

# Designing Active Learning Approach: Students' Satisfaction during a short-term international workshop

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Active learning methods, such as PBL (Project/Problem Based Learning), workshops, and groupwork, have been integrated into college class so as to develop student skills. Whilst past studies focused on the effect of active learning methods during the class, this study focuses on students' opportunities to participate in short-term workshops involving intercultural communication. In order to design effective active learning environment, this study investigates students' satisfaction with teamwork during a 2-day international workshop. Twenty-six engineering students from one Japanese and one Chinese university participated in the study to interact with unfamiliar team members using limited skills of English and to develop ideas to give a presentation in English at the end of the workshop. Students' satisfaction was evaluated by using 10 reflective questions designed to measure students' contribution to the team. The results indicated that working as a part of a team and enjoying working with teammates were significant predictors of individual satisfaction during the short-term workshop.

**Keywords:** *active learning; teamwork; workshop; satisfaction*

## 1 Introduction

Engineering students around the world has been expected to develop their professional skills, such as problem-solving, communication, teamwork, to succeed in workplace (Lingard, 2010a, 2010b). In response to the increase in demand for those skills, higher educations have utilized active learning methods, such as PBL (Project / Problem Based Learning), workshops, and groupwork, in class (Humphreys, Lo, Chan, & Duggan, 2001; Ruiz Ulloa, & Adams, 2004; Stewart, 2007; Tsuchiya, Silva, Bakar, Chubachi, & Narita, 2015; Channon, Davis, Goode, & May, 2017). Furthermore, students have opportunities to take part in international PBL and workshops (Chen, Lai, Lu, Tsai, Chiang, Huan, & Yu, 2008; Tsuchiya et al., 2015). Nevertheless, there are always dysfunctional groups involving free riding, quiet students, a lack of group dynamics, and student motivation (De Grave, Dolmans, & Van Der Vleuten, 2002; Channon et al., 2017). De Grave et al. s' study (2002) reported that unequal participation often occurred during group work and identified lack of motivation hindered successful learning processes in which students expected tutors to do something to improve it. The study also found lack of interaction was an important inhibitor.

The effect of students' cultural backgrounds on new learning styles varies. Some researchers concern about international students who are familiar with teacher-centred learning style must face several difficulties in active learning settings because they are not used to active learning methods (Stewart, 2007; Xue, 2013). According to a research of an international workshop held in Taiwan, medical students from non-English speaking background showed performance anxiety when they participated in an international PBL workshop where they had to use English to discuss with team members and to give presentations (Chen et al. 2008). Another study, however, showed that Asian international students in New Zealand rather adopted students-centred learning settings within a few months and preferred the new learning style (Wong, 2004). In addition, Asian international graduate students in the U.S. showing changes in their attitudes towards groupwork resulted in getting used to the new environment and developing language competence (Xue, 2013). Hence, students from non-English speaking countries require some time to get familiar with teacher-centred methods.

Past studies focus on long-term research of the effectiveness of active learning methods in mandatory class (e.g., Pang, Tong, & Wong, 2011; Channon et al., 2017). Students who take such class study with people from the same major and speak familiar language to communicate with. In those studies, team effectiveness is evaluated on the basis of team outcomes, the process of group work, or perceived satisfaction (Thurmond, Wambach, Conners, & Frey, 2002; Pang et al., 2011; Channon et al., 2017). Thurmond et al. (2002) point out that students' satisfaction may relate to their preference of course. The present study investigates students' individual behaviours that affect students' satisfaction with teamwork during a short-term international workshop. Those who participated in the workshop were Japanese and Chinese students. Since Asian students are not used to active learning environment (Stewart, 2007; Xue, 2013), it must be challenging for them to work in unfamiliar groups, to interact with people from different cultural backgrounds, to finish tasks, and to give presentations in English in a short-period of time. In order to increase students' satisfaction with teamwork, instructors should know what students' attitudes relate to their satisfaction and provide appropriate support to their students. Investigating their satisfaction with teamwork, a research question was developed for the current study: What student behaviour improves satisfaction with teamwork during an international workshop?

## **2 Method**

### **2.1 Participants**

Of the 32 engineering and design students, 21 Japanese and 11 Chinese, including two graduate students took part in a workshop (11 women, 21 men, age range: 20 - 27). Those students were from one Japanese and one Chinese university. Participation of the workshop was on a voluntary basis. Students were allocated into five teams randomly on the first day of the workshop. Each team was composed of six to seven students including two or three Chinese students and four or five Japanese students.

