ASSIMILATION AND ACCOMMODATION: EXPLORING THE DYNAMICS OF CLASS DISCUSSIONS

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Abstract:

Class discussions can lead to learning of new knowledge acquisition among team members. The social development theory argues that in a group interaction, social interaction precedes development. The process of learning is a result of social interaction-both positive and negative. Learners learn assimilation and accommodation during the interaction. They learn these through agreeing and disagreeing with ideas put forward by the team members. Past studies have shown how learners respond in class discussions may depend on gender. This quantitative study explores how gender influence assimilation, accommodation, agreement as well as disagreement influence the dynamics of class discussions. 164 students were chosen to respond to a 32 -item questionnaire. Findings of this study reveal interesting pedagogical implications in the use of class discussions as part of teaching-learning activities.

Keywords: class discussions, assimilation, accommodation, agreement, disagreement

1. Introduction

1.1 Background of Study

Classroom dynamics can add value to learning among students. Activities chosen by the teacher can lead to many positive learning experience. According to Blazar and Kraft (2017), activities chosen by the teacher can have many learning effects on the learners. What teachers do (and sometimes do not) can lead to positive or negative

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learning effects. There are reasons to believe that students' engagement and participation in class enhances learning in many ways (Dallimore, Hertenstein, and Plat, 2017). Firstly, class participation increase engagement. In group discussions especially, students are made to engage with one another to get access to information. Next, group interaction helps students retain and remember information. The spoken interaction may contain activities that help students remember what they have learnt. Sometimes, group interaction encourages learners to use their prior learning to make sense of new learning. This activity also helps to deepen the students' understanding of what they are learning through hands-on and also application-based learning opportunities designed by the teacher.

1.2 Statement of Problem

The study by Green (2012) explored the dynamic of class discussion in a science class environment. The results of the study revealed learners were active in their participation as the teacher provided a platform for interaction and problem solving activities in the classroom. These activities also encourage learners to share ideas and learn to collaborate as a group. What happens when team members disagree with the ideas given by others? Teachers only see the end product of resolved interactions. It would be interesting to explore the perception of learners who underwent agreement and disagreement with their team members. What can teachers learn from the problem-solution activities?

Next, what learners learn or model in the classroom can be a model for future workplace behaviour. The study by Nayee (2015) reported that gender differences do exist among learners in the classroom. If not addressed properly, the gender issues may snowball to their future social and professional interaction. Nayee (2015) suggested that future researchers address some of the problematic conditions that take place during discussion across genders.

1.3 Objective and Research Questions

The main objective of this study is to explore the dynamics of class discussions among learners. Specifically, the researcher looks into the influence of assimilation and accommodation during class interactions. In addition to that, this study also explores the influence of agreement and disagreement in class discussions. The research answers the following questions;

1) Is there any significant difference for agreement and disagreement across gender?
2) Is there any significant difference for assimilation and accommodation across gender?
3) How do assimilation and accommodation influence class discussions?
4) How do agreement and disagreement influence class discussions?

2. Literature Review

2.1 Introduction

This section looks at the dynamics of class discussion, and gender differences in communication styles. It also explores the concept of assimilation, accommodation and also agreement and disagreement in class discussions.

2.2 The Dynamics of Class Discussion

Class discussions are used by many teachers as part of the learning activities. Several theories are known to support the reasons why class discussions have positively affected learning. According to Mcleod (2018), within one of the many reasons why class discussion worked is because student-centred learning encourages active discovery learning. Rather than direct tuition, the role of the teacher is to facilitate learning. Having class discussions as part of the learning activity helps learners to focus their learning on the process, rather than the end product (Piaget,& Cook, 1952). Focusing on the process allows learners to realise what happens during interaction is as important as what the end product of the discussion produce. They would focus on the learning and interaction dynamics among peers.

