The Effect of Students Social Interaction on Their Learning Motivation During Distance Learning to Modeling and Building Information Design Program (MBID) Students at Public Vocational High School (PVHS) in Bandung

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Abstract - Thesis with the title “The Effect of Students Social Interaction on Their Learning Motivation During Distance Learning to Modeling and Building Information Design Program (MBID) Students at Public Vocational High School (PVHS) in Bandung” is a research during distance learning that observe about students social interaction and their learning motivation in case of MBID program students at PVHS in Bandung. Distance learning performs with online and offline learning that be adapted by government regulations of pandemic learning situation. Its impact the change of social interaction on learning process as online learning from home and offline learning at school with Covid-19 protocol. This change is during distance learning involve students interaction would change with their teachers, their parents, and the other students. It can affect the students learning motivation, to their intrinsic and extrinsic motivation. This thesis is using quantitative method by questionnaire spread with likert scale, it's analyzed with compare means and simple regression analysis. The result is indicate the students social interaction and their learning motivation in a good category with each means score 3.75 and 3.76, it also points there is effect of students social interaction on their learning motivation with the value until 63.7%.

Keywords – Social Interaction, Learning Motivation, Distance Learning.

Introduction
The world is being hit by Covid-19 pandemic in 2020. Starting from March 2, 2020, Indonesia was declared to have a positive victim of Covid-19 and increased every day. Setiati, S. & Azwar, M. (2020) in his research in April said that the condition of health facilities in Indonesia was still inadequate to handle Covid-19. It makes the Government Issue a decision of social activities restriction of all aspects so it will help prevention transmission of Covid-19 by reviewing limitation of the health facilities availability in Covid-19 prevention. This social activities restriction certainly has an impact on the education in Indonesia. All schools in Indonesia are required to carry out distance learning from March 24, 2020 that is adjusted to the decision of Indonesian Minister of Education and Culture, Mr.Nadiem (SE Mendikbud No. 4, 2020). The learning implementation was from home
with online and offline learning. Educational units can determine with their respective rights to carry out learning online or offline or combinations of both that assert the availability and readiness of facilities and infrastructure (Permana et al., 2019)(SE Sesmendikbud No. 15, 2020).

Learning at the 2020/2021 school year Vocational High School was carried out in accordance by the zone of Covid-19 virus spread, namely in the green zone, it allowed to carry out face-to-face learning and in addition to the green zone carried out by learning from home by offline and online learning (SE Sesmendikbud No. 02, 2020). During a pandemic, the learning process at the Public Vocational High School (PVHS) in Bandung uses blended learning by online and offline learning, especially in the Modeling and Building Information Design Program (MBID), namely at PVHS 5 Bandung, PVHS 6 Bandung, PVHS PU Bandung.

Teachers and schools are required to adapt of the learning process with current conditions. However, the changes of education system in the process of teaching learning interaction between students and teachers through distance learning gave rise to various internal and external constraints. According to Siti Hariyani (2015: p. 2), the success of learning can be influenced by two factors, namely in terms of internal factors and external factors. Social interaction is one of the external factors in the learning success so the good social interaction can support students learning success factors. The changes in Social Interaction on distance learning raise various obstacles that cause decreasing student learning motivation. The teacher supervision is more difficult in the process directly so it requires supervision assistance from the home learning environment, especially the parents of students. Students become more limited in interacting with teachers, especially in practice subjects that need more teacher guidance directly in the practice process. Social interaction that take place with fellow students are also more limited by online so in the process of students groups learning has not been as much as directly to face-to-face learning. It is undeniable, the social interaction during distance learning affects students, especially in their learning motivation.

**Literature Review**

**A. Social Interaction**

According to KBBI, social interaction is a dynamic social relation between individuals and individuals, between individuals and groups, and between groups and groups. Nurdinah Hanifah (2016, p. 17) defines social interaction is dynamically social relations between a person, between their participants and other groups and between one group and another group. It can be inferred, social interaction can be interpreted with dynamic social communication relationships that occur between individuals, between individuals and their group, between groups and other groups.