### **2.2 Measures**

Their experience during the workshop was examined through a reflection sheet. A total of 26 students filled it out at the end of each workshop. The first and second sections of the sheet were open-ended questions asking students what they did and learnt, what were most useful points, what problems they faced, when it happened, and how they dealt with those problems. Chinese students answered those questions in Chinese, and they were translated

into English by a bilingual. In order to examine their satisfaction with teamwork, the last section asked respondents to rate 10 questions on a 7-point Likert scale ranging from 1=strongly disagree to 7=strongly agree (see Table 1 and 2). Those questions that were designed based on prior studies focused on how much contributed to their team (Thurmond et al., 2002; Hendry, G. D, Ryan, G. & Harris, J., 2003; Marin-Garcia, J. A. & J. Lloret, 2008; Lingard, 2010b; Pang et al. 2011). The dependent variable was students' satisfaction with teamwork (item7), and the predictor variables were other items identified as students' attitudes towards their team. All statistical procedures were carried out in R software, Version 3.5.2. and RStudio, Version 1.1.463. The results of reliability analysis indicated that the reliability of the 10 questions of both reflection sheets were considered high with Cronbach's alpha at .90 and omega at .97 for the first survey and Cronbach's alpha at .95 and omega at .99 for the second survey. Besides descriptive analysis methods, multiple linear regression analysis was applied to analyse predictors of increasing students' satisfaction. The sample size was very small, but the outcome of the research was important to understand what contributes students' satisfaction with teamwork.

### 2.3 Procedure

The 2-day workshop was held at a university in Japan. The purpose of the workshop was to explore the value and the meaning of Japaneseness through fieldwork and discussions. The reflection sheet was distributed two times at the end of each day. Table 1 shows the schedule of the workshop. On the first day, students were allocated into five teams and had an ice-breaking activity. In order to reflect their activity at the end of the day, one of students in each team were told to keep a record what his / her team did and where his / her team went during the workshop. After having lunch with team members, they had an orientation and then went to outside of campus to do their fieldwork. They had 3.5 hours to walk around the city with their team members to observe everyday life from various perspectives. They took a lot of pictures when they found out the differences between Japan and China. After that, they organized the pictures with team members and then reflected on their work answering the self-reflection questions. Next day, they went to three Japanese factories to learn a variety of state-of-the-art designs with team members.

*Table1 The 2-day workshop schedule*

| Date    | Schedule   |
|---------|--|
| 18 Oct. | <b>Workshop:</b> Ice-braking / Lunch / Orientation / Fieldwork / Self-reflection   |
| 19 Oct. | Factory tours  |
| 20 Oct. | <b>Workshop:</b> Guidance / Arrange data / Additional fieldwork / Group discussion #1/ Lunch / Group discussion #2 and #3 / Presentation / Self-reflection |

In the morning of the second day of the workshop, students continued to arrange the pictures they took during the previous fieldwork. They did more fieldwork if necessary. Students had different types of discussions in the afternoon. First, they tried to find conceptually related pictures and classified those into related groups using KJ method. They also named each extracted group and discussed the similarities and differences to place them on a two-dimensional axis. Next, they discussed the classified pictures using the World Café analysis. Once every ten minutes two pairs of students from each team went to other teams, learnt other teams' findings and wrote their comments or ideas on a sticky note and placed them on the whiteboard. Finally, they shared and examined their ideas about the value of the 'Japaneseness' focusing on several points written on the sticky notes. They also

names about the groups of pictures assuming those were successive series of groups. After that, they prepared for a PowerPoint presentation. After presentations, they filled out the reflection sheet. Figure 3 shows that pictures of students who were classifying the number of pictures they took, and a board displayed their findings.



Figure 3. Pictures of students and their work during the workshop.

## Results

The details of problems students faced during the first day of workshop is shown in Figure 1. Students' answers in open-ended sections were categorized. 24 out of 26 students identified that they had difficulties when they communicated with team members at first. They tried very hard to speak English and sometimes used Japanese or Chinese so as to explain their thoughts or ideas to their unfamiliar team members. Many participants answered that they solved the communication problems using translation applications and gestures.