The process of learning is a result of social interaction-both positive and negative. Vygotsky's (1978) social development theory argues that in a group interaction, social interaction precedes development. Although the product of learning can be content based, consciousness and cognition are the end product of socialization and social behaviour learnt through social interaction. The classic theory of situated learning by Lave and Wenger (1990) maintains that for learning to be effective, (a) knowledge needs to be presented in an authentic context, and (b) learning requires social interactions and collaboration. During class discussions, learners learn to agree or even disagree with their team members in order to get their ideas accepted. Learners therefore learn negotiate their knowledge and opinions through the process of assimilation and accommodation with the team members. According to Wadsworth (2004), assimilation and accommodation require a learner to be active, not a passive one. This is because problem-solving skills cannot be taught; they must be discovered. The process of negotiation will then improve the learners critical thinking and problem-solving abilities. Pollock and Hamann (2011) suggested that classroom discussions help to improve learner outcomes as well as critical thinking skill. Learners interact to construct new knowledge as they improve their communication skills.

2.3 Gender Differences in Communication Styles

There has been many write-ups on the difference of communication styles across gender. For example, according to Victoria (2017), gender differ in communication styles and the differences can be seen through many ways.

2.3.1 Attitude towards tasks vs responsibility

Women are known to be more relationship oriented. They are said to and accomplish tasks by building relationships first. They then know who to ask and are comfortable asking others to get things done. On the other hand, men tend to be more task oriented. They are reported to go straight to the task. They therefore build their relationships when they are in the task or project.

2.3.2 Ways of Processing Information

When women want to make decisions, they will process and consider options out loud. Men tend to process internally until they come up with a solution. Women sometime sthink men are being unresponsive to suggetsions because of this difference. On the other hand, men think women are lloking for approval when they process out loud.

2.3.3 Leadership Styles

Because women are more relationship oriented, they tend to lead by consensus. Men tend to be more hierarchical and include only the people closest to them at their level in the decision-making process when they think it is necessary.

2.3.4 Talk Time

Men take up more time and space at meetings, while women try to make sure there is more equality in the room. Despite stereotypes to the contrary studies have shown that men talk more than women. Men interrupt women and talk over them much more that women interrupt men.

2.3.5 Non-Verbal Communication

In non-verbal behaviour women will nod their head to show that they are listening. Men leave the conversation thinking that a head nod means agreement. Sometimes, men may be surprised to find out that the woman did not agree at all. And the nod was a sign they were listening instead.

When a woman is speaking to a man and he does not say anything and stays in neutral body language to show that he is listening, a woman will interpret that as the man being bored or not understanding what she is saying. This can lead the woman to become very uncomfortable and repeat what she is saying or ask the man each time if he understands what she is saying. The man then interprets that as insecurity, or talking too much and which then lead him to think she is not assertive or confident to be a leader.

Women are known to use more direct eye contact in conversation to create relationship and connection while many men take that as a challenge to their power or position. Women will also approach a man from the front while men often approach from the side at an angle, which is how each of them tends to stand or sit when talking to others. Men interpret the face to face as too personal, or aggressive and women will interpret the talking side to side as though he is not being upfront or even hiding something from her.

2.4 Communication Styles

Tannen(1990) reorted that men and women differ in commnucation styles. Women are said to perform rpport talk . This type of talk is indirect. Women use features such as qualifiers, and depend on succinct style. They are said to apologize more, more prone to take the blame, more tendency to say thanks. Women are reported to maintain an appearance of equality while sometimes downplaying qualifications. They are also reported to consider the other person and the relationship. Women are known to downplay authority.

Men, on the other hand perform more report talk. Men tend to make more direct requests. They tend to have longer talk at meeetings. They are also fond of ritual fighting , and teasing. Men prefer to give advise to solve problems rather than showing support. Men also tend to mix business and non-business talk. Men are also said to rarely give praise or compliments.

2.5 Assimilation and Accommodation

Piaget's cognitive theory (McLeod, 2018) is comprised of three basic components and they are stages of cognitive development, schemas, and the adaption process. Firstly, Piaget proposed that each learners goes through four stages of development. Learners go through the sensorimotor stage from birth to age 2. Next, from age 2 to age 7 is the pre-operational stage. The third stage is concrete operational stage and learners go through this from age 7 to 11. Finally, learners go through the formal operational stage from the age 11 to adolescence and adulthood.

