

Learning by Utilizing Virtual Classes (Facebook) in Increasing Learning Motivation to Deal with Distance Learning for High School Students

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Abstract

Distance education is playing an important role during this pandemic, and its systems are helping learning service providers manage, plan, deliver, and track teaching and learning. Due to its ubiquity (anywhere and anytime), low cost, ease of use and interactivity, much like a digital video conferencing platform. Distance learning is an opportunity to increase the efficiency of the teaching and learning process. School organizers are encouraged to be able to adapt to conditions where the development of distance learning is no longer a new phenomenon at this time. This study wants to examine the factors that drive high school students' motivation in conducting distance learning. This research was conducted in the city of Medan, North Sumatra. The sample in this study were 100 students who had done distance learning. The independent variables in this study are engagement, community building and personal learning environment. The results showed that all predictor variables in this study had a positive and significant effect on students' motivation in conducting distance learning. It is hoped that this research can contribute to the case of distance learning in high school students.

Keywords: Distance learning, Engagement, Community Building, Personal Learning Environment.

1. Introduction

The COVID-19 pandemic is driving a global paradigm shift towards online learning (Fasching-Varner et al., 2020). There are even a number of skills development programs that are starting to switch to an online system. Conditions like this then require educators to maintain the same quality standards as face-to-face programs. These skills development programs are additional interventions that are usually carried out outside of school by experts using a special curriculum (Dixon & Moon, 2021).

Social media has been believed to have many advantages for educational purposes. Some argue that the use of social media plays an important role in assisting students with tasks related to certain areas of education, such as information seeking (Hrastinski & Aghae, 2012).

The term social media platform is defined as “web-based technologies that enable the development, deployment and management of social media solutions and services” (Merriam-Webster, 1994), however, social media is a very broad term. Merriam-Webster defines social media as “forms of electronic communication (such as websites for social networking and microblogging) in which users create online communities to share information, ideas, personal messages, and other content (such as videos)”. However vague the definition may be, social media platforms rely on multi-modality, which means being able to simultaneously use multiple modes of content, and social interaction between users. There are several aspects of social media, such as the differences between platforms, the changeable nature of social media, and economic factors. Below we'll explore some of the social media platforms, as well as digital privacy issues.

Social media is a Web 2.0 technology that facilitates social interaction and collaboration, and fosters a sense of community (Bingham & Conner, 2010). (Experian, 2012) ranked the top six social networking sites by total visits as: Facebook (7 billion), Twitter (182 million), Pinterest (104 million), LinkedIn (86 million), Tagged (72 million) and

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Google+ (61 million). These social networking sites have become an important part of US student life (Junco et al., 2011).

Because Facebook is intended as a platform for engagement, and because students spend a significant amount of time using the site, it makes sense to study the relationship between Facebook use and student engagement (Heiberger & Harper, 2008). To date, three studies have examined the relationship between Facebook use and student engagement to draw conclusions about how Facebook use is related to constructs (engagement) related to student success (Heiberger & Harper, 2008; HERI, 2007; Junco et al., 2011). Studies Heiberger & Harper, (2008) and HERI, (2007) found a positive correlation between the use of social networking sites and student engagement. For example, the percentage of high-frequency social networking site users who participate in and spend more time in campus organizations is higher than that of low-frequency users. Additionally, more high-frequency users report daily offline interactions with close friends with whom they have a strong relationship (HERI, 2007). Instead, research Junco et al., (2011) found that while time spent using Facebook was positively related to time spent in co-curricular activities, it was negatively related to scores on a scale designed to measure student engagement.

None of the previous studies have explored what students do on Facebook. The Facebook platform enables a wide range of activities—from commenting on user content to sending private messages, uploading photos and stalking (seeing what other people are doing); these activities can be linked to outcomes in ways that are different from the frequency of use. Previous studies of Facebook use and academic performance have used crude measures of frequency of Facebook use and have not examined how specific Facebook activity might affect academic outcomes; however, a study by Junco et al., (2011) found that time spent on Facebook was negatively related to scores on the student engagement scale and that some Facebook activity predicted student engagement positively, while others predicted it negatively. Since student engagement is tied to important academic outcomes, it's possible that certain Facebook activities might be tied to those outcomes as well (Kuh, 2009; Pascarella & Terenzini, 2005).