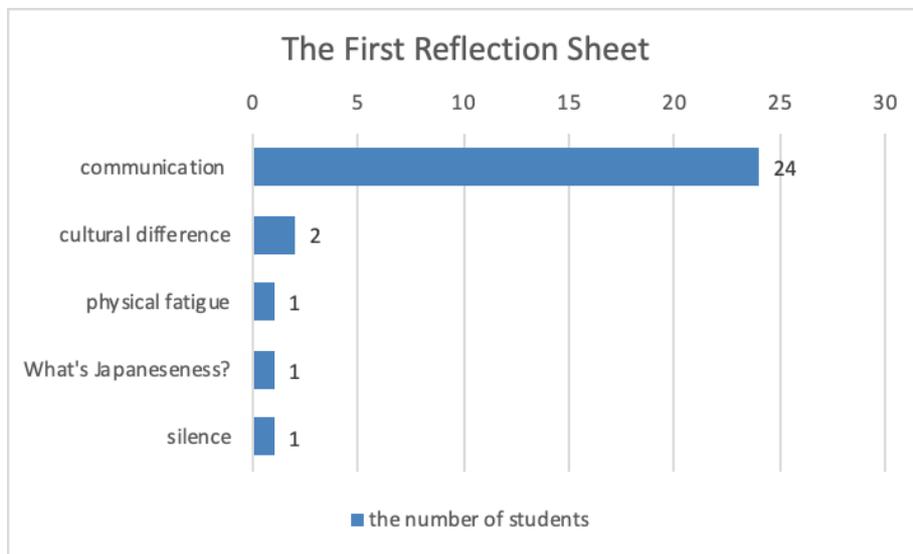


Figure 1 The problems students faced during the first day of the workshop (N=26)

Figure 2 shows the problems students faced during the second day of the workshop. According to participants (N = 24), the difficulties they faced had changed. They answered they had difficulties in preparing a presentation with team members, classifying pictures using KJ method, and developing their ideas. Other two students answered that the difficulty in giving a presentation and explaining own culture were their problems. This might be because they were assigned tasks that required students to communicate with team

members, develop their ideas and give a presentation, although they still struggled to communicate with team members in English.

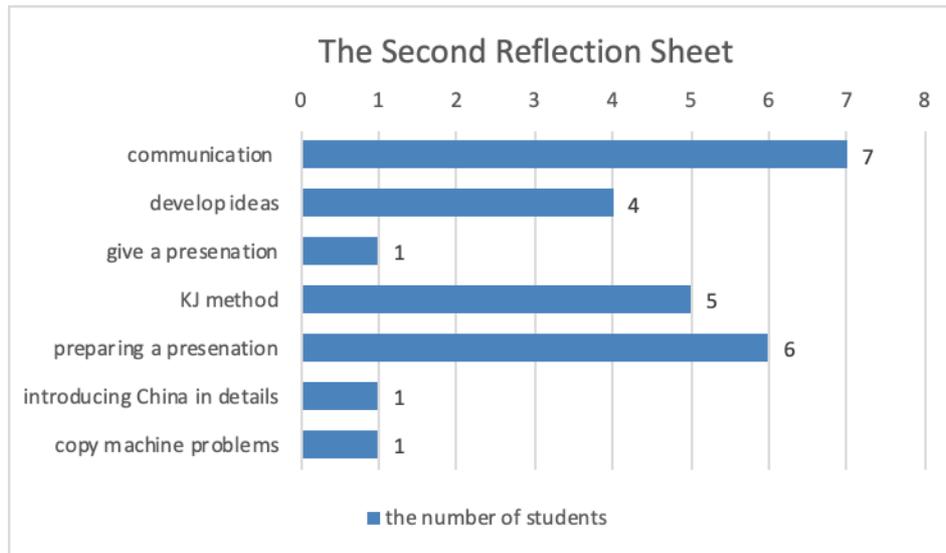


Figure2 The problems students faced during the second day of the workshop (N=25)

The study employed correlation and multiple regression analyses to examine the relationship between teamwork satisfaction and various potential predictors. Sample sizes, means, and standard deviations pertaining to each variable are presented in Table 2 and 3.