Next, schemas are the building blocks of knowledge. Each individual has his/her own mental knowledge of the world. The way he or she organises the knowledge is what makes him/her different. Schemas are the basic building blocks of this knowledge and this knowledge helps a person form the mental knowledge around them. However, the process of learning often requires the learner to undergo a process of adaptation to the world. This adaptation can happen thorough assimilation and accommodation.

2.5.1 Assimilation

Learners go through the assimilation stage by using the existing schema to deal with a new learning/situation. This assimilation stage enable the learner to accept new learning by relating the new to his/her old existing knowledge. During class discussion, learners may sometimes be prompted to understand a new concept. This understanding can be further fostered when the learner can relate to his or her existing schema. According to Skultety and Whitbourne (2002), identity assimilation is the process of maintaining one's identity despite the society's approval. The study revealed that identity assimilation is positively related to self-esteem among women.

2.5.2 Accommodation

By definition, accommodation happens when the existing schema (knowledge) does not work and needs to be changed to allow the learner to deal with new learning. In a class discussion for instance, sometimes conflicts may arise. Some learners may be adamant

and stick to his/her own schemas. However, successful learners learn to accept the ideas of others and try to fit in the new ideas into his/her old, existing ways. Sometimes the ability to accommodate is a skill in social interaction. The study by Skultety and Whitbourne (2002) found that women use more accommodation skills than men. However the study also revealed that the increased ability to accommodate would lead to a decrease in self-esteem.

2.5.3 Agreement and Disagreement

Class interaction exposes learners to solve problems as a team. The process of problem solving is a good platform for learners to learn to agree, disagree of even agree to disagree with team members. According to Rahmat, Rahman and Yunos (2015), class discussions is a platform where learners learn solve problems through agreements and disagreements. The process of assimilation of ideas helps learners to accept new knowledge. When conflict occurs , the process of accommodation allows learners to justify reasons for disagreement and also build a foundation to accept differences within the group.

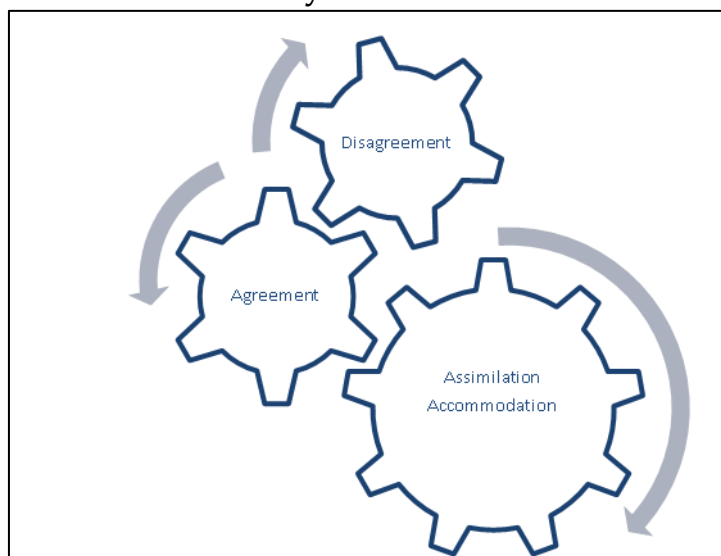### 2.6 Theoretical Framework of the Study

Figure 1: Theoretical Framework of the Study –
The Dynamics of Class Discussions

Figure 1 above presents the theoretical framework of the study. In class discussions, learners may begin with disagreement and agreement with the topics discussed or even with the team members. The process of collaboration in the team may encourage some to learn to assimilate their ideas to accept new learnings. Some may even learn to accommodate to fit into the group dynamics.

2.7 Past Studies

Murphy, Soter, Wilkinson, and Hennessey, (2009) conducted a qualitative study on the role of classroom discussions in comprehension and learning. The researchers analysed

the effects of classroom discussions on measures of teacher and student talk on individual comprehension and critical thinking and reasoning outcomes. The results of the study revealed that some discussion approaches result in tremendous increase in the amount of student and teacher talk and noticeable reduction in teacher talk yet at the same time increase in text comprehension.