Flexibility in creating learning environments has also increased with the benefits of mobile learning, with the advent of many new portable and mobile devices such as laptops, PDAs, iPhones, iPads, etc. This condition is an ideal resource for global and long-term learning. In addition, it also encourages motivation to learn, which is combined with benefits such as speed, convenience, and cooperative construction of knowledge.

From another point of view, PLE can be simply described, as its name implies, as a personal environment in which one learns. This environment can be customized and designed by the learner according to learning style, needs, context, etc. The principles of constructivist learning theory apply here, for the reason is that we learn through interaction with others and by constructing artefacts that can be shared, so the socio-constructivist and constructionist views of learning are present (van Harmelen, 2008). Because everyone's learning style is a combination of how he perceives, organizes and processes information, be it visual, auditory or kinesthetic. Atwell, (2006), students have preferences in terms of pedagogical approaches in certain contexts, and their own choices. personal tools being a reflection of that.

Therefore, this study aims to examine the learning system by utilizing virtual classes (Facebook) in increasing learning motivation to deal with distance learning for high school students.

2. Literature Review

2.1. Concept of Social Media

The term social media platform is defined as “web-based technologies that enable the development, deployment and management of social media solutions and services”, however, social media is a very broad term. Merriam-Webster defines social media as “forms of electronic communication (such as websites for social networking and microblogging) in which users create online communities to share information, ideas, personal messages, and other content (such as videos)”. However vague the definition may be, social media platforms rely on multi-modality, which means being able to simultaneously use multiple modes of content, and social interaction between users. There are several aspects of social media, such as the differences between platforms, the changeable nature of social media, and economic factors.

Facebook is an online social media platform that is described as an app that “helps you connect with friends, family and a community of like-minded people” (Nyakundi, 2020). The company also describes Instagram as “a place where people can be inspired every day” and WhatsApp as an app that connects you “with the people you care about most, easily and privately.” (Huang et al., 2018). The description written by the Facebook company itself is unclear but can be understood as an online network that works to connect users, build communities and achieve goals through sharing content. YouTube describes its mission as “giving everyone a voice and showing them the world” (Ryan & Deci, 2000). Again,

they as a company provide value to build community through content sharing. These self-descriptors are important when we differentiate social media platforms from digital learning platforms. Both are shared social networks, or digital environments that aid social interaction. However, a digital learning platform is defined as “an integrated set of interactive online services that provide trainers, students and others involved in education with information, tools and resources to support and improve the delivery and management of education” (Litmos, 2019). As such, the goals of digital learning platforms are closely linked to educational goals and practices, and the platforms themselves need to offer education-specific tools. Comparatively, the goal of social media platforms is interaction and community building itself.

2.2. *Motivation to learn*

Motivation is something that can make someone want to do something both from outside and from within that person. There are two main types of motivation: intrinsic and extrinsic. Anjomshoa, (2015) emphasizes that intrinsic motivation comes from within a person and the desire to take an action is an initiative and self-regulation, so that it has no reward except the activity itself. Meanwhile, extrinsic motivation comes from outside one's self and the desire to perform an action is based on rewards from outside sources. Maslow, (1970), as quoted in Anjomshoa, (2015) believes that intrinsic motivation is more beneficial than extrinsic because we are motivated to achieve "self-actualization". Intrinsic motivation is also driven by personal pleasure, interest, or enjoyment (Britt et al., 2001). Hrastinski & Aghae, (2012) argues that people have different sources of happiness, for example winning and poverty may make some people happy, whereas feeling competent or social may be more fulfilling for others. It can be said that happiness can be part of a motivational factor, therefore everyone can get their own motivation based on their personal interests, both intrinsic and extrinsic.