Table2 Descripted statistics of the first day of the workshop. (N=26)

| Questions   | Mean        | SD          | Mini     | Max      |
|---|-------------|-------------|----------|----------|
| 1. I actively participated in group discussions.              | 5.23        | 1.34        | 2        | 7        |
| 2. I shared my ideas and opinion.                             | 5.23        | 1.39        | 2        | 7        |
| 3. I had positive attitude and respected other people' views. | 5.77        | 1.27        | 1        | 7        |
| 4. I had productive group discussions.                        | 5.39        | 1.17        | 2        | 7        |
| 5. I helped to solve any problems.                            | 4.77        | 1.03        | 3        | 6        |
| 6. I did an equal amount of work.                             | 4.5         | 1.14        | 2        | 6        |
| <b>7. I am satisfied with the group work.</b>                 | <b>5.61</b> | <b>1.53</b> | <b>2</b> | <b>7</b> |
| 8. I worked as part of the team.                              | 5.58        | 1.1         | 3        | 7        |
| 9. I enjoyed today's group discussion.                        | 5.86        | 1.14        | 1        | 7        |
| 10. I enjoyed working with teammates.                         | 5.81        | 1.39        | 1        | 7        |

Note. item 7 is the dependent variable.

Table3 Descripted statistics of the second day of the workshop (N=26)

| Questions   | Mean        | SD          | Mini     | Max      |
|---|-------------|-------------|----------|----------|
| 1. I actively participated in group discussions.              | 5.46        | 1.33        | 1        | 7        |
| 2. I shared my ideas and opinion.                             | 5.69        | 1.12        | 2        | 7        |
| 3. I had positive attitude and respected other people' views. | 5.69        | 1.35        | 1        | 7        |
| 4. I had productive group discussions.                        | 5.61        | 1.24        | 3        | 7        |
| 5. I helped to solve any problems.                            | 4.92        | 1.06        | 2        | 7        |
| 6. I did an equal amount of work.                             | 4.85        | 1.38        | 1        | 7        |
| <b>7. I am satisfied with the group work.</b>                 | <b>5.77</b> | <b>1.39</b> | <b>2</b> | <b>7</b> |
| 8. I worked as part of the team.                              | 5.73        | 1.34        | 2        | 7        |
| 9. I enjoyed today's group discussion.                        | 5.81        | 1.52        | 1        | 7        |
| 10. I enjoyed working with teammates.                         | 5.76        | 1.5         | 1        | 7        |

Note. item 7 is the dependent variable.

Table 4 shows correlations among 9 questions of the first survey. Correlational analysis was used to examine the relationship between individual satisfaction with groupwork (item7) and other 9 variables. Results of the Pearson correlation indicated that there was a strong, positive association between their satisfaction and enjoy walking with teammates (item10),  $r = .74, p < .01$ . There were moderate positive correlations between the satisfaction and other variables, such as enjoy group discussion (item9),  $r = .68, p < .01$ ., work as a part of the team (item 8),  $r = .66, p < .01$ , and share ideas and opinion (item2),  $r = .65, p < .01$ . No significant relationship was found between the satisfaction and productive group discussion (item4),  $r = .24, n.s.$ , equal amount of work (item6),  $r = .23, n.s.$ , and help to solve problems (item5),  $r = .07, n.s.$

Table 4 First survey of correlations with confidence intervals (N=26)

| Variable | item1 | item2 | item3 | item4 | item5 | item6 | item8 | item9 | item10 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| item7    | .56** | .65** | .55** | .24   | .07   | .23   | .66** | .68** | .74**  |

Note. \*  $p < .05$ . \*\*  $p < .01$ .

Table 5 shows correlations among 9 questions of the second survey. There was a strong, positive correlation between the satisfaction (item7) and work as part of the team (item 8),  $r = .80, p < .01$ . Five variables, such as enjoy group discussion (item9),  $r = .64, p < .01$ , enjoy working with teammates (item10),  $r = .64, p < .01$ , and share ideas and opinion (item2),  $r = .64, p < .01$ , were positively correlated with their satisfaction. The two variables that were no significant in the first survey showed weak correlations; productive group work (item4),  $r = .48, p < .05$ , and help solve problems (item5),  $r = .42, p < .05$ . Equal amount of work (item6), however, showed no significant relationship with their satisfaction,  $r = .23, n.s.$  In summary, the correlation between students' satisfaction with teamwork and other variables tended to change depends on tasks.

Table 5 Second survey of correlations with confidence intervals (N=26)

| Variable | item1 | item2 | item3 | item4 | item5 | item6 | item8 | item9 | item10 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| item7    | .58** | .64** | .62** | .48*  | .42*  | .23   | .80** | .64** | .64**  |

Note. \*  $p < .05$ . \*\*  $p < .01$ .

