The Impact of Cultural Dimensions on Islamic Students' Attitude Towards Problem-Based Learning

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Abstract: *The current study aims to examine the impact of cultural dimensions (i.e., collectivism, power distance, uncertainty avoidance, and masculinity) on students' attitude towards problem-based learning. The design of the current study was a correlational survey, wherein participants were recruited by means of a convenient sampling. Inspection of a multiple regression analysis (N = 549) revealed that collectivism and masculinity positively corresponded with the attitudes. In particular, we found that that the higher the level of collectivism and masculinity, the more students supported the implementation of problem-based learning. In contrast, uncertainty avoidance was negatively related to the attitude in such a way that the higher this cultural dimension, the less students supported problem-based learning. Power distance was the only predictor that did not significantly predict students' attitude towards problem-based learning. These findings overall suggest the importance of taking into account the characteristics of norms and values people hold within a country that might contribute to the success, feasibility, and suitability of problem-based learning. Theoretical implications and study limitations of the current findings are discussed, as are practical strategies highlighting on how to deal with cultural potentials and pitfalls in an attempt to promote problem-based learning.*

Keywords: problem-based learning, collectivism, power distance, uncertainty-avoidance, and masculinity

Abstrak: *Penelitian ini bertujuan untuk menguji dampak dari dimensi budaya (yaitu, kolektivisme, jarak kekuasaan, penghindaran ketidakpastian, dan maskulinitas) pada sikap siswa terhadap pembelajaran berbasis masalah. Desain penelitian ini adalah survei korelasional, dimana peserta direkrut dengan cara sampling nyaman. Pemeriksaan analisis regresi (N = 549) mengungkapkan bahwa kolektivisme dan maskulinitas positif berhubungan dengan sikap. Secara khusus, kami menemukan bahwa semakin tinggi tingkat kolektivisme dan maskulinitas, semakin siswa mendukung pelaksanaan pembelajaran berbasis masalah. Sebaliknya, menghindari ketidakpastian adalah negatif terkait dengan sikap sedemikian rupa bahwa semakin tinggi dimensi budaya ini, kurang siswa didukung pembelajaran berbasis masalah. Jarak kekuasaan adalah satu-satunya prediktor yang tidak signifikan memprediksi sikap siswa terhadap pembelajaran berbasis masalah. Temuan ini secara keseluruhan menunjukkan pentingnya memperhatikan karakteristik norma dan nilai-nilai orang memegang dalam suatu negara yang mungkin berkontribusi terhadap keberhasilan, kelayakan, dan kesesuaian pembelajaran berbasis masalah. Teoritis implikasi dan keterbatasan studi temuan saat ini dibahas, seperti strategi praktis menyoroti tentang bagaimana untuk menangani dengan potensi budaya dan perangkap dalam upaya untuk mempromosikan pembelajaran berbasis masalah.*

Kata Kunci: pembelajaran berdasarkan problem, kolektivitas, maskulinitas, jarak

INTRODUCTION

Problem-based learning (PBL) refers to a learning strategy that centers on problem solving in real life. In particular, with PBL students are confronted with concrete problems in everyday life (O'Grady, Yew, Goh, & Schmidt, 2012; Jones, Rasmussen, & Moffitt, 1977). As one of learner-center approaches, PBL primarily aims at stimulating and promoting students' independence and inquiry. This helps students developmental flexibility to solve the problems in such a way that they are able to attain knowledge independently (O'Gradyet al., 2012). PBL is also grounded on constructivism as a philosophy focusing on how students require actively developing their own knowledge and understanding, in order to solve the problems (Santrock, 2008). Tan (2003) posited that PBL is characterized in part by a curriculum that promotes a motto of "learning begins with a problem".