Social interaction do not merely meet with fellow physical meetings and face-to-face meetings, but can also with directly through different spaces such as friends located outside the city then connected through modern information technology such as smart phones, internet, etc (Damsar D., 2011). The condition of distance learning makes the student learning environment no longer the school environment, but also the environment of their homes so the interaction created is not only with teachers and fellow students, but also their parents or their home environment. Ecological theory by Bronfenbrenner (in E. Clara & Wardani A. A. A. D., 2020) said about human development is influenced by the environmental context. This is shown by the reciprocal relationship and occurs between individuals to the environment that will form a pattern of behavior. Based on the theory of ecological systems, the sub-system of microsystems is the most important thing in the lives of children, this is because every member interacts directly and has a major influence on each option that takes place in life (E. Clara & Wardani A. A. A. D., 2020). Symbolic interaction theory by George Herbert Mead (in Wirawan, 2012), said about people act based on symbolic meaning that appears in certain situations. This shows humans will be moved to do something based on the meaning of people or other objects that interact with them so it creates a pattern of social interaction. The indicator of social interaction that is derived from these theories is the intensity of the students communication and their teacher and conversely, the intensity of the students communication with parents or students guardians in their home and conversely, and the intensity of student communication with others.

**B. Learning Motivation**

Motivation has a definition according to Husamah, et al. (2016, p.21) that is psychological condition of someone who can encourage them to gain something. According to Gage (in Teori Islami, Busono, Mardianna | 103
Learning is a process of an organism that finds the changes from his behavior as a result of experience. Whereas according to Lyle E. Bourne YR, (in *Teori Belajar dan Pembelajaran*, 2016) learning is a change from a person's relatively fixed behavior and caused by experience and practice. By the various definitions, researcher define learning motivation is someone psychological condition that can encourage him to learn or a process of changing behavior due to experience.

Herberg's motivation theory (in motivational theories, 2015) said that someone would be driven by his motivation with two factors to achieve satisfaction and also keep him away from dissatisfaction between others was the first, hygiene factors, known as extrinsic factors; Second, the motivator factor is known as intrinsic factors. Hygiene factor (extrinsic factor) is the factor that encourages or motivates someone to get out of dissatisfaction, these things are environmental conditions, relations between humans, rewards, etc. The motivator factor (intrinsic factor) is the factor that pushes or motivates someone to try to achieve his satisfaction, these things are achievements, recognition, life level progress, etc. This shows that learning motivation can be created inside an individual or known with intrinsic motivation and from outside or known with extrinsic. The motivation indicator of learning that is derived from the theory is the teachers provide learning motivation to students, parents or guardians of students provide learning motivation to students, and students are motivated in learning.

### C. Distance Learning

In accordance with *SE Sesjen No. 15* in 2020 stated that the learning method of distance learning can be carried out with two approaches, it is said that the learning method and media of learning from home its implementation with distance learning is divided into two approaches through the network (online) and outside the network (offline). The education unit can determine with their respective rights to implement it online or offline or a combination of both which concern the availability and readiness of facilities and infrastructure. Adib RS & Arij ZM (2020) said about distance learning is the learning process that carried out when students and teachers are not only physically present at school, but the implementation can also be carried out completely distance learning with hybrid or mixture of distance learning and class learning (blended). Curtis J. Bonk & Charles R. Graham (2006) also defines Blended Learning as a combination of face-to-face instruction systems with computer instruction media. Distance Learning can be defined with learning that is carried out remotely utilizing technology as a student's assistant to study processes so the education goals are still achieved with online learning or offline learning and both.

### Research Method

This research used the research method by descriptive and associative methods through a quantitative approach. Participants in this research were Public Vocational High School in Bandung, especially in the Modeling and Building Information Design Program (MBID) (PVHS 5 Bandung, PVHS 6 Bandung, and PVHS PU Bandung). The sampling technique used a cluster random sampling and assisted by the Slovin formula by Isaac and Micheal with a significance level of 10% (0.10). The research instrument used was a questionnaire with a likert scale and spread through Google Form. The analysis used in the form were testing instruments, classical assumption testing, and hypothesis testing through compare means analysis to test descriptive hypothesis by excel software and simple linear regression analysis to test associative hypothesis assisted by SPSS software.