A multiple linear regression analysis was calculated to develop a model for predicting participants' satisfaction with groupwork (item7) from positive behaviour and respecting (item3), work as a part of the team (item8), and enjoying working with teammates (item10). The results of regression coefficient of the first survey are shown in Table 6. R-squared value of the model was .63 and adjusted R-squared value was .58. The results of the regression indicated that the three predictor model was able to account for 63% of the variance in teamwork satisfaction ( $R^2 = .63, F(3,22) = 12.7, p < .001$ ). The highest estimate was enjoy working with teammates as 0.84 ( $p < .01, 95\% CI [0.33, 1.36]$ ), indicating a student with a point higher score on the scale was expected to increase participants' satisfaction by 0.84. Whilst work as part of the team (item8,  $B = .64, p < .05$ ) and enjoy working with teammates (item10,  $B = .84, p < .01$ ) contributed significantly to the model, positive behaviour and respecting did not (item3,  $B = -.52, p = .11$ ). Participants' predicted satisfaction with teamwork was equal to  $0.15 - 0.52$  (item3) +  $0.64$  (item8) +  $0.84$  (item10).

Table 6 Regression results of pre-survey using item7 as the criterion (N=26)

| Predictor   | <i>b</i> | <i>b</i><br>95% CI<br>[LL, UL] | <i>beta</i> | <i>beta</i><br>95% CI<br>[LL, UL] | <i>sr</i> <sup>2</sup> | <i>sr</i> <sup>2</sup><br>95% CI<br>[LL, UL] |
|-------------|----------|--------------------------------|-------------|-----------------------------------|------------------------|--|
| (Intercept) | 0.15     | [-1.99, 2.30]                  |             |                                   |                        |  |
| item3       | -0.52    | [-1.15, 0.12]                  | -0.43       | [-0.96, 0.10]                     | .05                    | [-.06, .15]                                  |
| item8       | 0.64*    | [0.03, 1.24]                   | 0.46        | [0.02, 0.90]                      | .08                    | [-.05, .21]                                  |
| item10      | 0.84**   | [0.33, 1.36]                   | 0.77        | [0.30, 1.23]                      | .19                    | [-.02, .40]                                  |

$R^2 = .63^{**}$

Note. A significant *b*-weight indicates the *beta*-weight and semi-partial correlation are also significant. *b* represents unstandardized regression weights. *beta* indicates the standardized regression weights. *sr*<sup>2</sup> represents the semi-partial correlation squared. *r* represents the zero-order correlation. LL and UL indicate the lower and upper limits of a confidence interval, respectively.

\* indicates  $p < .05$ . \*\* indicates  $p < .01$ .

Table 7 shows the results of the multiple regression analysis of the second survey. The analysis was carried out to investigate whether active participation in discussion (item1), help to solve problems (item5), work as a part of the team (item8), and enjoy working with teammates (item10) could significantly predict participants' satisfaction with groupwork (item7). R-squared value of the model was .73 and adjusted R-squared value was .69. The results indicated the four predictors explained 73% of the variance and that the model was a significant predictor of students' satisfaction with teamwork ( $R^2 = .73$ ,  $F(4, 21) = 14.86$ ,  $p < .001$ ). The highest estimate was work as a part of the team (item8) as 0.82 ( $p < .01$ , 95% CI [ 0.46, 1.19]), indicating a student with a point higher score on the scale was expected to increase participants' satisfaction by 0.82. When the participants' satisfaction was predicted, help to solve problems (item5,  $B = -.67$ ,  $p < .05$ ) and work as a part of the team (item8,  $B = .82$ ,  $p < .01$ ) were significant predictors. Active participation in discussion (item1,  $B = .14$ ,  $p = .42$ ) and enjoy working with teammates (item10,  $B = .35$ ,  $p = .09$ ) were not significant predictors. The final predictive model of participants' satisfaction with teamwork was equal to  $1.56 + 0.14$  (item1) -  $0.67$  (item5) +  $0.82$  (item8) +  $0.35$  (item10).