The characteristics of PBL as described above fit well with the current vision of STAIN Pekalongan to be "The pioneer of research-based Islamic state universities that promotes the mercy for all humankind". Unfortunately, a survey among students in the university across three year periods (2013, 2012, and 2011) revealed that they perceived that their lecturers tended to be reluctant to implement PBL (Zaduqisti, Rahmawati, and Sofiani (2011). This finding is ironic as through PBL, where lecturers encourage their students to develop curiosity and independency to conduct research, the vision of STAIN Pekalongan mentioned above could be actualized. Moreover, Zaduqisti et al. (2011)also reported that thus far, STAIN Pekalongan has otherwise implemented a conventional learning strategy. As such, PBL in this Islamic state university is a mere rhetoric so that there is no learning strategy that has been implemented to motivate students to actively develop independent learning to solve the problems effectively. This makes students of STAIN Pekalongan unfamiliar with PBL. Crucially, PBL is a learning strategy adopted from the Western culture with the norms and values that are different from and even in conflict with the Eastern culture. Given this cultural gap, it is of great importance to examine how Indonesian norms and values might impede or facilitate students' support for PBL, which is the main goal of the current research.

The Effect of Cultural Dimensions on Students' Support for Problem-Based Learning

PBL was invented in Canada where the Faculty of Medicine, University of McMaster, practiced for the first time this learning strategy in 1969 (Gwee, 2009). Canada is classified as a country high in individualism or low in collectivism whereas Indonesia, in contrast, is classified as a country low in individualism or high in collectivism (Hofstede, 1994). People in high individualistic culture or low collectivistic culture tend to regard

autonomy as an important value whereas people in low individualistic culture or high collectivistic culture conversely appreciate interdependency (Hofstede, 1991).In the meantime, PBL as elaborated above requires students to be able to learn and work in communication and collaboration with teachers and other students (Tan, 2003). This suggests that individualism-collectivism could be a cultural dimension that significantly predicts the extent to which students support the implementation of PBL. In particular, we argue that higher collectivism or lower individualism results in higher support for PBL.

The second cultural dimension theorized by Hofstede (1991) is termed power-distance. Power distance has to do with a norm or value that relates to the extent to which people endorse hierarchy and inequality within a society. The higher the power distance is the more people support the social hierarchy and inequality. In contrast, the lower the power distance is the less people support the social hierarchy and inequality. Indonesia has been categorized as one of countries with high index of power distance (Hofstede, 1991). As pointed-out by O'Grady et al. (2012), one of some factors that contribute to the success of PBL is the educational climate that encourages an egalitarian communication between teachers and students in such a way that they could openly share ideas within the learning process. Implicatively, power distance potentially decreases the extent to which students support PBL, especially in the cultural context characterized by high index of power distance such as Indonesia. Based on these arguments, we suggest that the higher the power distance is the less likely it is that students support PBL.

Hofstede (1991) proposed the third cultural dimension called uncertainty-avoidance. Indonesia has been reported as a country with high uncertainty avoidance (Hofstede, 1991). This cultural dimension denotes the extent to which people view that everything in society should be dealt with clear procedures and instructions, as well as tight structures. High uncertainty avoidance in this regard gives rise to people's uneasiness and thereby resistance towards novelty, innovation, and social change. Having these characteristics, it is highly likely that uncertainty avoidance render students to oppose the implementation of PBL. This pattern is even stronger especially when students are living in a country such as Indonesia where innovation and novelty are deemed as trivial and people prefer more on status-quo for the sake of social certainty. These norms and values contradict PBL. As argued by Tan (2004), the feasibility and success of PBL in part are dependent upon a curriculum that enables students to think creatively, in an attempt to solve the problem using novel and innovative learning approaches. In short, we argue based on these arguments that the higher the uncertainty avoidance is the less likely it is that students support the implementation of PBL.

The last cultural dimension invented by Hofstede (1991) is called masculinity. This cultural dimension reflects the extent to which people consider that social roles should be based on gender. Indonesia has been found as a country with high masculinity (Hofstede,

1991). In general, people high in masculinity idealize that social roles should be managed on the basis of traditional male orientations such as assertiveness, success, achievement, and making money. In contrast, people low in masculinity view that social roles should be managed on the basis of standard female orientations including caring, modesty, intuition, and emotions (van Oudenhoven, Mechelse, & de Dreu, 1998). As described by some scholars (Hall, 2006; Kassab, Al-Shboul, Abu-Hijleh, & Hamdy, 2006; Savin-Baden & Major, 2004), PBL is a learning technique that rewards students' assertiveness in seeking for a solution of the problems. Whether students could be proactively participated in the learning process thus determines their ability to effectively overcome the problems they encounter. This achievement in turn leads to the success of PBL. In short, the higher students orient to masculinity the more they support the implementation of PBL.