### Discussion

The researcher collected data up to 226 samples. After going through various stages of testing, the sample used in this research became 219 samples. The implementation of the study was carried out in accordance with the research procedures and health protocols that apply in PVHS 5 Bandung, PVHS 6 Bandung, and PVHS PU Bandung.

### A. X Variable

#### 1. Instrument Test

The first instrument test is validity test. Validity test of the research instrument was using 30 samples. There were 15 X variable questionnaire items (students social interaction). This test is assisted by Isaac and Micheal table with the significance level used is 10%. Decision based on the assumption used in the validity test is if $r$ count $> r$ table, then the
questionnaire item is considered valid and if \( r \) count < \( r \) table, then the questionnaire item is considered invalid. \( r \) table used is the \( r \) table of Isaac and Michael with DF (N-2) so that at a 10% significance level with a sample of 30 people used \( r \) table in 28, which is 0.3061. After passing the validity test phase that was assisted by SPSS, the entire questionnaire item was greater than the \( r \) table, it shows this research instrument was valid.

The second instrument test is reliability test. Decision based on the assumption used is if \( \alpha > r \) table, the instrument is considered reliable or consistent and if \( \alpha < r \) table, then the instrument is considered not reliable. The result of the alpha test is 0.767 so it is greater than the \( r \) table of 0.3061. These results stated that the research instruments used had been reliable or consistent.

2. **Hypothesis Test**

Descriptive hypothesis test is using compare means. The researcher calculates the average of each sample then calculates the combined average of sample. The average obtained would be categorized according to the category & score scales that determined by the researcher.

<table>
<thead>
<tr>
<th>Table 1. Category &amp; Score Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Very Good</td>
</tr>
<tr>
<td>Good</td>
</tr>
<tr>
<td>Good Enough</td>
</tr>
<tr>
<td>Bad</td>
</tr>
<tr>
<td>Very Bad</td>
</tr>
</tbody>
</table>

Researcher counted every means of the \( X \) variable’s indicators. The intensity of students and teachers communication indicator have an average of 3.69 with good category. The intensity of students and parents communication indicator have an average of 3.45 with good enough category. The intensity of students and each other communication indicator have an average of 4.13 with good category.

<table>
<thead>
<tr>
<th>Table 2. Means Results of Students Social Interaction Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students Learning Motivation Indicator</td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>A Intensity of students and teachers communication</td>
</tr>
<tr>
<td>B Intensity of students and parents communication</td>
</tr>
<tr>
<td>C Intensity of students and each other communication</td>
</tr>
</tbody>
</table>

**Figure 1**: Islami, Means Results of Students Social Interaction Indicators, 2021, Diagram. Source: Personal Document.

Descriptive hypothesis 1 (students social interaction) that the researcher determined in this research was in the following below.
H₀ = Social interaction that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is not in the good category

Hₐ = Social interaction that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is in the good category

After passed the compare means test stage, the average result of the tested sample is 3.75 or in the good category and Hₐ accepted or the social interaction that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is in the good category.

<table>
<thead>
<tr>
<th>X</th>
<th>Number of Questionnaires</th>
<th>Total Means</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>219</td>
<td>15</td>
<td>3.75</td>
<td>Good</td>
</tr>
</tbody>
</table>

Note. X = Number of Samples

B. Y Variable

1. Instrument Test

First, validity test. Validity test of the research instrument was using 15 Y variable items questionnaire (students learning motivations). This test is assisted by Isaac and Micheal table with the significance level used is 10%. Decision based on the assumption used in the validity test is if r count > r table, then the questionnaire item is considered valid and if r count < r table, then the questionnaire item is considered invalid. R table used is the r table of Isaac and Micheal with DF (N-2) so that at a 10% significance level with a sample of 30 people used r table in 28, which is 0.3061. After passing the validity test phase that was assisted by SPSS, the entire questionaire item was greater than the r table, it shows this research instrument was valid.