2.3. *Engagement (Attractive)*

The construct of student engagement, defined as “the amount of physical and psychological energy students devote to an academic experience”, was originally proposed by Stin in 1984 (p. 297). Student engagement theory Astin, (1984) is based on five principles: (1) Engagement refers to the investment of physical and psychological energy; (2) Engagement occurs along a continuum (some students are more engaged than others and each student engages in different activities at different levels); (3) Engagement has both quantitative and qualitative features; (4) The amount of student learning and development related to educational programs is directly related to the quality and quantity of student involvement in the program; and (5) The effectiveness of educational practices is directly related to the ability of these practices to increase student engagement.

2.4. *Community Building*

Similar to the three examples described above, online learning communities are a type of virtual community. However, it has a special learning and educational function. It is a virtual entity that combines shared learning and community (Downes, 1999). There, one can not only learn online courses but also how to interact with other participants. To build an online learning community, Lee et al., (2012) proposes three principles. First, he emphasizes that the learning community is not built, but grows by itself. Lee et al., (2012) shows that a community will be strong if it is formed by its members to create their own environment. Therefore, members must clearly communicate the goals of the community, and establish guidelines and regulations. Once they realize they are part of a community and support each other, this community will survive. Second, it takes a strong leader. Leaders are not only responsible for managing the community but must also adopt the role of facilitator. The third principle is that personal narratives are encouraged. Clark asserts that personal narratives are "the sun that makes a community grow." Exchanging experiences or opinions can make members feel closer and provide identity. Besides that, Downes, (1999) also shows that for a learning community, creating a sense of commitment is important. Once members can build their trust into this community, they will be more likely to share their personal learnings and experiences. As for the attributes of a successful learning community, Downes also makes several suggestions of course management, the function of the facilitator, and student work. For course management, it proposes that content and communication be integrated together and allowed to produce content by multiple members. Also, some resource access must be provided. In terms of the function of the

facilitator, the facilitator must share his enthusiasm with all members and be involved in the discussion. In addition, this facilitator should connect members and content together, as a moderator between them.

Three levels of community are identified. The first is to get acquainted or make friends online. (Some students consider them friends. Others do not). Students say they find people online who they are attracted to. Often these are people with whom they have something in common. Sometimes the similarities are in location or academic background. Sometimes they are in commitment or motivation. Sometimes they have similarities in circumstances. Regardless, students who find things in common begin to interact regularly. This may, in fact, be the level at which most researchers searching for community stop because this communication between friends or acquaintances is repeated. This repeated communication, however,

2.5. Personal Learning Environments (PLE)

Personal Learning Environments or PLE can simply be explained, as the name implies, as a personal environment in which one learns. This environment can be customized and designed by the learner according to learning style, needs, context, etc. The principles of constructivist learning theory apply here, for the reason is that we learn through interaction with others and by constructing shareable learning outcomes (Harmaelen, 2020). Because everyone's learning style is a combination of how he perceives, organizes and processes information, be it visual, auditory or kinesthetic (Atwell, 2006), students have preferences in terms of pedagogical approaches in certain contexts, and their own choices. personal tools being a reflection of that.

The idea of a Personal Learning Environment recognizes that learning is ongoing and seeks to provide tools to support that learning. It also recognizes the role of individuals in regulating their own learning. In addition, the emphasis on PLE is based on the idea that learning will take place in different contexts and situations and will not be provided by a single learning provider. Related to this is the increasing recognition of the importance of informal learning.

Private Learning Environments provide opportunities to expand access to educational technology for anyone who wants to manage their own learning. Furthermore the notion of PLE is intended to incorporate and unify all learning, including informal learning, learning in the workplace, learning from home, learning driven by problem solving and learning motivated by personal interests as well as learning through engagement in formal education programs.

