

The effect of positive learning culture in students' blended learning process

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Abstract

The aim of this study is to explore the effect of positive learning culture in students' blended learning process. The starting point of this study is the analysis of the core values of positive learning culture and its influence on students' learning in a blended classroom environment based on literature studies. The results of analyzing data from 339 student respondents, who experienced in a blended classroom environment where successfully established positive learning cultures led to interesting findings. The existence of a positive learning culture in blended classrooms has a positive effect on students' learning success. The results of correlation analysis recognize that there is a positive correlation between a learning culture and the blended learning process of the students. The culture of trust and respect has a positive effect on the theory lecture and lecture notes phase of the blended learning process. The culture of independence has a positive effect on VLE and RLOs phase of the blended learning process. The culture of trust, respect, and collaboration has a positive effect on physical planning. Finally, the culture of respect and independence have a positive effect on practical labs / classrooms phase of the blended learning process. These findings provide practical implications for educators in promoting more of one or more of the core values of positive learning culture in each phase of the blended learning process.

KEYWORDS: Blended Learning Process, Experiential Learning, Learning Culture, Reusable Learning Objects, Virtual Learning Environment

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1. Introduction

In the 21st century, we have been seeing a strong transformation of society into a new form of what is called the knowledge society. To foster a successful knowledge society, education systems should promote the application of online technology in classrooms along with new teaching methods. Knowledge transfer is no longer at the forefront of the classroom, instead learners need to be taught ways to find the information they need in a technology-rich environment. It's no surprise that educational institutions (especially higher education) are increasingly integrating online technologies into

classrooms in a meaningful way. The advent of e-Learning technologies is expected to enhance individual learning. Despite the fact that e-Learning exists for a relatively long time, but it still seems to be in its infancy by the debate about educational values, such as limitations in personality education (Long & Hanh, 2020). The blended learning approach is an effective choice for higher education institutions by evidence of its advantages over either online or classroom teaching alone (Choshin & Ghaffari, 2017; Jeffrey et al., 2014; Vella- Brodrick & Klein, 2010). Previous studies have confirmed that the blended learning environment can improve students' learning efficiency (Eryilmaz, 2015), and enhance student satisfaction and success (Dziuban & Moskal, 2011) than an only online or face-to-face environment. Blended learning can break down the walls of traditional classrooms by the use of social media culture (Vickers, Field & Melakoski, 2015). However, a study by Dziuban et al. (2018) implies that the effective size of blended learning should be interpreted with caution in specific learning contexts. Blended learning can create a new learning culture, but it can also become a bad culture (Blended Learning Universe, 2014),

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because it empowers more individual students to choose their own study path. If the students lack cultural values to guide work in a new environment, the transition to a blended learning environment can be counterproductive (Blended Learning Universe, 2014). Therefore, higher education institutions are increasingly recognizing the importance of a blended learning culture as a core factor for the successful and sustainable learning of students (Eid & Nuhu, 2009). Learning culture is an essential prerequisite for learners' readiness and willingness to learn (Eid & Nuhu, 2009), and has a positive effect on transforming the learning experiences of students (Davis & Fill, 2007). Therefore, the aim of this study was to explore the effect of positive learning culture in students' blended learning process.

2. Theoretical framework

This study used the definition of learning culture by Johnston and Hawke (2002) to develop a conceptual framework. Learning culture is defined as "the existence of a set of attitudes, values and practices within an organization which support and encourage a continuing process of learning for the organization and/or its members" (Johnston & Hawke, 2002, p. 9). Students' attitude towards blended learning is a decisive factor in the success of blended classrooms (Selim, 2007). A study by Long and Hanh (2020) shows that the attitude towards blended learning is an endogenous factor that positively depends on the core values of the learning culture. Learning culture is a phenomenon of the social constructivist context (Long & Hanh, 2020). In other words, establishing the core values of a learning culture and motivating students to practice those values is the work educators need to do to create a culture of learning in the classroom.

