The Relationship Between Demographic Variables And Collaborative Learning Activities Of Teachers

RoyaRoustaee, MasoumehPourrajab, Sara Kasmaienezhadfard, BaharakTaleblo

Abstract: The main purpose of this study is to find out the relationship between collaborative learning activities and demographic variables such as gender, ethnicity and the highest qualification. In order to reach the aim of this study, the researchers conducted a survey research and data were collected from437 teachers of the State of Selangor, Malaysia. The findings indicated that there is a strong correlation between collaborative learning activities with gender and ethnicity; however, there was no significant correlation between collaborative learning activities with the highest qualification of teachers. This study provides beneficial points for teachers and principals that are presented in the study.

Index Terms: Collaborative Learning Activities, Teachers, Gender, The Highest Qualification, Ethnicity, Social Constructivism, Zone of Proximal Development.

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1 Introduction

According to educational researches, teachers are the most important factors at schools that influence students learning and achievement because they are at the heart of teaching and learning activities at schools [1]. The key element for teachers' success is their individual competencies on content knowledge and pedagogy as well as their ability to teach. Thus, it is apparent that their success strongly depends on their ability to enhance their capacity and knowledge; however, they cannot reach this goal without working collaboratively to improve their instructional practice[2],[3]. Also Alvardo [4] noted that collaborative learning activities influence their teaching practices. As Jamentz[5] asserts that isolation is the enemy of improvement, thus the relationship of teachers with their colleagues is vital for them because they attend in continuous improvement of their instructional capacity. Teachers can attain feedback from colleagues, improve new instructional techniques and think about their teaching strategies through operative collaboration on professional tasks [6]. Teachers choose collaborative learning method due to different reasons. The first one is that in comparison with competitive or individual conditions, it has more positive influence on learning[7],[8]. The second reason is that through collaborative learning, collaboration and interpersonal skills would be activated that can be used in later professional and personal success. It also has the potential to construct a level of engagement that other forms of learning cannot [8]. Another reason is that it can be a strong tool for many transformative goals including learning to consider others' needs, learning conflict resolution skills and learning to be an active team member [9]. In collaborative learning activities, teachers are actively engaged with others in order to create knowledge, construct something and make decision together [4]. Collaborative learning activities improve co-construction of meaning and knowledge, transformative learning, critical thinking skills and reflection [10]. In this method, it is believed that learning is a social act in which interacting is very important and learning takes place through talking. It attracts the attention from the teacher and puts the intake of information into the hands of the students. Collaborative learning is an instructor-facilitated, student-centered instructional strategy in which a group of teachers is accountable for the learning of all other members of the group and its own learning. In Malaysia, despite plans that have been set for both male and female

teachers, still male teachers have weak performance in comparison with female teachers. Also Malay teachers show better performance in comparison with other ethnicities. Therefore, more research can be done in this area and current study tries to identify the relationship between these demographic variables and collaborative learning activities.

2   Collaborative learning activities

Collaborative learning is an instructor-facilitated, student-centered instructional strategy in which a group of teachers is responsible for its own learning and the learning of all other members of the group. Teachers interact with each other and share the ideas and knowledge in order to gain and practice the elements of a subject matter to complete a task, solve a problem or achieve a goal [11]. Kaagan [12] asserts that through collaborative learning teachers design the learning activities as well as social structures. According to Johnson and Johnson [7] in collaborative learning, the teachers can improve their own and others learning by working together. Slavin [8] highlighted the team work and team goals in collaborative learning. In collaborative learning environment, teachers are able to learn collaboratively and share information in order to improve maximum learning and learning would be more reliable, flexible and portable for teachers.

3 Theoretical Underpinning: Social Constructivism

The main theory underlying collaborative learning is social constructivism initiated by Vygotsky [13]. He believes in the role of society, culture and interaction in human learning. He also noted that the development of individuals including their reasoning process and thoughts can happen through social interaction with others [11]. In social constructivism, context and culture are very important factors in what happens in society in understanding what happens, and building knowledge based on this understanding[14]. The main concern of social constructivism is about communities rather than individuals. Its underlying assumption is that assignments should be collaborative and learning heavily depends on learning activities and group interaction [15].The origin of construction of knowledge in social constructivism is in comparing and debating among students, the social interaction of people and interactions that involve sharing [16]. Students can help others to find meaning and are able to refine their own meaning by a highly interactive process.

