

Chapter 14

Perceptions of Graduate Introvert Students Towards Problem-Based Group Work Activities in the Classroom

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ABSTRACT

This research study will examine the perceptions of graduate introvert students towards problem-based group work activities in the classroom. There is an emphasis into student-centered learning in higher education systems in today's world, and group-work activities are amongst the ways of having students active in the classroom. Results of this study will show that introverts compared to extroverts have negative group work experience. This study will show the importance of designing and structuring group work activities well to allow for all students regardless of their personalities to be able to be motivated towards group work activities and be able to retain concepts learned during student-centered learning activities. This study investigates how graduate introvert students perceive group work activities in the classroom. Personality test will be administered to ensure all participants fit into the study's description of an introvert. Qualitative approach was selected as the research design for this study using unstructured interview questions.

QUALITATIVE RESEARCH FRAMEWORK

Research Main Topic of Inquiry

What are the perceptions of students who are not able to quickly speak up their ideas in a classroom that mostly focusses on problem-based group work activities? What are the current concerns and experiences that introvert students have faced during their group work activities in class? The inclusion of group-work activities in the classroom has tremendous benefits that allow students to develop soft skills such

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as, communication skills and negotiation skills. In addition, Problem-based Learning (PBL) activities promotes students high-order thinking skills, retention skills and allows students to understand concepts better. Although group work activities develop student's critical thinking skills and understanding of content, it is also important to consider the type of discussions the students are engaging in, given the different types of personalities present in the classrooms (Nussbaum, 2002).

With the different personalities present in the classroom, do introverted students get a chance to apply their high order thinking skills especially when placed with extroverted students who dominate discussions by quickly speaking up during the assigned group work activities? Do the introverted students feel engaged during assigned group work activities in the classroom? How do we best respect introverts in the midst of all the student-centered learning approaches?

My study will define extroverted students as being enthusiastic, outgoing, talkative and friendly as supported by Walker, (2007). Introverted students will be defined as, people who like to spend time alone processing thoughts in their head rather than speaking up (Dossey, 2016).

Subtopic(s) of Inquiry

While I do not want this to be explicit in the semi-structured questions, there are subtopics I want to explore in particular arenas tied to the following:

- Student perception on the group size, and how it affects their ability to be productive during group work activities.
- Student's engagement during the group work activities and its relation to constructive group work activities.
- Student processing time (time needed to think through complex problems) during group work activities.
- Student perception on the time allocated for group work activities in the classroom.
- Student perception on the personas present in their group during group work activities.
- Student perception of the instructor's effectiveness in running group work activities.

MAIN LITERATURE IN SUPPORT OF CONDUCTING THIS STUDY

Most institutions of higher education are shifting from the old way in which instructors just deliver instruction to adopt to the constructivist approach to learning where the student is the active participant in the learning environment. This is evidence from the findings of Walker (2007) who stated that, group work has become an important part of the higher education system in today's world. The shift in teaching style might be a result of cognitive growth when students are active in the learning environment as supported by Palincsar (1998), who stated there is cognitive growth when working with peers.

Warren, Dondlinger, McLeod, and Bigenho (2012) define problem-based learning as an advanced model of instruction, which is designed to support learning through complex problem-solving context. During the group work activity, the students are presented with the ill-structured problem for them to solve. Hmelo-Silver (2004) stated students need to engage to define meaning of the problem, inquire and investigate access information through various resources, evaluate and justify their findings and finally the students communicate their responses and come to conclusions. This is also supported by

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Warren, Dondlinger, McLeod, and Bigenho (2012), who stated that in a problem-based learning activity the students think critically by analyzing and synthesizing data, students develop hypothesis and reason then find conclusions and evaluate the new information gained.