Table 7 Regression results of post-survey using item7 as the criterion (N=26)

| Predictor   | <i>b</i> | <i>b</i><br>95% CI<br>[LL, UL] | <i>beta</i> | <i>beta</i><br>95% CI<br>[LL, UL] | <i>sr</i> <sup>2</sup> | <i>sr</i> <sup>2</sup><br>95% CI<br>[LL, UL] |
|-------------|----------|--------------------------------|-------------|-----------------------------------|------------------------|--|
| (Intercept) | 1.56     | [-0.13, 3.24]                  |             |                                   |                        |  |
| item1       | 0.14     | [-0.21, 0.48]                  | 0.13        | [-0.20, 0.46]                     | .01                    | [-.03, .04]                                  |
| item5       | -0.67*   | [-1.19, -0.14]                 | -0.50       | [-0.90, -0.11]                    | .09                    | [-.04, .21]                                  |
| item8       | 0.82**   | [0.46, 1.19]                   | 0.79        | [0.44, 1.15]                      | .27                    | [.04, .49]                                   |
| item10      | 0.35     | [-0.06, 0.77]                  | 0.38        | [-0.07, 0.83]                     | .04                    | [-.04, .12]                                  |

$R^2 = .73^{**}$

Note. A significant *b*-weight indicates the *beta*-weight and semi-partial correlation are also significant. *b* represents unstandardized regression weights. *beta* indicates the standardized regression weights. *sr*<sup>2</sup> represents the semi-partial correlation squared. *r* represents the zero-order correlation. LL and UL indicate the lower and upper limits of a confidence interval, respectively.

\* indicates  $p < .05$ . \*\* indicates  $p < .01$ .

### 3 Discussion

The results of the study revealed that students' satisfaction with teamwork was increased by several behaviours. Their satisfaction appears to be increasing along with putting emphasis on assertive behaviours. Their passive behaviours, however, influenced their satisfaction negatively. Instructors who organise a short-term workshop should consider the tendency of the students' behaviours. The results of the multiple regression indicated that 2 out of the 9 items, work as a part of the team (item8) and enjoying working with teammates (item10), contributed to predicting students' teamwork satisfaction positively during the first day of the workshop. Therefore, encouraging self-expression may increase their satisfaction. However, the question about positive behaviour and respecting (item3) was a negative predictor of their satisfaction. Such students' passive behaviours indicate that students focus on positively understanding others rather than showing self-expression. This may hinder their satisfaction. As a result, instructors should consider those aspects of satisfaction and set up a plan for students' activities in order to increase their satisfaction with teamwork during short-term workshops.

There are several possible interpretations for the findings. According to Dolmans, Wolfhagen, & Van der Vleuten (1998), their study found that interaction among teams through discussion and listening teammates' point of views was the key to success of tutorial groups for medical students. Students in the present study participated independently, and such students tend to communicate with others well and to work others positively. Thus, they might have positive interaction among team when they enjoyed working with teammates as part of a team. With respect to working as a part of a team (item8), students might have developed a sense of belongingness to the team during the workshop. Baumeister & Leary (1995) points out that belongingness is a fundamental human need that individual has to belong to others. Borrott, Day, Sedgwick, Levett-Jones' study (2016) found out that nursing students identified achieving the sense of belonging which affected their workplace satisfaction. Another research by Braun, Peus, Weisweiler, & Frey (2013) showed that developing sense of belongingness led employee to satisfy with their job while building trust within a team. Pang et al. (2011) researched business students and found that three factors, such as *workload sharing*, *mutual support*, and *communication*, significantly and positively contributed individual satisfaction in team settings (p.98). They state that if individual considers team members' workload is equally divided, they will develop a sense of belonging, ownership, and responsibility to the team. In the present research, however, the mean score of question about equal amount of work (item8) was the lowest comparing to other items. This suggests that students were not distribute the workload equally, which trend was also seen in the second day of the workshop. Students had only two days to develop relationship among teammates, so they might not have enough time to come up with ideas to share workload. Hence, they might develop the sense of belongingness in a different way. This should be investigated as the further study.

In contrast, their satisfaction may be decreased when they have positive attitudes and respect others' opinion. According to the answers of open-ended questions, students in the present study struggled to communicate with unfamiliar teammates who have different linguistic and cultural backgrounds from the beginning of the workshop because of the lack of language skills. They reported they solved the problem using translation application and body language, but they did not fully understand each other. If they struggled to explain their opinion as well as to understand teammates' opinion, they would be tired of having positive

attitude and respecting others' ideas. The schedule of the workshop might also affect the result. Although students were assigned into groups randomly, they were familiar with teacher-centred learning style. When students are not used to student-centred approach, students require some time to get used to the new approach (Wong, 2004; Xue, 2013). In such situation students might not know how to communicate with others and express their ideas to the unfamiliar students. Furthermore, if they did not have enough time to develop relationship between teammates, they would hesitate to express their ideas and rather prefer listening other's opinion.