According to Surjono et al. (2017), blended learning is an approach that allows educators to inherit the benefits of personality education in the traditional classroom, including 'respect', 'trust', 'kindness'. Meanwhile, online technologies can enhance the interaction and visualization of learning materials to promote independent and collaborative learning of students (Wahyuni, 2018). Therefore, Trust, Respect, Independence, Collaboration and Kindness (abbreviated as TRICK) are the five core values of positive learning culture in the blended classroom (Wojcicki et al., 2015).

- *Trust*: It significantly increases people's willingness to share information (Jarvenpaa et al., 1998), positive impact on communication, commitment, problem-solving, performance, satisfaction of students (Powell et al., 2006), reduces the need for monitoring and control (Stahl and Sitkin, 2005). Educators can establish a culture of trust by a variety of exercises, such as letting students work in a team and taking responsibility in the trust of other peers, creating blogs, or providing an email or phone number for students to contact in difficult situations. Educators can use situational exercises that

require students to reflect to develop the belief in themselves or teach them that mistakes are part of life.

- *Respect*: Van Niekerk and Schmidt (2016) noted that "we learn best in a context where there is a sense of place with a culture based on respect and close intimate relationships and where the uniqueness of the student is treasured and passion is encouraged" (p. 204). By setting different levels of academic achievement and giving students opportunities and expectations, educators can help students to rise to meet the expectations of their teachers and parents.

- *Independence*: It frees students to use their own learning styles, advance in their own pace, explore their personal interests, develop their talents using the multiple intelligences they like (Johnson, 2002; Mulyono, 2017). By providing students with opportunities to come up with their own ideas in well-defined guidelines, educators can help students develop their ability to work independently. For example, students can choose a topic they are interested in completing a written assignment / essay.

- *Collaboration*: It is very important to help people develop relationships and work together (McCarthy, 2012). Collaboration requires students to clearly understand the roles and responsibilities in group tasks (Tseng & Ku, 2011; Song et al., 2004), and they gain teamwork skills, such as communication, team charters, project plans, time management and regular progress reports (McCarthy, 2012; Tseng & Ku, 2011). A positive learning culture is said to exist in an environment where teamwork, collaboration, creativity, and knowledge processes exist that have a collective value (Joo, 2007). Creating a common project and requiring responsible actions with other students is an effective way of motivating students to collaborate together.

- *Kindness*: It helps people are more tolerant of delays or mistakes (Greenberg et al., 2007), contributing to pedagogy and the development of meaningful learning relationships (Cramp & Lamond, 2016; Surjono et al., 2017). The existence of a culture of kindness in the classroom makes students feel comfortable and accepting of other people's differences, cultivating gratitude, perseverance, intrinsic prosocial motivation, altruism, empathy and peer closeness.

The core values of a learning culture are located in a blended learning environment where experiential learning takes place of the students. Kolb (1984) defines experiential learning as "the process whereby knowledge is created through the transformation of experience" (p. 38). Kolb's (1984) learning model describes four phases of experiential activities, including: (1) having a concrete experience, (2) observing the experience and reflecting on what is being observed, (3) forming abstract concepts and generalizations about what has been observed and (4) active experimentation with the new understanding in new experiences. According to Thorne (2003), Kolb's learning model is one of the most enduring models that educators need to use to establish blended learning in the

classroom. The blended learning will not make learning better unless the courses are more positive and different learning experience than those offered by online or classroom (Jeffrey et al., 2014). In a web-based blended learning environment, Kolb’s model is modified in the following phases: (1) theory lectures and lecture notes, (2) virtual learning environment (VLE) and reusable learning objects (RLOs), (3) physical planning, and (4) practical labs / classrooms (Stuart, 2013). These stages are structured according to a full learning cycle as expressed by Kolb (please see Figure 1).