2.6. Research Model

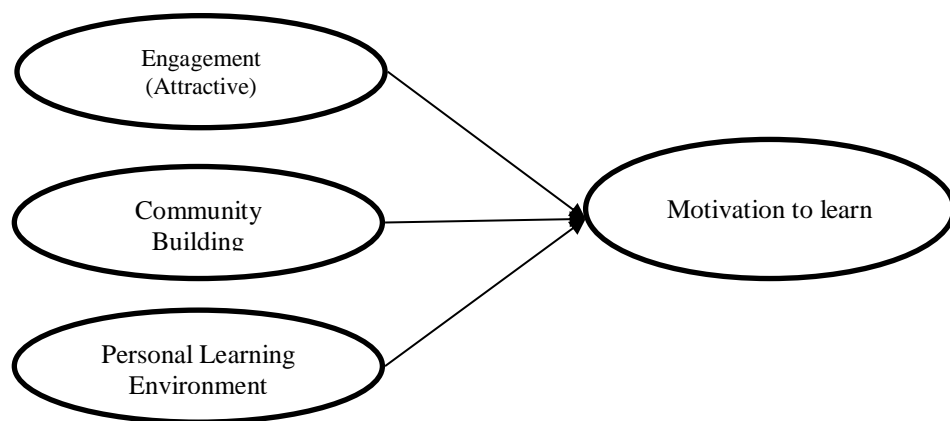


Figure 1. Research Model

3. Research Method

This type of research is a quantitative descriptive research. The place of this research was conducted in Medan City, North Sumatra Province. The data collection method used in this study was a survey using a questionnaire. The population in this study were 100 people. The sample used saturated sampling technique, namely the technique of determining the sample by taking all members of the population as a sample, so the sample size in this study was 100 people. The analytical tool used in this study is linear regression analysis with validity and reliability tests, classical

assumptions consisting of (normality, heteroscedasticity and multicollinearity), t test (partial), F test (simultaneous), and test the coefficient of determination.

This research was conducted by collecting data from the respondents. The data taken is from a sample that represents the entire population. Then the sample taken from the population must be truly representative (representative). Data collection in this study was using a questionnaire distributed via Google form and distributed directly to respondents in order to reach many respondents in a relatively short time. The technique that the author uses in sampling is a non-probability sampling technique (not the entire population is taken).

4. Results

According to Sugiyono, (2013) states that the validity test is used to measure the legitimacy or validity of a questionnaire. The validity test in this study was 100 respondents who were conducted on high school students in the city of Medan with the provision that the total correlation > the value measurement criterion (0.5). The results of the validity test in this study can be seen in Table 1.

Table 1. Validity Test Results

Items	Significance	Information
ENG1	0.030	Valid
ENG2	0.000	Valid
ENG3	0.000	Valid
ENG4	0.002	Valid
COM1	0.000	Valid
COM 2	0.000	Valid
COMS 3	0.000	Valid
PLE1	0.000	Valid
PLE 2	0.010	Valid
PLE 3	0.000	Valid
PLE 4	0.001	Valid
MOT1	0.000	Valid
MOT 2	0.003	Valid
MOT 3	0.000	Valid
MOT 4	0.000	Valid

Information: total correlation > value measurement criterion (0.5).

Description: ENG: Engagement, COM: Community Building, PLE: Personal Learning Environment, MOT: Motivation.

Based on Sugiyono, (2017) suggests that the reliability test is carried out to find out the results remain consistent measurements when measurements are made with the same measuring instrument. An indicator in the questionnaire is declared reliable if the Cronbach Alpha value > the value measurement criterion (0.6). The results of the reliability test of this study can be contained in Table 2.

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Information
Engagement	0.807	Reliable
Community Building	0.828	Reliable
Personal Learning Environment	0.734	Reliable
Motivation	0.700	Reliable

Information: cronbach alpha > value measurement criterion (0.6).

Table 1 and Table 2 show that all items are valid and reliable. Subsequent research using the classic assumption test consisting of normality test, multicollinearity test and heteroscedasticity test. The results of the normality test using the table tolerance evaluation method, if the value is greater than 0.1 then multicollinearity does not occur, can be seen in Table 3.

