps that not relate with the project, and ask the students to explain about the topic that be appointed.
Monitoring the students and	The teacher totally has responsibility to monitor the learning process during finishing the project that conducted by the teacher. The monitoring

the progress of project	conducted by facilitating the students in every process of activity that conducted by the students. The teacher must be active to monitor during the project that conducted in group, so that the students could invent the product that fit with the plan.
Evaluating the result	Whole result of product during the project. The evaluation was conducted to help the teacher to measure the achievements that fit with the standard, has a function to evaluate the progress of each group and gave the feedback about the stage of comprehension that achieve by the students, and help the students to make the better learning strategy.
Evaluating the experience	In accordance to the learning process, the teacher and students conduct a reflection towards the activities and the project result. The reflection process conducted to check whether the learning activities that has an orientation to the project was meaningful. The students was attempted to be able express their experiences during finishing the project. Developing discussion in order to fix the performance during the learning process, so that it could be found a new invention.

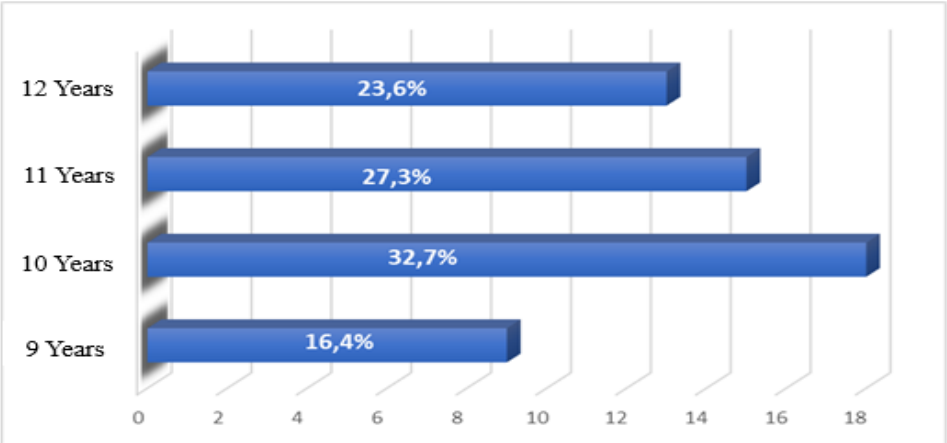
Source: (Lobczowski et al., 2021)

Based on the syntaxes of project-based learning model in this research, the first thing that analysed was about the conducted appropriately with the distribution of respondents based on the sex and respondents distribution based on the age that could be seen by the picture that elaborated on the following.



Picture 1. Respondents' distribution based on sex

Based on the picture about the respondents distribution based on the sex above, it showed up that most of the percentage (49,1%) were male respondents and the female respondents were (50,9%). However, if it was analyzed deeply the proportion of female and male was 2 : 1, therefore this condition showed that females were more than males. In this research the ages of respondents in SD Muhammadiyah 09 Surabaya were classified become 3 types. Based on the classification, the dominant respondents were from females in a classroom. In accordance with the statement, so that the age of the respondents in this research was elaborated on the following diagram.



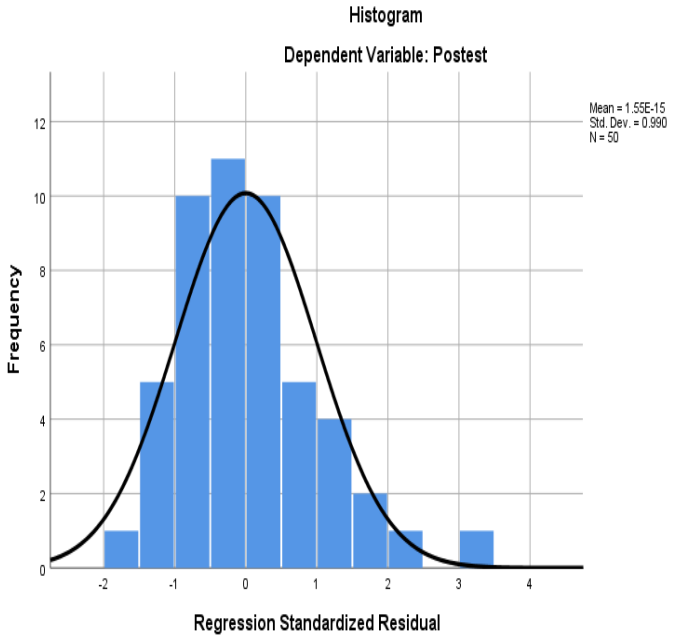
Picture 2. Respondents distributions based on the ages.