However, it appears that our classrooms are embracing extroverted behavior through social learning activities (Godsey, 2015). This is corresponding to the findings of Dossey (2016) who found that our society is becoming transformed to an 'extrovert's paradise'. Which is further supported by Rosheim (2018) who stated that participation in class is viewed as verbal response and thus the absence of talk makes instructors assume that no learning has occurred. This leads to the situation in majority of higher educational institutions where class participation results in higher grades (Hsu & Huang, 2017). In addition, Medaille and Usinger (2019) stated that most instructors view dialogue as an important component in their pedagogy, hence will not view silence well. All this research shows how our education in today's world is geared towards having students be brave to speak up and be confident to challenge ideologies from their peers.

Despite the benefits of PBL, an overemphasis on them results in the neglecting of the introverted students because, not all students are motivated towards working in groups. This is evident by Offir, Bezalel, and Barth (2007) who stated that introverts sometimes feel demotivated during the group work activities. In a qualitative study done by Offir, Bezalel, and Barth, (2007), one of the participants stated that "my involvement as a student decreases and so does my motivation. "Another student stated that, "I think several times before I ask a question in the middle, even if it is something essential. "Another student reported that "I deliberate before asking a question because I feel that I am disturbing the other students in the class." This reporting's as similar to Spark, Stansmore, and O'Connor (2018) who stated that introverts tend to believe or forecast that acting extroverted will not be good thus will be cautious about raising their voice to be heard or challenging another person's thoughts.

According to Walker (2007), one of the reasons why introverts do not like group work might be due to the type of experience they encountered. This is also supported by Forrest and Miller (2003) who stated that, if the students had difficulties during previous group work activity, they become hesitant into wanting to be part of a group activity in the future. In addition, Walker (2007) stated the personalities present in a group might affect how they group works. According to Savery and Duffy (1995), other people are the greatest source of alternative views to challenge our own current views. The authors further stated that new learning is stimulated through the puzzlement. This shows us that it is very unfortunate when the introverted student's points of view are not listened as demonstrated by Palincsar (1998) who found that during the majority of the time, a 'silent' person's answer gets merely accepted during group learning activities and this is not the situation that we want during group work learning.

In addition, Walker, (2007) stated that introverts prefer to observe quietly which is also supported by (Monahan, 2013) who states that introverts prefer to listen during group work. Instructors need to recognize that even though introverts appear quiet it does not mean that they do not know the study topic. This is similar for the extroverts just because they find group work enjoyable it does not mean that they are productive. This might just be as a result of the 'reinforcing effect' where extroverts are perceived with others as making major contributions. Walker, (2007). Therefore, it is crucial to ensure that all the students are benefiting from this type of learning. The goal of instructors should not be to just have a small percentage of students succeed but rather, have the same level of expectations for all our students. Thus, an investigation on the perceptions of graduate introverted students will be extremely helpful in the development of future instructional courses that allow for all students to benefit during the group work activities.

According to Offir, Bezalel, and Barth (2007), it is important to design learning environments that accommodate the needs of students with different learning characteristics. The authors further stated that extroverts tend to act quickly, sometimes without thinking during group work activities. This is also supported by Nussbaum (2002) who stated that extroverts tend to dominate discussions when placed with introverts and similar to the findings of Hsu and Huang (2017) who stated that class discussions are sometimes dominated by few students who are talkative making it hard for international students to get their speaking turns. This could also be because introverts tend to spend some time processing the information before they speak up; hence, they will just be in a situation where the outspoken students just talk leaving them silent.

HOW DO WE BEST RESPECT INTROVERTS AMID ALL STUDENT-CENTERED LEARNING APPROACHES?

Monahan (2013) emphasized the importance of establishing classroom norms/group work norms. Which is also supported by Gillies (2003) who stated that groups will be a success only when students know what is expected of them during the group work activity. Establishing the norms helps the students build a relationship with one another. This is also recommended by Blatchford, Kutnick, Baines, and Galton (2003) who emphasized on the importance of giving groups the opportunity to build up trust, sensitivity, and respect for each other, and to resolve conflicts through repeated opportunities to work which makes them enjoy working together.