Table 3.Multicollinearity Test Results

Model	Coefficients ^a							
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Betas			Tolerance	VIF	
1	(Constant)	4.234	1.170		12.234	.000		
	ENG	.328	.084	.320	1689	.009	.616	1.484
	com	.420	.072	.087	.726	.011	.503	1.338
	PLE	.328	.074	.042	.383	.004	.822	1.132

a. Dependent Variable: KP

Description: ENG: Engagement, COM: Community Building, PLE: Personal Learning Environment, MOT: Motivation.

Based on Table 3, it can be seen that the independent variables in this study have a tolerance value greater than 0.1, so that it can be said that there are no symptoms of multicollinearity between the independent variables in this study.

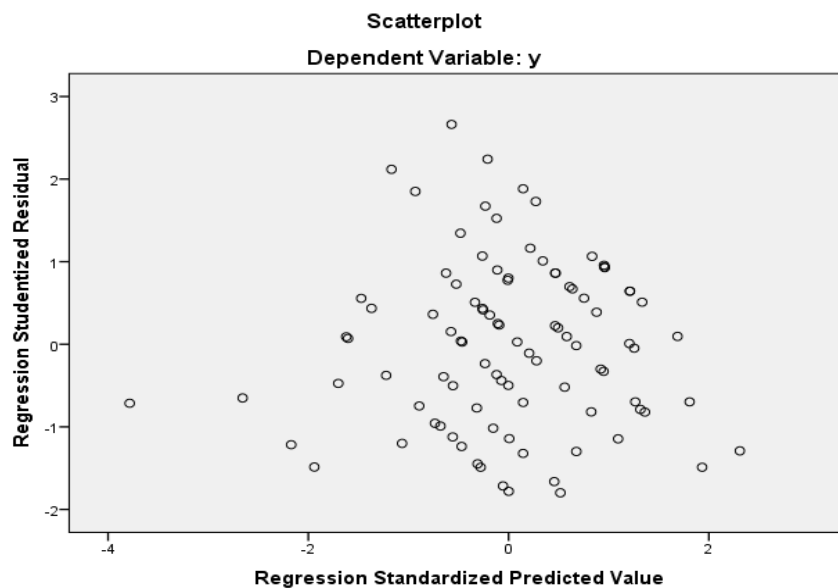


Figure 2.Heteroscedasticity Test Results

Source: Research Results, 2022.

The heteroscedasticity test is used to see whether there is an unequal variance from the residuals from one observation to another. The heteroscedasticity detection test can also be carried out using the graphical method, namely by looking at the graph plot between the predicted value of the dependent variable, namely ZPRED, and the residual SRESID.

Based on the results of the normality test in the table 4, it is known that the residual significance value of the regression formed is greater than the 5% significance level.

The dependent variable in this regression is motivation (Y) while the independent variables are engagement (X1), community building (X2), personal learning environment (X3). The regression model based on the results of the analysis (Table 5) is:

$$Y = 4.234 + 0.328X1 + 0.420X2 + -0.328X3 + e$$

From the output of the SPSS test on the Table 6, the calculated F value is 3.176 > from F table 2.63 and a significance value of 0.000 < 0.05. This shows that together the independent variables consist of engagement (X1), community building (X2), personal learning environment (X3), significant effect on the variable motivation (Y).

Table 4. Normality Assumption Test
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Predicted Value
N		100
Normal Parameters ^b	Means	17.4500000
	std. Deviation	.53607158
Most Extreme Differences	absolute	.070
	Positive	.051
	Negative	-.060
Test Statistics		.060
asymp. Sig. (2-tailed)		.200 ^{c,d}
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Description: ENG: Engagement, COM: Community Building, PLE: Personal Learning Environment, MOT: Motivation.
Source: Research Results, 2022.