Based on the picture of respondents distribution based on the ages, it was showed that the students around 9 years old were (16,4%), students around 10 years old were (32%), students around 11 years old (27,7%), students around 12 years old (23,6%). Based on the ages, it was showed that females were more dominant than males as the students of SD Muhammadiyah 9 Surabaya. Based on the research result, an elaboration about sex and ages of respondents showed that there are some education stages that relatively different. Based on the sex that females were more than males, whereas based on the ages the dominant ages were around 10 years old with (32,7%). Therefore it could be seen on the implementation of learning process that elaborated on the following table.

Table 2. Implementation of learning

Activities	Total Indicator	Implementation			r	Criteria
		1	2	3		
Introduction	5	4,20	4,60	4,60	4,64	good
Main activity	12	4,25	4,33	4,58	4,38	good
Closing	4	4,01	4,01	4,25	4,09	good

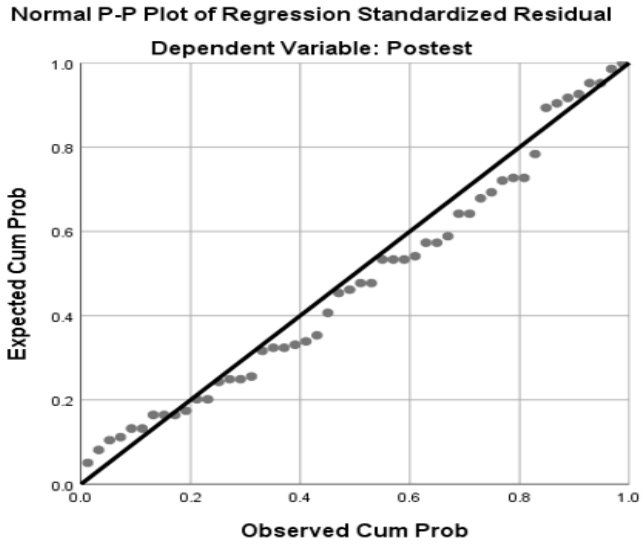
Based on the table of learning implementation through project-based learning (PjBl) model it was recognized that criteria with “good” statement was start from the introduction activity, main activity and closing. The analysis result of the introduction activity gain 5 points of indicator with average score around 4,64 and it was criteria with “good” statement. The implementation in this activity was conducted through project-based learning (PjBL) model assisted by fire mitigation game with the total score of indicator were 12 with average score around 4,38 and be included as “good” criteria statement. Furthermore in the closing activity the implementation of PjBL model assisted by fire mitigation game gained 4 point score of total indicator with average score around 4,09 and be included as “good” criteria statement. It means that in the implementation of learning process by project-based learning model assisted by fire mitigation game were improved the students critical thinking skill and gain a “good” criteria statement. Based in the result of the analysis of implementation, it showed that the data were firstly analysed by normality test on the following.



Picture 3. Histogram graphic of Normality test

Based on the picture above it could be recognized that the whole variable in this research has normal distribution. The picture above was the histogram graphic that could be recognized as normal if the distribution of data was bell shaped, not skewing neither to the right nor to the left. The histogram graphic was bell shaped and not skewing right or left, so that the histogram was recognized as normal. Based on the histogram graphic of residual normality test above, it could be seen that the data was shaped a bell curve, therefore it could be recognized that the model of influence regression between independent variable towards dependent variable were fulfil the requirements of the data normality. Furthermore the data was shaped normal curve and some of the data has a bar in the below of the curve, so that the data distribution was recognized as normal.

The normal distribution means that the distribution could be continue to the nest analysis test through regression test analysis.to make sure that in conducted the regression test must be conducted the normality and homogeneity test firstly, whether the analysed data were distributed normally or distributed abnormally. The normality test was the one of the data analysis techniques in classic assumption test. This test was one of the deciders of the data with good quality before get in to the next data analysis techniques. When the researchers had decided to conducted normality test, so that the researchers were following the parametric-statistic data analysis technique. The statistics analysis that recognized as parametric was the statistics analysis that assume the distribution of the data was following particular distribution and must be distributed normally. As the effort to make sure the data normality so that conducted by watch the P-P Plot graphic of normality test that elaborated as follows.



Picture 4. P-P Plot Graphic of Normality

One of the basic assumptions that must be required before conducted parametric-statistic test was using normality test. This test was functioned to found out whether the collected data were spread following the normal distribution. Based on the normality test, the pretest of Q-Q plot said that the plots could be seen the fit-line, so that the data were recognized distributed normally, because the data above has dots that following the normal line. Based on the graphic above, the Q-Q plot interpretation for the critical thinking skill was base on the straight line that crosswise from the left-bottom corner to the right-top corner so that establish the diagonal line. Based on the graphic above the curve and the dots were spread approach the straight line, so that based on the normality test by Q-Q plot were proven that the critical thinking skill data were distributed normally.