The study by Green (2012 explored students' participation in formal class discussions. 21 students were chosen to participate in this mixed mode study. Teacher-led and student-led discussions were analysed using interveews and surveys. Data was collected by using tools such as rubrics, self-assessments, pre-assessments and post-assessments. Findings revealed that class discussions can be used as another strategy to engage students to be active participants in their learning of science topics while also allowing students to demonstrate oral speaking skills in a respectful learning environment.

Next, Caspi. Chajut., and Saporta, (2008) conducted a study to look into classroom observations and online discussions. They studied 30 students in 48 tutorial groups. The study reported that men over-proportionally spoke at the face-to-face classroom whereas women over-proportionally posted messages in the web-based conference. Two alternative explanations are discussed. It is suggested that either women prefer written communication more than men do, or that women prefer written communication over spoken communication.

Koczoghi (2012) conducted a study on the interplay of gender and disagreement strategies employed by Hungarian undergraduate students. The data for analysis is a corpus of oral face-to-face dyadic interactions; the methodology makes use of both qualitative and quantitative tools and involves identifying disagreement strategies on the basis of previous research as well 525 tokens of disagreement were identified. as patterns emerging from the corpus. The results of the study contradict previous claims that in comparison to men, women disagree less frequently and, when they do disagree, they employ less direct strategies.

Mohindra and Azhar(2012) explored communicational approaches across gender at the workplace. 12 male and 3 female were chosen in the study to examine the various approaches adopted by different genders at the workplace. Their responses were analysed to reveal communication strategies, styles and approaches. The study also reported that having gender issues arising fro misunderstanding could be reduced within the organization by extablishing equilibrium between men and women.

Hosseini and Hollsten (2015) conducted a qualitative study which examined the students' language use from a gender perspective. Classroom observations to investigate gendered talk. The participants were observed in a context of the classroom for an observation of spontaneous occurrences of speech in English lessons. The class that was observed is an eighth grade class with eight boys and eight girls, it is an English profile class so the student are comfortable with speaking English even though it is their second language. The purpose of these observations is to elucidate the usage of language from a gender perspective. The study focuses on examining whether boys and girls use language in different ways in the classroom but something that is not

going to fold in these studies and situations are how the students behave. The survey was done through observation analysed using Dell Hymes method, Ethnography of Communication. The focus is on how these students speak and also if the teacher's didactics have any impact on the classroom interactions. The results show a clear gender difference in how the language is used and the teacher's didactics may be one reason why these differences occur in classrooms. Boys talked more frequently, had higher tone of voice and expressed themselves more spontaneously. Girls were seen to stay silent more. However, this silence is sometimes assumed as approval. Boys took more space in the classroom. Boys talk without raising their hands while girls' low voice common, few words.

3. Methodology

3.1 Introduction
This section presents the methodology of the study. Specifically, it discusses the research design, sample, instrument, method of data collection as well as method of data analysis.

3.2 Research Design and Sample
This pilot study employs a quantitative design. A survey was given to 164 respondents to explore assimilation and accommodation during class discussions. Respondents were chosen from a public university who signed up for a language proficiency course. The content of the course includes an assessment of learners' performance in class discussions.

3.3 Instrument
The instrument used is a questionnaire containing 32 items. The questionnaire has 5 sections; section A is the demographic profile, section B, C, D and E look at learners' perception on assimilation, accommodation, agreement and also disagreement respectively. Assimilation and accommodation items were adapted from the theory by McLeod (2018) and agreement and disagreement items were adapted from Rahmat, Rahman and Yunos (2015). An analysis of the instrument revealed a score of 0.799 (Table 1) thus showing high level of internal consistency.

Table 1: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.799	.852	32

3.4 Method of Data Collection and Data Analysis
The questionnaire is converted to google form and respondents answered to the link given at the end of the semester after learners have completed their class discussion. Data collected is analysed using SPSS to reveal mean scores and independent t-test scores.

4. Results and Discussion

4.1 Introduction
This section presents the findings according to the research questions.

RQ 1: Is there any significant difference for assimilation and accommodation across gender?