Table 5. Multiple Linear Regression Test Results

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Betas				
1	(Constant)	4.234	1.170		12,234	.000		
	ENG	.328	.084	.320	1689	.009	.616	1.484
	com	.420	.072	.087	.726	.011	.503	1.338
	PLE	.328	.074	.042	.383	.004	.822	1.132

a. Dependent Variable: MOT

Description: ENG: Engagement, COM: Community Building, PLE: Personal Learning Environment, MOT: Motivation.

Table 6. Simulative Significant Test Results (Test F)

		ANOVA ^a					
Model		Sum of Squares	df	MeanSquare	F	Sig.	
1	Regression	43.083	3	12.123	4.226	.027b	
	residual	333.129	96	3.472			
	Total	366.839	99				

a. Dependent Variable: MOT

b. Predictors: (Constant), ENG, COM, PLE

Description: ENG: Engagement, COM: Community Building, PLE: Personal Learning Environment, MOT: Motivation.

The coefficient of determination was carried out to analyze the effect of the independent variables namely engagement (X1), community building (X2), personal learning environment (X3) which have a significant effect on the variable of student motivation (Y). The results of the test for the coefficient of determination can be seen in Table 7.

Based on the results of the T test in the table 7, in the table above we can see that the significance value of all independent variables has a value greater than 0.05 so it can be concluded that there is a partial influence of each independent variable on the dependent variable.

Based on the table 8, it can be seen that the value of R square is 0.810, which means that the independent variables used in this study can affect the independent variable by 81%, the remaining 19% is influenced by other variables not used in this study.

Table 7. T Test Results

Model		Coefficients ^a					Collinearity Statistics	
		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Betas	t	Sig.	Tolerance	VIF
1	(Constant)	4.234	1.170		12,234	.000		
	ENG	.328	.084	.320	1689	.009	.616	1.484
	com	.420	.072	.087	.726	.011	.503	1.338
	PLE	.328	.074	.042	.383	.004	.822	1.132

a. Dependent Variable: KP

Description: ENG: Engagement, COM: Community Building, PLE: Personal Learning Environment, MOT: Motivation.

Table 8. Test Results for the Coefficient of Determination (R^2)

Summary Model ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.832 ^a	.810	.792	4.728

a. Predictors: (Constant),ENG, COM, PLE

b. Dependent Variable: MOT

Description: ENG: Engagement, COM: Community Building, PLE: Personal Learning Environment, MOT: Motivation.

5. Discussion

1) Student Motivation

$$b_0 = 4.234$$

This constant value indicates that if there are no independent variables of engagement (X1), community building (X2), personal learning environment (X3), the student motivation variable is equal to 4,234. In the sense that employee performance is worth 4.234 before or without the variables engagement (X1), community building (X2), personal learning environment (X3) (where X1, X2, X3 = 0).

2) Effect of Engagement on student motivation

$$b_1 = 0.328$$

The value of the parameter or regression coefficient b1 shows that each engagement variable increases by 1 unit, so student motivation will increase by 0.328 times or in other words, every increase in student motivation requires an engagement variable of 0.328 assuming the other independent variables remain (X2, X3 = 0).

3) The influence of community building on student motivation

$$b_2 = 0.420$$

The value of the parameter or regression coefficient b2 shows that each community building variable increases by 1 unit, so student motivation will increase by 0.420 times or in other words, every increase in student motivation requires a community building variable of 0.420 assuming the other independent variables remain (X1, X3 = 0)

4) Effect of personal learning environment on student motivation

$$b_3 = 0.328$$

The value of the parameter or regression coefficient b3 indicates that each personal learning environment variable increases by 1 unit, then work motivation will increase by 0.328 times or in other words, each increase in student motivation requires a personal learning environment variable of 0.328 assuming the other independent variables remain constant (X1, X3 = 0)

6. Conclusion

Based on the explanation that has been described by the researcher in the discussion section, the conclusions obtained are:

- 1) Engagement has a positive and significant effect on the motivation of high school students in Medan City.
- 2) Community building positive and significant effect on the motivation of high school students in the city of Medan.
- 3) Personal learning environment positive and significant effect on the motivation of high school students in the city of Medan.

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