Continue to the results of the regression analysis through problem based learning assisted by fire mitigation education game integrated with augmented reality technology towards students critical thinking skill, before conducted the regression test, the multicollinearity were firstly conducted. The multicollinearity test conducted due to evaluate and found out whether in one regression model will be found high or perfect correlation for each independent variable or dependent variable. The research test that conducted showed that it could be recognized the tolerance value and variance inflation factor (VIF) value that could be watch on the following table.

Table 3. Coefficients[a] Multicolinierity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	49.267	7.492		6.575	.000		
PJBL Model	.539	.106	.592	5.092	.000	1.000	1.000

a. Dependent Variable: Postest

Based on the table above in statistics collinearity part were found the tolerance values for the literacy variable were bigger 0,10 and the VIF value were <10,00. It means that did not occur the indication of multicollinearity in regression model and the assumption was

fulfilled. Through heteroskedasticity was the H_0 indicator (the indication heteroskedasticity did not occurred in regression model) and H_1 (the indication of heteroskedasticity was occurred towards the regression model). The method of heteroskedasticity test that used was the Glejser method. The significances score was 0,0002. Because the significances score of the independent variable were bigger than 0,05 so that the Ho was rejected that means the heteroskedasticity was occurred in regression model. The results of regression test with the hypothesis indicator (Ho: there is no influence of PjBL model assisted by fire mitigation game towards learning result) and (H1 there are influence of PjBL model assisted by fire mitigation game towards the learning result) with significances level $\alpha = 0,05$ and the result were elaborated on the following.

Table 4. Score of Coefficient Determination Summary Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.592[a]	.351	.337	3.841	.351	25.931	1	48	.000	1.254

a. Predictors: (Constant), x2
b. Dependent Variable: Postest

The results of summary model were useful to found out the correlation between both variable or more in the regression equality. It could be seen on the R-Square that the score of determination coefficient or R-Square were 0,351 or 35,1%. The numbers means that learning by PjBL model assisted by fire mitigation game towards learning result (Postest) around 35,1%. Whereas the others (100%-35,1%. = 64,9%) were influence by other variable outside the regression equality or variable that did not analysed (error). The summary model could be found some information about the level influence from the whole independent and dependent variables, so that the influence were symbolized as R (Relation). Furthermore, analysed by giving R square as the alternative to compare the influence accuracy between the independent and dependent variables. Furthermore by the summary model analysis it could be continue with anova analysis due to proving the influence between independent variable using PjBL towards students cognitive in elementary school.

Table 5 Anova[a] Regression Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	382.624	1	382.624	25.931	.000[b]
	Residual	708.256	48	14.755		
	Total	1090.880	49			

a. Dependent Variable: Postest
b. Predictors: (Constant), x2

Based on the table above it can be found that the score of significances (sig.) in F-Test was 0,000. Because the significances score was $0,000 < \alpha = 0,05$ it could be summed up that there were an influence of project-based learning (PjBL) model assisted by fire mitigation game towards students cognitive skill (Postest). For the equality of regression model of the PJBL model assisted by fire mitigation game towards students cognitive skill (postest) that establish with the regression equality Y=49,3267 + 0,539 that means through PjBL model assisted by fire mitigation game through regression equality interpretation was “if the independent variable through PjBL model assisted by fire mitigation game was increase the unit, so that the students cognitive skill score were increased 0,539 unit.

Discussion

Based on the research result, it was carried out that the implementation of project-based learning model (PjBL) assisted by fire mitigation game towards students' cognitive skill in elementary school has significance influence according to the result of analysis that conducted with significances (sig,) in Ftest around 0,000. Because sig. 0,000 < $\alpha = 0{,}05$ it could be summed up that there were influence of project-based learning model assisted by fire mitigation game towards students' cognitive skill in elementary school (postest). For the equality of regression independent and dependent variable model that gained by regression equality Y=49,3276 + 0,539 through project-based learning (PjBL) model assisted by fire mitigation game with regression equality interpretation. Therefore, the score of student's cognitive skill will be increased around 0,539 unit. Based on the analysis result it could be recognized that any relation between independent variable that influence the dependent variable that influenced (Khalafalla & Alqaysi, 2021; Stephens et al., 2019).