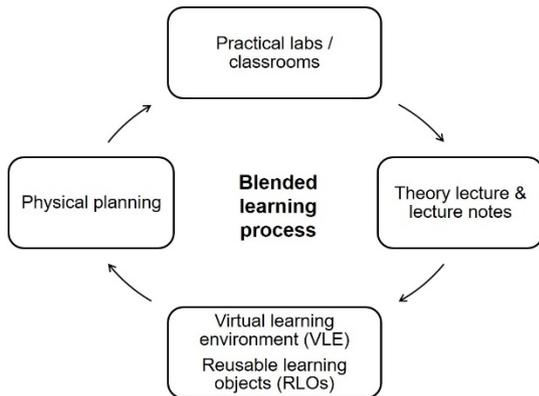


Figure 1 - The Kolb’s model modified for blended learning process

In the web-based blended learning process, the students are exposed to a full learning cycle of Kolb, included “concrete experience” within the practical labs/ classrooms, “reflective observation” within the regulatory environment theory lectures, “abstract conceptualization” through the use of the VLE and RLOs, then concluding the cycle by “active experimentation” within physical planning (Stuart, 2013; Hanh, 2020). In which, RLOs are extremely important in creating experience scenarios for online

users (Kurubacak, 2007). Online learning environments may include theory lectures using PowerPoint presentations, a series of embedded videos and lecture notes (Long & Hanh, 2020). Then, the students engage in asynchronous discussions in VLE and interact with a series of RLOs (Long & Hanh, 2020).

The conceptual model guiding this study is presented in Figure 2. A study by Long and Hanh (2020) predicted a positive correlation between core values of a learning culture and the blended learning process. However, the relationship between each core value of a positive learning culture and each phase of the blended learning process is a knowledge gap. Thus, the researchers defined twenty hypotheses of this study, including:

- H1, H2, H3, H4: Trust has a positive effect on the students’ blended learning process.
- H5, H6, H7, H8: Respect has a positive effect on the students’ blended learning process.
- H9, H10, H11, H12: Independence has a positive effect on the students’ blended learning process.
- H13, H14, H15, H16: Collaboration has a positive effect on the students’ blended learning process.
- H17, H18, H19, H20: Kindness has a positive effect on the students’ blended learning process.

2. Methods

2.1 Data source

This is a quantitative study. This study uses data from a larger study, the aims of which was to explore a structural equation model of blended learning culture in the classroom. Details of the study are reported in Long and Hanh (2020). In brief, this study was conducted between March 2019 and March 2020 at Hanoi University of Science and Technology (HUST), Vietnam. HUST is a leading university of science and technology in Vietnam, with more than 2,000 staff and 35,000 students. In 2010, HUST became a member of

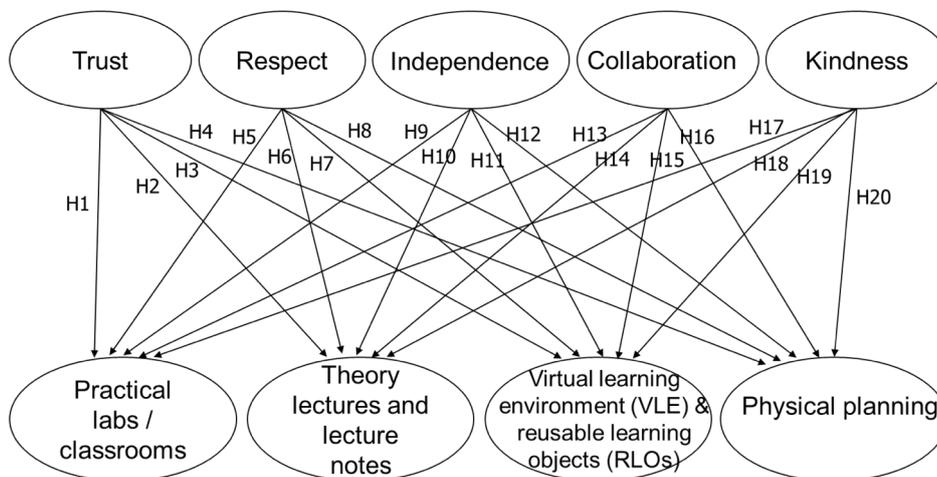


Figure 2 - The conceptual model of research.

the ACU (Asean Cyber University) project with the goal to transform from traditional learning to blended learning/e-Learning. The ACU project has supported HUST to build infrastructure in developing e-Learning materials and to train human resources. In 2012, HUST started implementing the first blended learning courses for students. To make a successful long-term blended learning initiative, many policies changing efforts have been being made by HUST leaders to build blended school culture. HUST emphasized that the shift from traditional learning to blended learning must be a shared journey, in which all stakeholders were engaged, including leaders, lecturers, IT staff and students.