Offir et al. (2007) emphasized on the importance of faculty incorporating instructional methods that help introverts cope with challenges. The authors further stated the high anxiety levels experienced by introverts can be reduced by explaining to the students before the group work starts that there will be some time allocated for “breathing space” for students to be able to think about their ideas and use advance organizers such as, papers for all students to write down their ideologies first. This concept is similar to what Amazon CEO Jeff Bezos uses where all collaborative meetings at Amazon begin with silence, group members read the memo and giving group members an opportunity to write what they want to say (Gino, 2015).

Walker (2001) stated that some group work tasks can be broken down into subcomponents then allocate different members of the group to be responsible for each, this concept is also supported by (Monahan, 2013) who states that faculty should assign roles to group members this will allow for each member in the group to have an opportunity to participate. Offir, Bezalel, and Barth (2007) emphasized that instructors should not design a one fits all group work activities but rather consider the diverse needs of the learners.

This is also supported by Walker (2007) who stated instructors need to be aware that students who are more introverted may find some aspects of group work more challenging. This is similar to what Chowdhury (2006) found that instructors need to understand how their students understand and gather information, that way the instructors will create pedagogies that are useful for them and their students thus reducing instances where the introvert students feel left out.

Darnon, Butera, and Harackiewicz (2007) advocate for instructors to be cautious on what kind of conversations students engage in during group work discussions as not all situations that involve social-cognitive conflict leads to progress. This is also supported by Gillies (2003) who stated that, placing students in groups and telling them to work together does not lead to cooperative learning and is further

supported by Nussbaum (2002) who stated that although group participation and discussions develops student's critical thinking skills and understanding of content, it is also important to consider the type of discussions the students are engaging in, given the different types of personalities present in the classrooms.

Palincsar (1998) states that all group members should be actively involved and not just observing when using problem-based group work activities. This means when the shy students are not involved and just observing they will not be experiencing the benefits of group work activities such as, negotiation skills, self-directedness, an increased motivation to learn and communication skills. Palincsar (1998) ideology is also supported by Hmelo-Silver (2004) who stated that learning as a group promotes the construction of knowledge, develops problem solving skills, develops self-directedness, makes students effective team players and have them motivated to learn.

GENERAL THEORETICAL FRAMEWORK SUPPORTING METHOD

My research is influenced by the social constructivist approach as it is aimed at increasing general understanding of the main topic of inquiry at the same time gather rich data from which ideas are induced. My unit of analysis may include the complexities of the "whole situations and my findings can be applicable to other readers in the same situation through theoretical abstraction. This will be the right methodology as it will give me the opportunity to select a small number of participants who fit into the category of being introverted and are in the higher education setting in the North Texas region. I will know about their perceptions of group-work activities through the feedback that they will provide on my unstructured questions during the interviews. I will have increased my understanding about the situation and other people who are interested in this area will have a greater understanding of how introverts perceive group work discussions.

Social constructivism acknowledges human experiences that is I can know the truth about the situation through the experiences of the introverted students during the group work activities. What am studying is something that can be observed too. That is, we can see the introverted students not being as productive as expected during group work activities. My study will be a phenomenology study as I want to find meaning as to why introverts view group work activities as they will report during the interviews and will be of interest to other people who can relate to it.

Study Goals

This study will focus on students with a quiet personality, those students who feel shy or anxious to speak up in groups or in large crowds. This is an issue that is not addressed well and is usually left neglected. This can be because the majority of instructors are not introverts; hence, they are not able to put themselves in the shoes of the introverted students when they design courses. In addition, some instructors operate with the assumption that students should speak up, get out of their shell and talk like the other students. However, instructors fail to understand that not all students are the same and it takes a lot of time to change someone's personality (fixed traits).

Collaborative group work activities, which are a central focus of PBL, have become an important part of the higher educational degree curriculum in the United States. Thus, introverted students have to find a way to adopt to the changing learning environment and the instructors have to come up with ways to better design their courses that allow for the introverted students to be useful members during group

work activities. For example, Jeffery Buller addressed this issue in a recent AECT conference where he said that, despite introverts lacking confidence, they can be very useful members within a group using their own qualities. For example, introverts pay attention to detail; thus, they can be the assessor within the group.