DISCUSSION

Descriptive Statistics

Table 1 presented the correlations among variables in the current study. As shown in this table, power distance was the only cultural dimension that did not significantly correlate with students' attitudes towards problem-based learning. Collectivism and masculinity positively correlated with attitudes towards problem-based learning, whereas Uncertainty Avoidance negatively correlated with the attitudes.

Table 1.
Descriptive Statistics and Correlations among Variables in This Research

Variables	M	SD	(1)	(2)	(3)	(4)	(5)
(1) Power Distance	5.56	.97	—	-.12**	.001	-.11*	-.03
(2) Uncertainty Avoidance	1.99	1.06		—	-.48**	-.28**	-.42**
(3) Collectivism	5.09	1.17			—	.31**	.35**
(4) Masculinity	5.09	1.21				—	.28**
(5) Attitudes towards problem-based learning	4.95	.71					—

Note:M = Mean; *SD* = Standard Deviation; * *p*< .05; ** *p*< .01;

Hypotheses Testing

To test each of the hypotheses in the current study, we performed a multiple regression analysis. In this analysis, we entered students' attitudes toward problem-based learning as dependent variable, whereas power distance, uncertainty avoidance, collectivism, and masculinity as independent variables. This multiple regression analysis resulted in a significant equation, $F(4, 544) = 39.45$, $p< .001$. This equation explained 23% of the total variance ($R^2 = .23$). As shown in Table 2, power distance did not significantly predict attitudes toward PBL, which was not in line with Hypothesis 1. Uncertainty

avoidance negatively predicted PBL, in support of Hypothesis 2. Corroborating Hypothesis 3, collectivism positively predicted PBL, so did masculinity, in line with Hypothesis 4.

Table 2.
The effect of Cultural Dimensions on Attitudes towards Problem-Based Learning

Predictors	Parameters				
	B	SE	β	t	p
Constant	4.65	.27	−	17.13	.000
Power Distance	-.04	.03	-.05	-1.34	.181
Uncertainty Avoidance	-.20	.03	-.31	-6.94	.000
Collectivism	.10	.03	.16	3.67	.000
Masculinity	.08	.02	.14	3.47	.001

Problem-based learning (PBL) has been hailed as a pedagogical model that benefits students from developing and enhancing their knowledge and skills (Dochy, Segers, van den Bossche, & Gijbels, 2003). Frambach, Driessen, Chan, and van der Vleuten (2012) pointed out, however, that as originally deriving from the Western culture, the generic implementation of PBL and its effectiveness should be considered with care when it is applied to non-Western context. Investigation on whether the merits of PBL could generalize into a context outside and beyond the West is therefore of great importance, which becomes the focal aim of the current research. We found that the extent to which students support or oppose PBL is affected by the specific types of cultural dimensions. In particular, we found that cultural dimensions of uncertainty avoidance, collectivism, and masculinity all together uniquely predicted students' support for PBL, but with a different direction. Uncertainty avoidance negatively corresponded with students' support for PBL whereas collectivism and masculinity positively corresponded withthis positive attitude. Meanwhile, power distance did not significantly predict students' support for PBL.