Table 2: Assimilation across Gender
Results of Independent T- Test comparing male and female in assimilation

Results		Independent T-Test				
		n	$\bar{x}$	SD	t	p
Assimilation	Male	63	16.23	5.26	-2.89	.004
	Female	140	18.98	6.68		

*T-test significant is at .05 (2 tailed)

Table 2 indicates the result of mean score and standard deviation between male and female on assimilation. The mean score for male ($\bar{x}$ = 16.23) and female ($\bar{x}$ = 18.98). The Independent T-Test comparing between male and female reported that there was significantly difference in the mean score (t (201) = -2.89), p = .004) at the 0.05 level. The mean score for assimilation among women is higher than men. This means the ability to assimilate is higher than men.

Table 3: Accomodation across gender
Results of Independent T- Test comparing male and female in accommodation

Results		Independent T-Test				
		n	$\bar{x}$	SD	t	p
Accommodation	Male	45	9.54	1.62	-1.48	.14
	Female	92	9.98	1.61		

*T-test significant is at .05 (2 tailed)

Table 3 indicates the result of mean score and standard deviation between male and female on accommodation. The mean score for male ($\bar{x}$ = 9.54) and female ($\bar{x}$ = 9.98). Again, the mean scores for accommodation is higher among women than men. The Independent T-Test comparing between male and female reported that there was no statistically significant difference in the mean score (t (135) = -1.48), p = .14) at the 0.05 level.

RQ 2: Is there any significant difference for agreement and disagreement across gender?

Table 4: Agreement across gender

Results of Independent T- Test comparing male and female in agreement

Results		Independent T-Test				
		n	**x̄**	**SD**	**t**	**p**
Agreement	Male	55	13.07	3.38	-.78	.44
	Female	109	13.45	2.82		

*T-test significant is at .05 (2 tailed)

Table 4 indicates the result of mean score and standard deviation between male and female on agreement. The mean score for male ($\bar{x}$ = 13.07) and female ($\bar{x}$ = 13.45). The mean score for women is higher for men. The Independent T-Test comparing between male and female reported that there was no statistically significant difference in the mean score (t (162) = -.78), p = .44) at the 0.05 level.

Table 5: Disagreement

Results of Independent T- Test comparing male and female in disagreement

Results		Independent T-Test				
		n	**x̄**	**SD**	**t**	**p**
Disagreement	Male	55	10.71	3.10	-2.41	.02
	Female	110	11.92	2.92		

*T-test significant is at .05 (2 tailed)

Table 5 indicates the result of mean score and standard deviation between male and female on disagreement. The mean score for male ($\bar{x}$ = 10.71) and female ($\bar{x}$ = 11.92). The mean score for disagreement is higher than women. The Independent T-Test comparing between male and female reported that there was significantly difference in the mean score (t (163) = -2.41), p = .02) at the 0.05 level.

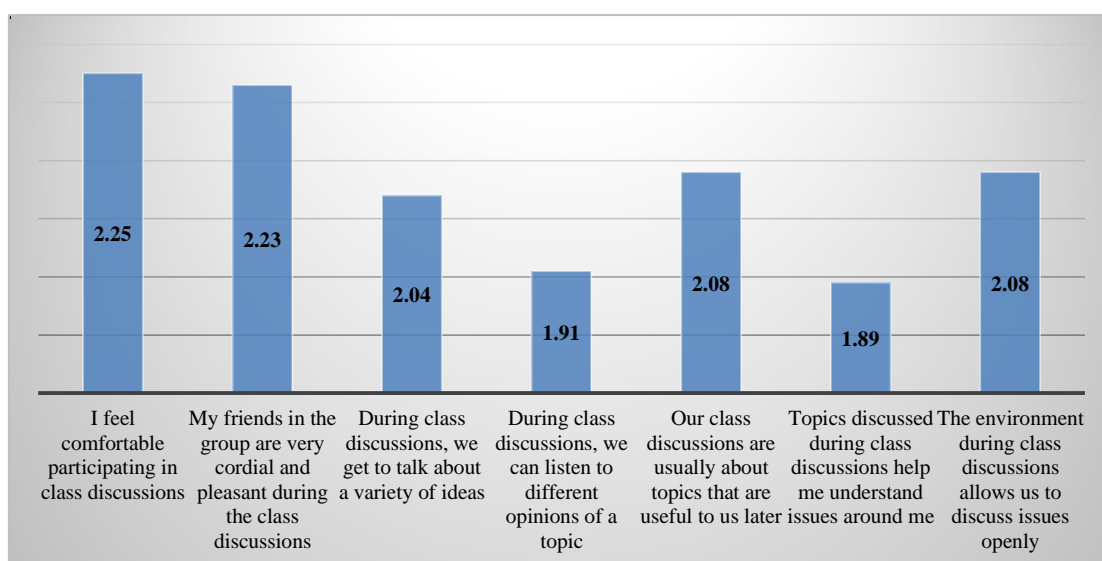RQ 3: How do assimilation and accommodation influence class discussions?