Another concern is the cultural differences. Higher educational institutions in the United States are becoming more diverse and our classrooms are now composed of a variety of students from different countries. This is evident from the US SEVIS record indicate that there are 1.18 million international students as of May, 2017. Although the majority of American students will rarely have the problem as they are accustomed to a culture of having conversations with the instructor and group work activities, it is important to be aware of international students who come from cultural backgrounds where defending their opinion, might appear as not being respectful to the instructor, or fellow student during discussions. This is demonstrated by the findings of Rosheim (2018) who stated that some students are silent during the learning environment as a result of their culture and upbringing. Which is also supported by Medaille and Usinger (2019) who stated there are some cultural expectations about communications that make students not able to appear assertive or talkative during student centered learning activities.

Delimitations

One of the delimitations is that my study solely focuses on students who are in the North Texas region. Therefore, my findings will be somewhat limited to students within this region. Secondly, my study is limited to introverted students only but, there might be certain instances where some students with an extrovert personality might also fit in with some of the experiences that the introverts feel during group work activities. Thirdly, my study is bounded to group work activities only in the classroom, and the introverts might also be having certain issues of concern with other teaching styles used in the classroom. For example, they might have difficulty approaching the instructor or raising their hand to participate during a lecture. Finally, my study is only limited to in-person classroom meetings only; however, there may be situations where the introverted students face some challenges interacting in online group work activities as well.

Setting

The setting will be in any higher educational institution in the North Texas region that utilizes problem-based group work activities in their classroom. The classroom setting is restricted only to in-person meetings.

Broad Contextual Framing

Another complication in this era is the rise of the constructivist approach to learning in the past few years. These allow for the development of student-centered course work and learning activities enormously in the higher education sector. These student-centered activities are often put together by:

1. Instructional designers who are extroverts thus have no issues with communicating in public or in a group.

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2. Instructional designers with little to no background on the importance of group structure/placement of students within groups & number of students within a group.
3. Instructors who are not sensitive or are not aware of cultural differences that might limit some international students from being assertive.

Instructors tend to incorporate a lot of group work activities in their classroom which is often conducted to fit in with the current learning theory of time (constructivist approach) and under the assumption that it will promote cognitive growth. However, instructors forget that they still have an active role in ensuring all the students are benefiting from the group work activities. This is often neglected and that is why most of the times the introverted students feel left behind.

Secondly, conservatives in the region where my study will be conducted (Texas) do not want to spend much money on education. Thus, there is no budget reducing the allocation of funds in areas such as this. Therefore, there are minimal adjustments that can be made with minimal funds.

Local Contextual Framing

This study focusses on graduate students who are enrolled in classes that utilize problem-based group work activities in their curriculum. My local setting will be in the classroom and this is appropriate as this is where my participants experience what they will share with me during data collection process. Group work activities are a concept that most instructors utilize as they want to embrace the student-centered approach to learning (the constructivist approach). Changing the teaching style in the classroom is done with little or no consideration of the different personas that our students have. Thus, how we teach one class cannot be the same way we teach the other class because our students' persons will always be different.

The lack of awareness on the importance of designing group work activities well lead to situations where the introverted students are left behind and not benefiting from the group work activities. Students are subjected to group work activities where they must deal with other students of dominant personalities and hence end up not benefiting from the learning theory of time (the constructivist approach).

Outcomes of my study are relevant to other students as well as instructors or instructional designers. This is because, they will know how introvert students feel about the group work activities whether good or bad and make adjustments to be able to have group work activities that allow for cognitive growth for all students. This is also supported in Kleinsasser's (2015) presentation which stated that students are the best source of information about how best to improve and structure our group work activities. Findings from my study can be applicable to anyone who reads it and agrees to it.