In the HUST, the plan of a blended course usually requires about 15 weeks. Researchers selected elective courses as research subjects, because it contains features, including: (1) a wide variety of majors from any student in the school, (2) the interference of learning culture among students who were exposed for the first time and more in the blended classroom, (3) students experience teamwork with unknown people. Therefore, the survey results could be clearly reflected on the factors of a blended learning culture. The questionnaires were hand-delivered to the undergraduates on week 13 of 15 when the students had submitted their assignments in the VLE. Two main groups of questions in the survey were used for data collection, including: (1) To what extent were the core values of learning culture that you observe in your blended classroom? (2) Indicate to what extent you actively participated in the blended learning process? The survey asked the students to rank the items using a 5-point Likert-type scale from "1" to "5", which expressed the level of strongly disagree to strongly agree. A total of 400 questionnaires was delivered to students in three blended classrooms, and 339 questionnaires with complete data have been collected, there were no questions left blank. There were 143 students (42.2%) who participated in the blended classrooms before, others were never. There were 220 male students (64.9%) and 119 females (35.1%).

2.2. Data analysis

The task of data analysis was performed in three steps in SPSS software. In the first step, descriptive statistics were used to examine the existence of core values of learning culture and blended learning process of students. The following scoring system designed by Sarrafzadeh et al., including: mean 1–1.44 = Not Successful; mean 1.45–2.44 = Minor Successful; mean 2.45–3.44 = Moderately Successful; mean 3.45–4.44 = Successful; mean 4.45–5 = Very Successful. A mean value of 3.45 was fixed as the cut-off point, meaning that a factor would be considered "Successful" if it received a mean score of 3.45 or more. In the second step, the Spearman correlation coefficient (R) test was used to measure the correlation between the core values of learning culture and the blended learning process of students. Values less than 0.35 were considered to be low correlations, values between 0.36 and 0.67 were

considered moderate correlations, values between 0.68 and 0.89 were considered high correlations and values from 0.90 onwards were considered to be very high correlations (Taylor, 1990). Finally, linear regression analyses were used to examine the impact of positive learning culture on the learning process of students.

3. Results

3.1. Descriptive statistics

The descriptive statistical results of the data are shown in Table 1 below.

In all cases, the mean of the core values of a positive learning culture is greater than 3.45 (Successful level). That means that HUST's students are actually experiencing a classroom environment where a positive learning culture exists. In other words, a positive learning culture has been successfully established in the blended classrooms at HUST. Similarly, the mean value in each phase of the blended learning process is greater than 3.45 (Successful level) meaning that students are experiencing in an effective blended learning environment. In other words, the blended learning process has been effectively established in the classrooms at HUST.

Items	Mean ± SD	Level
<i>Positive learning culture</i>		
Trust	3.92 ± 0.76	Successful
Respect	4.07 ± 0.78	Successful
Independence	3.95 ± 0.80	Successful
Collaboration	4.09 ± 0.80	Successful
Kindness	4.08 ± 0.82	Successful
<i>Blended learning process</i>		
Theory lecture and lecture notes	3.79 ± 0.78	Successful
VLE and RLOs	3.65 ± 0.82	Successful
Physical planning	4.07 ± 0.78	Successful
Practical labs / classrooms	4.16 ± 0.82	Successful

Table 1 - Descriptive statistics on the existence of a positive learning culture and students' blended learning process.

3.2. Correlation analysis

The results of Spearman correlation analysis are shown in Table 2.

In Table 2, p-values <0.05 in all cases show that the correlation coefficient "R" is statistically significant. In other words, there is a correlation between positive learning culture and the blended learning process of the students. The correlation coefficient "R" was positive ($R > 0$) in all cases meaning that the blended learning process was proportional to the core values of a positive learning culture.