Figure 2: Mean Score for Class Discussion

Figure 2 shows the mean scores for group discussion overall. Generally, learners felt comfortable participating in class discussions (2.25). Interestingly, they were not very positive towards listening to different opinions on a topic (1.91) in a group discussion.
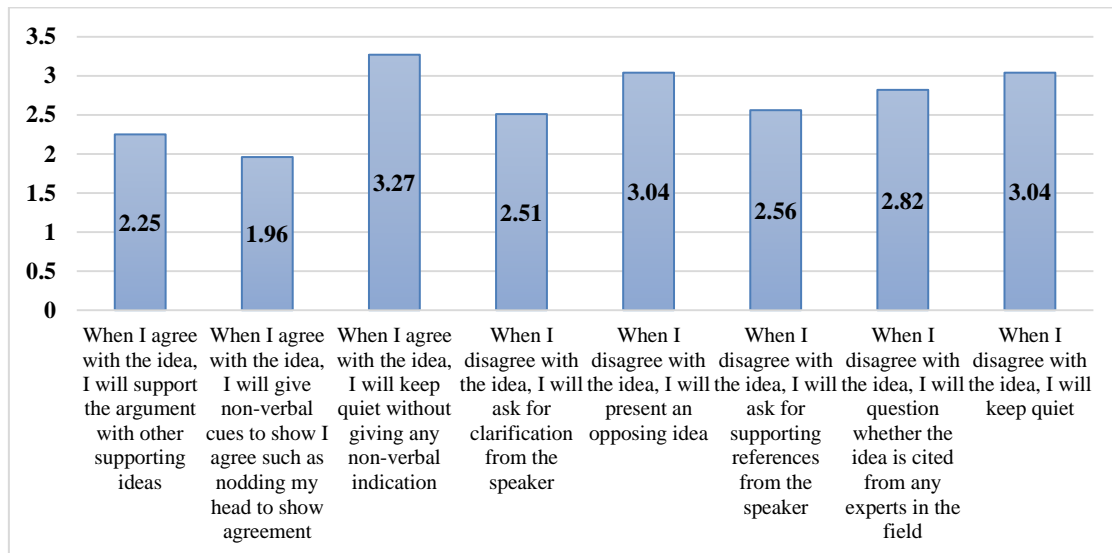