Second, reliability test. Decision based on the assumption used is if alpha > r table, the instrument is considered reliable or consistent and if Alpha < r table, then the instrument is considered not reliable. The result of the alpha test is 0.769 so it is greater than the r table of 0.3061. These results stated that the research instruments used had been reliable or consistent.

2. Hypothesis Test

Researcher counted every means of the Y variable’s indicators. The teachers give a learning motivation indicator have an average of 3,81 with good category. The parents give a learning motivation indicator have an average of 3,69 with good enough category. The students motivated indicator have an average of 3,80 with good category.

<table>
<thead>
<tr>
<th>Students Learning Motivation Indicator</th>
<th>Means</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATeachers give a learning motivation</td>
<td>3,81</td>
<td>Baik</td>
</tr>
<tr>
<td>BParents give a learning motivation</td>
<td>3,69</td>
<td>Baik</td>
</tr>
<tr>
<td>CStudents motivated</td>
<td>3,80</td>
<td>Baik</td>
</tr>
</tbody>
</table>

Figure 2: Islami, Means Results of Students Learning Motivation Indicators, 2021, Diagram. Source: Personal Document.
Descriptive hypothesis 2 (students motivation learning) that the researcher determined in this research was in the following below.

\[ H_0 = \text{Learning motivation that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is not in the good category} \]

\[ H_a = \text{Learning motivation that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is in the good category} \]

After passed the compare means test stage, the average result of the tested sample is 3.76 or in the good category and \( H_a \) accepted or the social interaction that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is in the good category.

Table 5. Students Learning Motivation Hypothesis Result

<table>
<thead>
<tr>
<th>Y</th>
<th>Number of Questionnaires</th>
<th>Total Means</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>219</td>
<td>15</td>
<td>3.76</td>
<td>Good</td>
</tr>
</tbody>
</table>

Note. \( Y \) = Number of Samples

C. The Effect of X Variable (Students Social Interaction) on Y Variable (Students Learning Motivation)

1. Classic Assumption Test

The first test of classic assumption test is normality test. There were 226 initial samples as data of this research and after passed the normality test, the data used was 219 samples. The normality test is through the Kolmogorov Smirnov formula by looking at the normality of the data residual value. The basis of decision making assume if the value of significance > 0.1, the residual is normally distributed and if the significance value is < 0.1, the residual is not normally distributed.

The first stage, the result of the first normality test in the initial sample shows the significance is 0.054 or smaller than 0.1 so the sample residual value of 226 is not normal. Researcher performed data sample check with outliers testing and the data showing there are 4 outliers data on X variable (students social interaction), 2 outliers on the Y variable (students learning motivation) and there is one same sample on any variable outliers so the extreme sample were removed to normalize data.

Figure 3: Islami, Social Interaction Data Outliers, 2021, Outliers Graph.
Source: Personal Document.
Second stage, the number of data that has been analyzed decreased to 221 samples. At this stage, researcher carried out to re-test samples with significance levels. The result of the significance is 0.040 or the significance is smaller than 0.1. This shows that the data tested was still not normal. Afterwards, researcher did the sample checks with outliers testing again. Data shows there are 2 outliers data on Y variable (students learning motivation) so the extreme samples need to be discarded to normalize data.

Third stage, this stage is the final stage of testing the research data normality. The number of samples used is 219 samples. The result of normality test that assisted by SPSS is the significance value of all data valued at 0.200, it shows the residual is normally distributed.
2. **Linearity Test**

The basis of decision assume if the significance level $> 0.1$, there is a linear relationship between $X$ variable (students social interaction) with $Y$ variable (students learning motivation) and if the significance level $< 0.1$ then there is no linear relationship between $X$ variable (students social interaction) with $Y$ variable (students learning motivation). The result of the calculation with SPSS is the significance level at 0.746 so the variable $X$ (student social interaction) with variable $Y$ (student learning motivation) is a linear relationship.