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In comparison to individual learning, the nature of constructivism is social interaction through which an individual can construct personal knowledge. Besides, the context in which learning happens is an important factor in learning [13].Vygotsky highlighted the role of the social context and role of others in learning and noted that a greater community can help individuals to construct their knowledge. Zone of Proximal Development (ZPD) is an important concept Vygotsky's ttheory of social constructivism. He suggests that students have an actual developmental level in any given domain that is accessible by individual tests. Further he claimed that an within each domain immediate potential exists for development. This difference between the two domain is called the zone of proximal development[11]. It can be understood that the more difficult tasks can be learned by assistance and guidance from a more knowledgeable person and learning at this level only occur through social interactive support [13]. According to Vygotsky, if the person be helped by more skillful people, their support level would be changed. Also the peers and others can adjust their support towards students' guidance needs in order to advance the student in terms of their zone of proximal development. The process through which the support is adjusted is called scaffolding that is given to the student to help them complete the tasks [11]. The importance of this process of learning is due to the development of knowledge through history thus it should move through adoption in social environment. Since learning occurs within the process of development, students should participate actively in the process of learning. Activity is known as a key concept in social theories and it clarifies the importance of doing. Students' interaction with more knowledgeable people increases through participating in meaningful activities. This interaction help students to improve dialogues within the activities; hence, development and learning happens [11].

4   Methodology

The purpose of the study is to find the relationship between collaborative learning activities of teachers and demographic variables namely gender, ethnicity and the highest qualification. The population of this study was all 23706 secondary school teachers of Selangor. This state was chosen because it is the biggest state in Malaysia and results indicate comprehensive information about Malaysia. The sample size of this population according to Krejcie and Morgan [17] was 384 teachers and after adding 30% in order to cover the possibility of not answering or careless answers, it became 500. A stratified random sampling was used as the technique of sampling because Selangor has 10 educational districts that are counted as strata namely Klang, Hulu Langat, Kuala Langat, Kuala Selangor, SabakBernam, Sepang, Hulu Selangor, Petaling Perdana, Petaling Utama , and Gombak. 5 schools from each district were chosen and 10 teachers from each school. So the questionnaires were mailed to 50 schools.   The questionnaires were mailed to schools with deadline of two weeks and follow up calls were made to remind. Among 500 teachers, 437 of them responded the questionnaires and turned them back. The majority of ethnicity of teachers are Malay and a few number are Chinese and very little number are Indian[18]. Also, according to the results published by Jabatan Pendidikan Negeri Selangor [19], the distribution

ratio of male teachers to female teachers is 1 to 5 in Selangor. Table 1 indicates the distribution of gender of teachers in Selangor.

Table 1
Distribution of the Gender of the Population

Gender	
Male	Female
3958	19748

The instrument in this study is a modified version of questionnaire developed by Greer [20]. The questionnaire contains two parts. The first part was about demographic factors such as gender, ethnicity and the years of experience. The second part was about collaborative learning activities items of this section were measured on five-point Likert scale ranging froms (1) strongly disagree, (2) disagree, (3)slightly disagree, (4) agree and(5) strongly agree. Cronbach Alpha analysis was conducted to measured reliability for the items of each construct. The Cronbach's alpha value was 0.73 which showed that the questionnaire has good reliability. The validity of the questionnaire was examined by a panel of experts.A spearman correlation was used in order to find out the relationship between two variables because of non-normal distribution of data.

5   Findings

5.1   Respondents Profile

In this study, demographic factors such as gender, ethnicity and the highest qualification were analyzed descriptively. Table 2 indicates the results of the teachers' demographic profile. As reported in the table, 14.2% (n=62) of the teachers were male and 85.5% (n=375) of teachers were female. This is consistent with the results indicated in Table 1. In terms of ethnicity, 86.9 % (n=380) of the respondents were Malay while 8.5% (n=37) teachers were Chinese and 4.6% (n= 20) teachers were Indian that is in line with the results of Department of Statistics Malaysia (2011). Regarding the highest qualification, 1.8% were diploma, 82.0% were bachelor, 16.2% were master and only 0.9% was PhD.