Figure 3: Mean Scores for Assimilation

Figure 3 presents the mean scores for assimilation. Results indicated the high mean score for "keeping quiet to show agreement" (3.27) and also "keeping quiet for disagreement" (3.04).
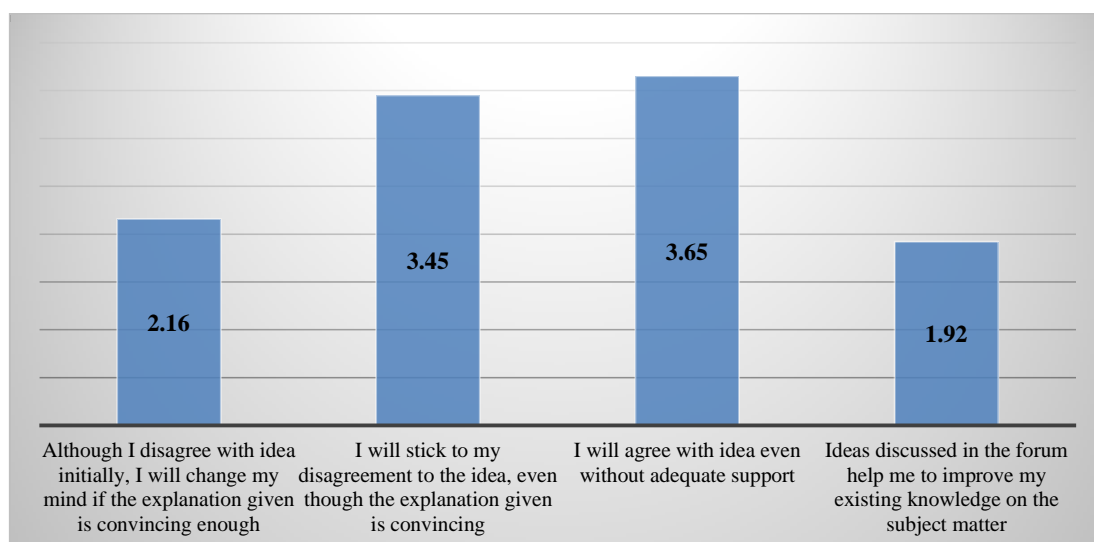

Figure 4: Mean Score for Accomodation

Figure 4 shows the mean scores for accommodation. Interestingly, the highest mean score is for "agree with the idea even without adequate support" (3.65).

Sometimes team members attempt to accommodate to new ideas by agreeing without and reservations.

4.2 How do agreement and disagreement influence class discussions?
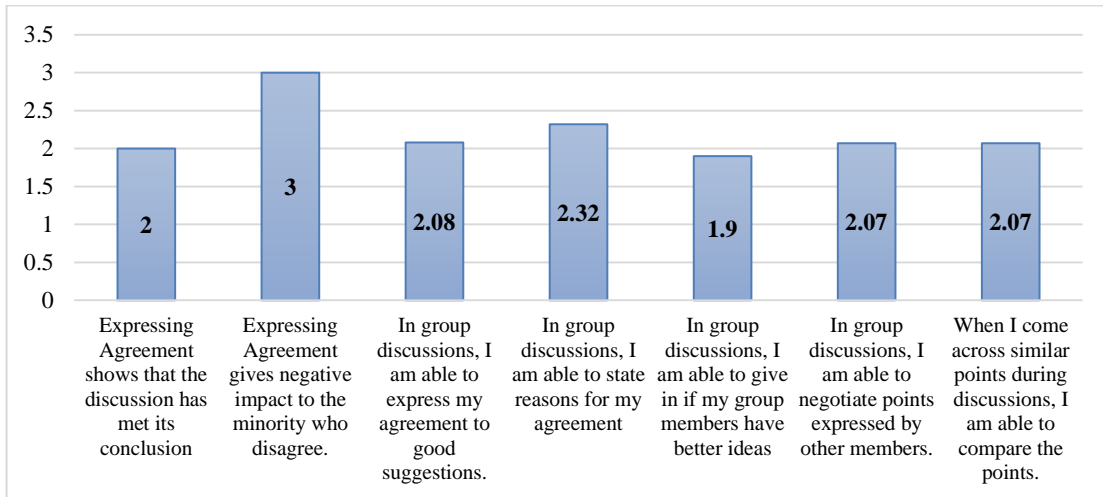
Figure 5: Mean Score for Agreement