Physical or Virtual Setting of the Study

The classroom setting will be any room within a college or university in the North Texas region. The classroom should at least be spacious enough in such a way that it allows for the instructor to have each group of students sited in different spots without being so close to each other during group work. There should be several separate tables and chairs where students can be separated in groups of four with their own main table as the platform for the discussion.

Population in Focus

My population would be graduate students with a quiet personality in the North Texas region, the students will be introvert students who are shy and students who feel anxious to speak up during group work related activities in their classrooms. My study identifies introverted students as those with an aspect of personality which affects how they engage in social activity (Monahan, 2013). The students can either be international students or those students already resident in the United States. High anxiety levels experienced by introverted students during group work activities that make them silent makes my population relevant. My population is important as sometimes their points of view are not listened during group work activities as supported by, Palincsar (1998) who stated that majority of the time, a 'silent' person's answer gets merely accepted. Finally, how introverted students just prefer to observe quietly during group work activities makes them a good candidate for my study because, the aim of group work activities is to interact and talk with one another not just observing.

Some of my participants will be international students who come from countries where being assertive is against their culture. Hence, they are a good fit for my study as group work activities require a lot of assertive behaviors.

PROJECTED DATA COLLECTION METHODS

Type of Qualitative Approach

This study will be a general qualitative study. My study will be a phenomenology study as I want to find meaning of how the introverted students perceive group work discussions and why they perceive it like that. My findings will be helpful for instructional designers as they will know what issues the introverted students face during group work activities and will then be able to structure their group work activities in a better way that accommodated the needs of the learners with diverse personalities. I will use qualitative research, as it will give me an opportunity to understand my participant's experiences in depth. I will use purposeful sampling to obtain 20 participants from any higher educational institution in the North Texas region.

Instrumentation

I will use interviews to collect information from my population. Since this will be a qualitative research, I will be using unstructured interviews as it will allow for flexibility and give the opportunity for the participant to share with me about the perceptions that they have towards the group work activities that they do in their class.

Length of Study and Reason for Length

My study will take approximately 11 months to complete. This is because before my initial study begins, I must develop the theoretical framework of my study and make corrections on it until it is approved by my major supervisor. I will then have to allocate adequate time for the IRB approval and any corrections that I may need to make based on the IRB team suggestions. After my proposal is approved by the IRB, I need

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time to select my participants and inform them about the study. I will then need some time to administer the personality surveys to ensure that I get participants who fit into my description of being introverted. Since my study is not limited to one educational institution, I will need to allocate sometime for the different schedules and availability of my participants. After all that is complete, I will now start the data collection process and then need adequate time to code the findings and allow enough time for the other coders to check my work to ensure credibility. After all that is complete, I will need to write up my final report then submit it.

PROJECTED DATA ANALYSIS METHODS

I will use grounded theory to analyze the information I gather according to major keywords and recurring themes that will emerge during the coding process. I will finally report my finding and look at major areas of concern reported by the introverted students. I will then inform the instructors about some adjustments that can be made for them to be able to benefit during the group-work activities. Below is a breakdown of how I will do my analysis:

1. Interview analysis - I will identify coded information and learning outcome from the students.
2. Document analysis - I will have multiple coders review the interviews.
3. Credibility establishment will be through triangulation, multiple coders, member checks and multiple data sources. I would want to do concurrent coding of three people in the same room to obtain the most accurate information with minimal chances of disruptions or situations where ideas fading away if we decide to have later agreement.