Theoretical Implications

The finding in this study that the effect of power distance on PBL was not significant seem contradictory to the study by Frambach et al., (2012) that observed that among students in East Asia, hierarchy posed a challenge to the success of PBL. Theoretically, higher power distance denotes students' support for maintenance of social hierarchy within a society, which impedes their positive attitudes toward PBL. High power distance makes students take for granted and reluctant to question the quality of their teachers' knowledge and skill (Kennedy, 2002). This is because PBL requires that students should develop egalitarian values in which the relationships between teachers and students

themselves are not rigid and loosely instructive (Gurell, Kuo, & Walker, 2010). Perhaps the attenuating effect of power distance on PBL as found in this study in part is due to the infiltration of the Western values in the globalizing era into non-Western values, which renders the young generation nowadays to not deeply respect paternalism or seniority that marks hierarchical values. This means that as time goes on, the young generation does not internalize hierarchical values, but emancipation and egalitarianism as the core guidelines of their behaviors. This way, it is reasonable to find that power distance among students is inferior to affect problem-based learning.

We found as hypothesized that uncertainty avoidance negatively predicted students' support for PBL. In a general context, the current globalizing era is characterized by pervasive innovation and novelty that make social change an undeniable source of concern (Barrett & Peterson, 2000). People with high uncertainty avoidance especially those who are living in non-Western countries tend to face difficulty to cope with such a new situation. Novelty and innovation for people with high cultural uncertainty avoidance are threatening instead of rewarding (Barr & Glynn, 2004; Swierczek & Ha,2003). In a specific context, students from a country with high uncertainty avoidance are accustomed to participate in a teacher-centered learning system (Frambach et al., (2012). Within this system, teacher commonly provides students with clear educational guidelines and instructions. Students from a country with high uncertainty avoidance accordingly tend to enjoy a teacher-centered learning system. This way, it makes theoretical sense to argue that students negatively evaluate PBL that encourages an opposite learning system in which it is themselves instead of the teachers who are the center of the learning process.

Collectivism in the current study was found as hypothesized to positively predict students' support for PBL. Argued by Shanley (2007), collectivism reflects the motivational perspective on small-group dynamics in which people require being able to cooperate with others. A culture characterized by high collectivism regards interdependence and cooperation as important values and norms. These cultural features are thereby suitable to the one of core spirits of PBL that motivates students to be not resistant to work in group (Dolmans, Wolfhagen, van Der Vleuten, & Wijnen, 2001). As a result, students high in collectivism are far likely to support PBL as this learning system is not in conflict with their norms and values that appreciate the importance of group interest over self-interests.

Finally, we found that masculinity as hypothesized positively predicted students' support for PBL. Masculinity basically is a biased-gender value in which male standards such as assertiveness and achievement orientation are considered more superior than female standards that promote caring and conformity (Costa, Terracciano, & McCrae, 2001). As people living in a high masculinity culture tend to endorse such biased values and as PBL in part necessitates students to be assertive and achievement oriented in the

learning process, it is logical as found in the current study that high masculinity results in a greater support for PBL.

Limitations and Follow-up Studies

There are limitations in the present study that merit discussing. First, to extend the generalizability of the findings in the current study, next studies need to conduct a random sampling. This step is worthwhile to warrant the representativeness of the sample. Second, this study is particularly limited to students from Islamic university. Whether the findings of the current study are applicable to students from non-Islamic university is an unresolved question that needs investigating in the next studies. Third, this study is potentially distorted by the particularity of the context. More specifically, as students are from Islamic university, there might be Islamic values and norms that tacitly affect their support for PBL, beyond and over the four cultural dimensions, that is, power distance, uncertainty avoidance, collectivism, and masculinity. Accordingly, next studies need to assess certain Islamic values and examine how these values may or may not impact on the role of cultural dimensions in affecting students' support for PBL.

CONCLUSION

The current study is the first to examine the effect of culture on students' support for the implementation of problem-based learning (PBL) within an Indonesian context. With this study, we aim to assess the impact of culture on the effectiveness and feasibility of PBL, an educational learning system originally invented and implemented in the Western countries. Our findings in short suggest that culture proves to play an ambivalent role as it may facilitate or otherwise impede the implementation of PBL. In particular, we found that uncertainty avoidance is a cultural dimension that obstructs students to support for PBL, whereas collectivism and masculinity facilitate students to positively evaluate such a student-centered learning system. Educational policy makers in Indonesia thereby could implement learning strategies to encourage students to enjoy and be motivated to work in a group and to develop assertiveness and achievement orientation in the learning process.

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