The results of the second day of the workshop also shows several students' assertive behaviours improve their satisfaction with teamwork. The results indicated that both students' behaviours, work as a part of the team (item8) and enjoy working with teammates (item 10), were also significant predictors to increase students' satisfaction as the first results. In addition to those two behaviours, active participation in discussion (item1) was selected as a significant predictor. Students' active participation also associate with students' assertive behaviours as item8 and item10. Their satisfaction, however, decreased when students helped to solve any problems (item5), which indicates improving their satisfaction requires students to foster personal expression.

There are possible reasons for the behaviour that decrease their teamwork satisfaction. Although one of factors that positively contribute individual satisfaction in team settings is *mutual support* (Pang, et al., 2011, p.98), the question about helping to solve problems (item5) in the present study asked only one side of students' behaviour, resulting in negative effect their satisfaction. Consequently, students may require not only to help teammates, but also to receive support from them to improve their satisfaction with teamwork. In addition, the study by Ruiz Ulloa, & Adams (2004) revealed that one of essential factors of the positive relationship between effective teams and students' attitudes towards teamwork was psychological safety. Psychological safety is defined as shared belief that team members think that a team is safe for interpersonal risk taking, and which allows students to speak up without embarrassment or punishing (Edmondson, 1999). In the present study, therefore, psychological safety might not be developed in teams and students could not to express their ideas comfortably. This might be affected by experiencing unfamiliar learning methods, talking to new people, helping each other, and speaking English. Mpofu, Das, Stewart, Dunn and Schmidt (1998) point out that when students are not familiar with teammates, each students' communication contribution may be hindered. Lingard (2010a) also claims that helping teammates and asking for help are one of essential acts to improve teamwork skills. However, students are likely to reluctant to give or ask help because asking for some help relates to show some inadequacy that results in solving issues by themselves. Lingard (2010b) insists that students' teamwork skills can be developed by practicing and immediate peer feedback. He, therefore, points out that students need to learn how to deal with it. Students in the present study might not know how to ask for help as well as to give help. As a result, they might reluctant to help teammates to solve some issues they faced. Their lack of English skills might also prevent students from helping others. When they were not able to clearly address the problems to teammates, teammates would hesitate to solve problems. Thus, students require some sort of practices to develop and improve English skills. Instructors should take into consideration the importance of increasing opportunities of working in team settings whereby students can develop professional skills and English skills

to make such experience successful. Along with those opportunities, students' satisfaction with teamwork may increase.

#### 4 Conclusion

Active learning is increasing opportunities for students to develop professional skills in workplace. There are a lot of research about the effectiveness of active learning methods in class, but not in short-term international workshops. This study investigates what student behaviours affect individual satisfaction with teamwork during a short-term international workshop and identifies gaps between past studies and the present study. The results of analyses indicate that students' assertive behaviour increases students' satisfaction with teamwork. Encouraging self-expression are likely to help students to improve their satisfaction with team. Especially, when students can work as part of the team and enjoy the time working with team members, their team experience may show an increase in their satisfaction. On the other hand, students' passive attitudes toward a team, such as positive behaviour and respecting and help to solve problems, may inhibit their satisfaction. Instructors should consider the tendency of students' behaviours when they plan to introduce active learning methods to students. There are limitations in this study. Sample size was very small, so the results should be carefully examined. In order to develop a better model about students' satisfaction, testing in larger sample size should be necessary. Hence, further investigations should be conducted. First, the study should be carried out an experimental research comparing two groups in which one of groups have time for individual working and group discussion. In addition, questions to identify students' satisfaction with teamwork should be examined and developed from several perspectives, such as workload, mutual support, English language skills. There is also various satisfaction which associated with perceived group development and outcome variables, such as "satisfaction with the group solution, confidence in the solution, satisfaction with the interaction process, perceived quality of discussion, and level of teamwork" (Ocker, 2002, p.2). Considering those aspects also help us understand students' satisfaction with teamwork. Furthermore, negative predictors identified in the present study were based on student passive behaviours, but this result may be changed by adding other factors, such as age and exitance of siblings. Conducting further research based on those various perspectives will lead to further understanding of individual satisfaction with teamwork.

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