Figure 5 presents the findings for agreement in terms of mean scores. The highest mean (3) is for "expressing agreement gives negative impact to the minority who disagrees." The lowest mean (1.9) is for "ability to give in if group members have better ideas". This shows reluctance to accommodate.
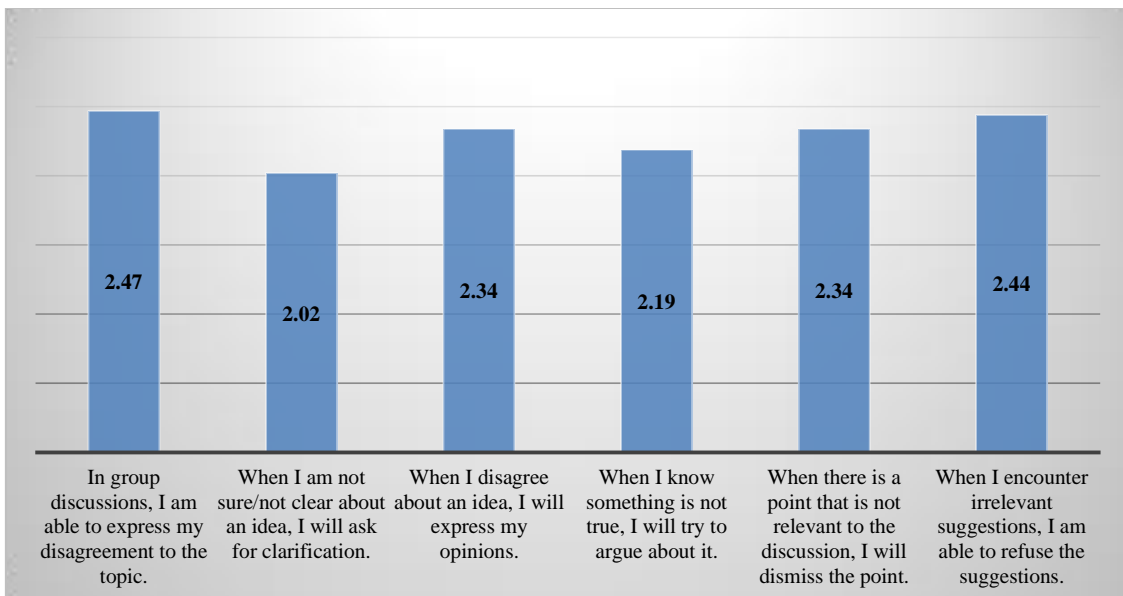
Figure 6: Mean Scores for Disagreement

Figure 6 shows the mean scores for disagreement. The highest mean is for "when I encounter irrelevant suggestions I am able to refuse the suggestions" (2.44). This is

followed by "when I disagree, I will express my opinion" (2.34) and " when there is irrelevant point, I will dismiss the point" (2.34)

5. Conclusion

5.1 Summary of Findings
To sum up, respondents were not positive to different opinions in class discussions. Many were not open to accept the opinion of others. The results also revealed that for assimilation and accommodation, women had higher mean than men although results showed no significant difference between the gender. Next, woman also scored higher mean for agreement and disagreement; although there was a significant difference across gender for only disagreement.

5.2 Discussion of Findings
Learners undergo the ssimilation stage by using the existing schema to deal with a new learning/situation. This assimilation stage enables the learner to accept new learning by relating the new to his/her old existing knowledge. According to Skultety and Whitbourne (2002), identity assimilation is the process of maintaining one's identity despite the society's approval. The result of this study revealed that men scored higher assimilation compared to women. This could be fact that men was reported to be more task-related compared to women (Victoria ,2017) and this ability helped men to ensure maximum learning by assimilating whatthey already knew to the new knowledge.

Next, accommodation happens when the existing schema (knowledge) does not work and needs to be changed to allow the learner to deal with new learning. The result- of this study revealed that woman scored higher accommodation than men. This finding is in accordance with the study by Skultety and Whitbourne (2002) who also found that women use more accommodation skills than men.

5.3 Pedagogical Implications
The dynamics of class discussion can reveal many interesting discoveries. Learners learnt from social interaction-some learnt to agree, some agreed to disagree. Some employed assimilation skills to learn new knowledge while learnt to accommodate to ideas they were not agreeable to in the first place. Dallimore, Hertenstein, and Plat (2017) suggested some pedagogical suggestions to maximise learning in class discussions. They suggest that teachers plan activities to;
- increase engagement;
- help learners remember and retaining information;
- help learners to confirming learning;
- help learners to clarify through verbalization;
    - (a) receiving feedback;
    - (b) asking questions.
- help learners to enhancing /deepen understanding.

5.4 Limitations and Suggestions for Future Research

The results of this study is limited to learners in language proficiency course. Perhaps future research could focus on class discussion in content courses without focusing on language aspects.

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