3. **Hypothesis Test**

To find a strength correlation of $X$ variable (students social interaction) on the $Y$ variable (students learning motivation) with a correlation test. The assumption is if the significance value is $< 0.10$, then the relationship is correlated and if the significance value is $> 0.10$, then the relationship is not correlated.
Table 6. Classification of Relationship Degree Guidelines

<table>
<thead>
<tr>
<th>Correlation Pearson Coefficient Interval</th>
<th>Relationship Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 – 0.20</td>
<td>No Correlation</td>
</tr>
<tr>
<td>0.21 – 0.40</td>
<td>Low Correlation</td>
</tr>
<tr>
<td>0.41 – 0.60</td>
<td>Middle Correlation</td>
</tr>
<tr>
<td>0.61 – 0.80</td>
<td>Strong Correlation</td>
</tr>
<tr>
<td>0.81 – 1.00</td>
<td>Perfect Correlation</td>
</tr>
<tr>
<td>0.00 – 0.20</td>
<td>No Correlation</td>
</tr>
</tbody>
</table>

The analysis result is a significance value at 0.000 < 0.10 or its relationship is correlated and the correlation coefficient is 0.798 so it states there is a positive relationship and the coefficient classification is at the level of strong correlation. The magnitude correlation of X variable on Y variable can be seen through the formula of the product moment correlation. The results of the calculation with SPSS are r count at 0.798 with r square or correlation coefficient at 0.637 so it shows that the magnitude correlation of the X variable (students social interaction) to Y variable (student learning motivation) is 63.7%.

Linear regression analysis with ANOVA tables is used to see the effect of independent variable (X) on the dependent variable (Y). The assumption is if the significance value < 0.1, then the X variable (student’s social interaction) affects the Y variable (student learning motivation) and if significance > 0.1 then variable x (social interaction of students) does not affect the Y variable (students learning motivation). The result shown from the calculation with SPSS are the F count at 381.601 and the significance at 0.000 or smaller than 0.1 so the X variable (students social interaction) affects the Y variable (students learning motivation).

Through the regression coefficient table tested with SPSS, the regression equation is $y = ax + b$ with $a = \text{constants}$ and $b = \text{social interaction}$. Based on the table above, it is obtained $a = 12.310$ and $b = 0.789$ or rounded with $b = 0.79$ then the regression equation line is $y = 12.31 + 0.79x$. The equation is defined by a constant value of 12.310 indicated the consistent value of student learning motivation variable is 12.31 and the regression coefficient variable value of the students social Interaction is 0.79 which states in each additional 1% of the value of student learning motivation, the value of the learning motivation will increase. The amount of 0.79 with a positive regression coefficient so the effect direction of the students social interaction variable to students learning motivation is a positive direction.

Table 7. Regression Coefficient of the Effect of X Variable (Students Social Interaction) to Y Variable (Students Learning Motivation)

<table>
<thead>
<tr>
<th>Correlation</th>
<th>Social Interaction</th>
<th>Learning Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1 .798</td>
<td>.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>219 219</td>
<td>1</td>
</tr>
<tr>
<td>Social Interaction</td>
<td>N</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td>Learning Motivation</td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>219</td>
<td>219</td>
</tr>
</tbody>
</table>
The associative hypothesis that had been determined in this research was in the following below.

\[ H_0 = \text{There are no positive and significant effect between social interaction to the learning motivation during distance learning with students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung.} \]

\[ H_a = \text{There are positive and significant effect between social interaction to the learning motivation during distance learning with students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung.} \]

The results of the correlation and regression analysis that have been implemented, proved that \( H_a \) is accepted or there are positive and significant effect between social interaction to the learning motivation during distance learning with students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung.

**Conclusion**

This research have proven there is an effect of social interaction on learning motivation during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung. The data sample involved students at PVHS 5 Bandung, PVHS 6 Bandung, and PVHS PU Bandung. Based on the formulation of the problem and data analysis that had been implemented, the researcher concluded related to this research into the following: The social interaction that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is in the good category; The learning motivation that occur during distance learning to students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung is in the good category; There are positive and significant effect between social interaction to the learning motivation during distance learning with students of Modeling and Building Information Design Program (MBID) at Public Vocational High School (PVHS) in Bandung with the effect magnitude up to 63.7% and the rest were effected by other factors that were not researched in this research.

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