Table 2
Frequency and Percentage of Demographic factors

Demographic Attributes		Frequency	Percentage
Gender	Male	62	14.2
	Female	375	85.5
Ethnicity	Malay	380	86.9
	Chinese	37	8.5
	Indian	20	4.6
The Highest Qualification	Diploma	8	1.8
	Bachelor	354	82.0
	Master	71	16.2
	PhD	4	0.9

5.2   Correlation between demographic factors and collaborative learning activities

The relationship between collaborative learning activities and demographic factors (gender, ethnicity and the highest qualification) was examined through spearman correlation. As indicated in the Table 3, there is a significant correlation between collaborative learning activities with gender (r=0.71, p<0.05). It means that gender had is an important factor in collaborative learning activities and it has strong influence on collaborative learning activities. In addition, female teachers had higher mean score that means female teachers involve in collaborative learning activities more than male teachers.Also according the reported result, there is a significant correlation between collaborative learning activities with ethnicity (r=0.73, p<0.05). It indicates that the ethnicity has influence on teachers' collaborative learning activities. In comparison off mean scores, Malay teachers indicated higher mean score that means Malay teachers tend to involve in collaborative learning activities more than Chinese and Indian teachers. However, there is no relationship between the highest qualification of teachers and their collaborative learning activities (r=-0.035, p>0.05). It indicates that the teachers' highest qualification does not influence their collaborative learning activities.

Table 3
The relationship between collaborative learning activities and demographic factors

	Collaborative Learning Activities	
	R	P
Gender	0.71	.000
Ethnicity	0.73	.000
The highest Qualification	-0.035	.471

6   Discussion

Collaborative learning is assumed to appeal to both male and female teachers[7],[21],[22]. However, some studies have clearly pronounced a notable gender difference in collaboration. According to the results of this study, female teachers have more tendency toward attending collaborative learning activities. Previous studies also have mentioned this gender difference [11],[23]. It is also believe that collaborative learning carries high risks when gender is involved [24]. For example, some studies have highlighted that male and female learners have diverse communication styles [11].Group learning may reinforce biases and stereotypes as a male domain. Male learners may dishonor females and depressed women and minorities from participating in certain curricular activities. According to Sadker, Sadker [25] the different and contradictory findings of the relatively few studies analyzing cross-gender performance in collaborative learning organizations suggest that, by itself, the implementation of cooperative learning groups does not necessarily lead to a more effective and equitable learning environment for females and minorities.These results mean that female teachers tend to cooperate and collaboratemore than male teachers do [1]. This may have several reasons. For instance, females are more likely to hedge, qualify and justify their assertions while males tend to assert their opinions strongly as facts

[26]. Females try to avoid conflict and seek support, agreement and suggestions [7].In collaborative problem-solving, males tend to monopolize the discussion, being seen as the primary source of help. Also, males talk more and longer, and they tend to take more turns than females [26].While females engage more in collaborative activities compared with their male colleagues [1]. Previous studies also have highlighted the influence of ethnicity on collaborative learning activities [25],[27]. This may cause due to the fact that to the dominant ethnicity is preferable to minority-ethnicity teachersin a group [28]. On the other hand, the effortsof experienced minority ethnic teachers trained overseas to secure permanent teachingposts led them to feel that they had been unfairly discriminated against due to theirethnicity. Furthermore, these teachers perceived an inclination, by school leaders, toretain their expertise but as supply teachers and with minimal financial cost to theirschools. These teachers can expect to serve in these roles for long periods without thecontractual benefits or career development opportunities enjoyed by permanent teaching staff [29].Also, the content of activities may not reflect the ethnicity at all and that's why they didn't feel part of that system [29].

7 Conclusion

The main purpose of this study was to identify the relationship between demographic variables and collaborative learning activities among secondary school teachers in Malaysia. The findings indicated that there is positive correlation between collaborative learning activities with gender and ethnicity. However there was no significant correlation between collaborative learning activities with teachers' highest qualification. It may be concluded that teachers need more collaborative learning activities. Also the ethnicity can cause problems for teachers so there should be some plans in order to help people of diverse races to attend actively in collaborative learning activities. The results of this study however indicated that the highest qualification is not an important factor for teachers to attend in collaborative learning activities. Therefore schools and teachers should focus more on removing the gender and ethnicity discrepancy. This study has some limitations. First, by translating the questionnaire from English to Malay some concepts may be overlooked. Also, this study was done only in secondary schools so it cannot be generalized to primary schools. In addition, other demographic variables such as teachers' years of experience and field of specialty can be examined.

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