Items ^a		Theory lecture and lecture notes	VLE and RLOs	Physical planning	Practical labs / classrooms
Trust	R ^b	0.31	0.26	0.35	0.26
	p ^c	0.00	0.00	0.00	0.00
Respect	R	0.32	0.22	0.38	0.35
	P	0.00	0.00	0.00	0.00
Independence	R	0.26	0.28	0.23	0.29
	P	0.00	0.00	0.00	0.00
Collaboration	R	0.20	0.20	0.34	0.29
	P	0.00	0.00	0.00	0.00
Kindness	R	0.21	0.15	0.35	0.26
	p	0.00	0.00	0.00	0.00

^aSpearman's rho (N = 339)
^bCorrelation Coefficient
^cSig. (2-tailed), with p < 0.01

Table 2 - The correlation between a positive learning culture and students' blended learning process.

An R-value of 0.38 (greater than 0.36) shows that a culture of respect is moderately correlated with the physical planning activities of the students. In all other cases, R values less than 0.36 show that cultures of trust, independence, collaboration, and kindness are lowly correlated with the blended learning process. In brief, the positive correlation between learning culture and blended learning showed that the following regression analyzes are statistically significant.

3.3. Regression analysis

The results of linear regression analysis are shown in Table 3.

The regression results have examined the linear relationship between each core value of a positive learning culture and each phase of the blended learning process of the students. The hypotheses including H1, H2, H3 and H4 of this study are that a culture of trust has a positive effect on all phases of the blended learning process of students. The results of the regression analysis confirm that a culture of trust has a positive effect on the theory lecture and lecture notes phase ($\beta = 0.190$), and the physical planning phase ($\beta = 0.164$). A culture of trust has no effect on the VLE and RLOs phase, the practical labs / classrooms phase of the blended learning process because their p-values are greater than 0.05. Therefore, hypotheses H2 and H4 are supported, hypotheses H1 and H3 are rejected.

The hypotheses including H5, H6, H7 and H8 of this study are that a culture of respect has a positive effect on all phases of the blended learning process of students. The results of the regression analysis confirm that a culture of respect has a positive effect on the theory lecture and lecture notes phase ($\beta = 0.188$), the physical planning phase ($\beta = 0.23$), and the practical labs /

classrooms phase ($\beta = 0.275$). A culture of respect has no effect on the VLE and RLOs phase of the blended learning process because their p-value is greater than 0.05. Therefore, hypotheses H5, H6 and H8 are supported, a hypothesis H7 is rejected.

Dependent variables	Independent variables	R ²	R ² Adjusted	β (Beta, 95%)
Theory lecture and lecture notes	Trust	.182	.169	.190*
	Respect			.188*
	Independence			.097
	Collaboration			-.007
	Kindness			.012
VLE and RLOs	Trust	.128	.115	.158
	Respect			.059
	Independence			.197*
	Collaboration			.057
	Kindness			-.071
Physical planning	Trust	.261	.250	.164*
	Respect			.230*
	Independence			-.059
	Collaboration			.132*
	Kindness			.105
Practical labs / classrooms	Trust	.245	.233	.008
	Respect			.275*
	Independence			.144*
	Collaboration			.128
	Kindness			.016

Note: * p < 0.05
Standardized coefficients

Table 3 - Linear regression test for the impacts of positive learning culture in students' blended learning process.

The hypotheses including H9, H10, H11 and H12 of this study are that a culture of independence has a positive effect on all phases of the blended learning process of students. The results of the regression analysis confirm that a culture of independence has a positive effect on the VLE and RLOs phase ($\beta = 0.197$), and the practical labs / classrooms phase ($\beta = 0.144$). A culture of independence has no effect on the theory lecture and lecture notes phase, the physical planning phase of the blended learning process because their p-values are greater than 0.05. Therefore, hypotheses H9 and H11 are supported, hypotheses H10 and H12 are rejected.

The hypotheses including H13, H14, H15 and H16 of this study are that a culture of collaboration has a positive effect on all phases of the blended learning process of students. The results of the regression analysis confirm that a culture of collaboration has a positive effect on the physical planning phase ($\beta = 0.132$). A culture of collaboration has no effect on the theory lecture and lecture notes phase, the VLE and

RLOs phase, and practical labs / classrooms phase of the blended learning process because their p-values are greater than 0.05. Therefore, hypotheses H13, H14 and H15 are rejected, a hypothesis H16 is supported.

Finally, the hypotheses including H17, H18, H19 and H20 of this study are that a culture of kindness has a positive effect on all phases of blended learning process of students. The results of the regression analysis confirm that a culture of kindness has no effect on all phases of blended learning process. Therefore, hypotheses H17, H18, H19 and H20 are rejected.