In accordance with current conditions, the cognitive abilities of elementary school students must be given serious attention to be empowered (Pérez-Escolar et al., 2021; Younis et al., 2021). Cognitive abilities are closely related to the ability to think, including the ability to memorize, understand, apply, analyze, synthesize and the ability to evaluate (Jossan et al., 2021; Yaqi et al., 2021). The learning process in the current situation needs to adapt to the conditions in the study room, school environment and students' living environment (Cho et al., 2020; Potvin et al., 2021). Improving the cognitive abilities of elementary school students, teachers must be able to provide as much space as possible for students' freedom of expression so that students are able to improve their thinking skills in accordance with the problems raised. (Wake et al., 2020; Xiao et al., 2020). In today's sophisticated era, students must provide fun and enjoyable learning (Albar & Southcott, 2021). The development of students' thinking abilities must be formed systematically by providing problems in accordance with improving their thinking abilities (Barak & Yuan, 2021; Panskyi et al., 2019).

Students thinking level relatively unstable; therefore, the students need a media as the facility that relevant in maximalized the learning process (Knijnik et al., 2019; Muñoz-Murillo et al., 2020). The improvements of student's cognitive skill could be achieved through various way, by the model of learning that improved or media that used must be relevant with development of digitalization (Fuermaier et al., 2019; Kiss et al., 2016). Learning process must be using an appropriate model with implemented curriculum in nowadays (Kholodnaya & Volkova, 2016). Relevant with the implemented research that the learning model that used was project-based learning assisted by fire mitigation game that integrated with augmented reality (Jara et al., 2018; Valencia-Naranjo & Robles-Bello, 2017). Project-based learning (PjBL) model was adapted with the rules of the syntaxes (Mamun et al., 2019; Strandqvist et al., 2018). The model that used was designed by inserting an education game about fire mitigation that appropriate with the analysis that able to increase the student's cognitive skill (Bonnaire & Baptista, 2019; Reed & Ferdig, 2021).

The fire mitigation education game was the learning media that emphasize to how the students able to understand the way of anticipate the fire disaster (Arulanand et al., 2020; Gargrish et al., 2020). Generally, the fire disaster give rise to worrying impact, from the psychological until social impact (Kaur et al., 2020). The fire disaster was one of incident that often occurred especially in high populated urban area, so that the people must be educated since early stage especially for elementary school (Estrada & Ndoma, 2019; Nara & Battulga, 2019). Using education game trough PjBL model was relevant with the level of student's comprehension and able to improve their cognitive skill (Sánchez, 2020; Stankov & Lee, 2018). Through the fire mitigation game, the students were faced the problems case that by

their imaginations in the group the students could found the alternative solution, so that the students high order thinking skill was improved (Burhan et al., 2017; McLarnon et al., 2018). The fire mitigation was emphasized to the disaster management with continuous process to improve the quality of the mitigation and prevention about fire disaster that occurred often in urban areas (B. Murray et al., 2019; Verkuyl et al., 2021).

Furthermore the learning process with fire mitigation curriculum were become obligated things in order to gave the comprehension about students respond to disaster since the early stage (Adhikari et al., 2021; Anguas-Gracia et al., 2021). In habituating the students to faced the problem that designed to produce a project, so that the students will be more creative and competent to understand the condition and situation that occurred (Hara et al., 2021; Mendez et al., 2020). One of the ways to summarize the problems that given in them learning process were by project task. Project-based learning (PjBL) model that used was challenging for the learning activity that effective to educated the students actively and fun (Bayram & Caliskan, 2019; Najafi Ghezeljeh et al., 2019). The PjBL model by fire mitigation education game were more focused on the constructivism learning theory, with the result of cognitive construction including creativity or student's science attitude so that the students were able to construct the knowledge of themselves and meaningful through the real experience (Chu et al., 2021; Malone et al., 2017). Because the learning process that emphasize on the project will be more meaningful in improved the students thinking order and cognitive skill(Grönqvist & Vlachos, 2016; Lobczowski et al., 2021).

CONCLUSSION

Based on the learning result that implemented, the application of project-based learning model assisted by fire mitigation game were able to improve the student's cognitive skill in elementary school. In accordance with the research data analysis that showed as relevant with the normality test by the histogram graphic above and bell shaped and did not skewing neither to the left nor to the right, so that the histogram graphic was recognized as normal. It also recognized as normal by pretest normality test based on the Q-Q Plot that the plots showed the fit line, so that the data was distributed normally, because the data above showed that the dots were following the normal line. Therefore, based on the regression test of Anova table, it was found that the score of the significances (sig.) in F-Test was around 0,000. Because the significances score was $0{,}000 < \alpha = 0{,}05$ it could be concluded that there were any influence of project-based learning (PjBL) model assisted by fire mitigation game towards the students cognitive skill (postest) that establish with the regression equality Y= 49,3267 + 0,539 so that the students cognitive skill in elementary school improved around 0,539 units.

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