Figure 3 show the new findings for the role of positive learning culture in students' blended learning process.

4. Discussion and Conclusions

The results of correlation analysis recognize that there is a positive correlation between learning culture and the blended learning process of the students. The blended learning is an effective approach that inherits the advantages of traditional classroom culture in the development of the personality of trust, respect, and kindness (Surjono et al., 2017). Meanwhile, the e-Learning media culture overcomes the limitations of the interaction and visualization of teaching materials to promote independent and collaborative learning (Garrison & Kanuka, 2004; Wahyuni, 2018; Wong, 2013). The results in Table 1 show that the students demonstrate their acceptance of both the core values of face-to-face culture (including respect, trust, kindness) and the core values of e-Learning culture (including: independence and collaboration).

In Table 1, the mean values of traditional activities (including physical planning, practical labs / classrooms) are higher than e-Learning activities (including theory lecture and lecture notes, VLE and RLOs). This result agreed with Ng (2010) that in the initial stages of experiencing blended learning, students still preferred the traditional teaching and learning

culture than e-Learning activities. This result provided additional support to Jeffrey et al. (2014) in declaring that traditional classroom components are more highly valued than those online by teachers' perceptions. Blended learning will not make learning better unless the courses are more positive and different learning experience than those offered by online or traditional classroom (Jeffrey et al., 2014). RLOs are extremely important in creating diverse educational contexts for online users (Kurubacak, 2007). If the conclusion of Jeffrey et al. (2014) and Kurubacak (2007) is correct, it implies that the quality of VLE and RLOs has the positive effect on the acceptance of online users.

The results of regression analysis confirm how each core value of a positive learning culture affects on each phase of the blended learning process. More specifically, the culture of trust and respect explains a variance (16.9%) in the theory lecture and lecture notes (R^2 Adjusted). Only a culture of independence explains a variance (11.5%) in VLE and RLOs. The culture of trust, respect, and collaboration explains a significant variance (25%) in physical planning. Finally, the culture of respect and independence explains a significant variance (23.3%) in practical labs / classrooms. This provides practical implications for educators in promoting more of one or more of the core values of positive learning culture in each phase of the blended learning process.

Limitations: The data of this study only reflected the students' perspective in North Vietnam who are facing both blended learning and traditional classroom in the university. This means that the students have not been completely transferred to the blended learning environment only in the university curriculum. Therefore, whether or not the findings of this study can be used nationally and globally in the future. Whether the research topic of this article should be explained further in many countries in a future study.

A hypothesis for future research: the core values of positive learning culture has a positive effect on the learner outcomes in the blended learning environments.

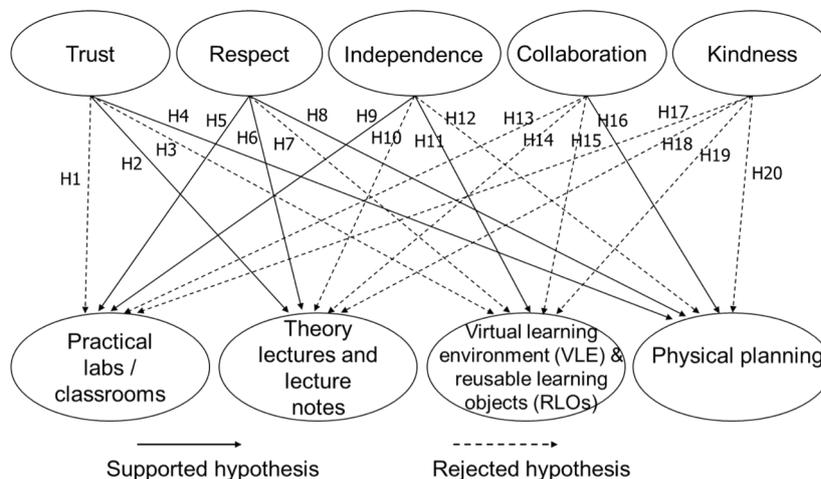


Figure 3 – The effect of positive learning culture in students' blended learning process.

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