FINDINGS REPORTING

Potential Report Types

1. **Condition 1:** If the graduate introvert students have no concern on how the group work activities are conducted in the classroom and their interaction with other students during the group work activities- I will do an article report of the introvert graduate students' perception of group work activities in the classroom using the words of the students themselves and their achievement outcomes.
2. **Condition 2:** If there are issues of concern with how the group work activities are conducted in the classroom – I will do an article report about the importance of designing group work activities that accommodate the needs of students with different learning characteristics/personas so as to ensure all students are benefiting from the teaching style used in the classroom. I will use the words of the students. In addition, a report will be done about the structural changes in the classroom and teachers teaching style adjustment during the group work activities.
3. **Follow-up feasibility component of the study.**
 - a. Available designer to design the lesson.
 - b. Available instructor to structure the learning environment and teach the lesson.
 - c. Available students to engage in the group work activity.
 - d. Available resources (classroom with enough space, markers, pens, white posters, network, computer)

Projected Audience for the Research Outcomes

The intended audience for my outcomes will be other graduate introverted students in the higher educational setting not only in the North Texas region but worldwide. This is because, if the findings are applicable to them so they can use them to adjust their group work activities to avoid having the introverts left behind during group work discussions. Teachers and instructional designers are also a target audience for my study – not only in the North Texas region but also worldwide. This is because my findings will give them an awareness of what the introvert students experience during group work activities and thus, they will be able to plan their lessons well in such a way that will accommodate the needs of all the learners ensuring that they all benefit from the instructional method utilized in the classroom. Findings for my study are also good topics for conferences, as it will be a good opportunity to have an example of what may be addressed in the conference such as the AECT recently. Finally, findings for my study are good for educational journals that give other readers useful tactics to be employed during group learning.

Ethics

I will complete the CITI training and obtain a certificate for passing after the completion of the Citi training exams. A research proposal will be submitted to my major professor and approval will be obtained prior to the start of the research. I will then obtain ethical clearance from the University of North Texas IRB department with my major professor signature. I will prepare informed consent forms for my study which my participants will sign and date two consent forms. Participants will keep one consent form for their personal records, and they will return the other consent form to the secondary investigator. Participants will be informed that participation in the research study is voluntary and that they are free to withdraw at any time. I will assure participants of the confidentiality of data unless otherwise required by law.

During the data analysis phase, I will assure my participants that all information provided will be kept confidential by utilizing passwords and assuring them that all data will be deleted after 3 years. Results will not be reported in any way that might allow for identification of individual participants (pseudonyms). Participants may have access to their data at any time once the study is completed. I will have the phone number of the IRB team of the University of North Texas where my participants can call for related problems or questions regarding their rights as a participant. For other questions about the study, I will give the participants my major professor contact information.

Conflicts of Interest

This is a study that I will be conducting alone. Therefore, there are no conflicts of interest from other team members. I do not have anybody pushing to be a part of the team. I do not have any grants for the study therefore, there is no one who has any conflicts of interest.

Reduction of Bias

I will first inform the readers of my subjectivity statement where I believe that there is a push for problem-based learning activities with minimal consideration for introverted students. I will also inform them that I am an introvert student myself and mention some few experiences that I have had with group work activities in the past and then inform them that I am seeking to know if other students in the same predicament like me go through what I go through.

Opening up to my participant about my personality will make them comfortable and free enough to speak up about their experiences during the group work activities without having to fear that they might be labelled as ‘shy’ or ‘the person who never speaks up’ during group work activities in the class.

RESEARCH TEAM ROLES

I am the lead researcher, a full-time student in the North Texas region. I will lead in data collection, writing and analysis. I will have three coders, two of them will be my fellow doctoral students and the third will be my major professor. The two coders who will be my fellow doctoral students will be assisting me to ensure credibility of my findings through concurrent coding that will be done in the same room. My major professor will be my third coder and due to his expertise with research work he will do the asynchronous coding then we will later meet to agree with the rest of the coding. The three coders present in my study will be doing the work after I have collected all the data and coded it by myself and then that is when they will come in to check for credibility. The other people involved in my research will be the IRB team and their role will be to ensure that I have maintained the ethical standards required before conducting the research. This will be done in the first stages before data collection process.

Projected Structure of Research Outcomes

It is projected that introverts will have negative experiences about problem-based group work activities in the classroom. Some of the major categories that I expect to occur, is the failure to get an opportunity to participate during the group work discussion. This could be as a result of the extroverts dominating the discussions. Secondly, I expect introverts to say that their opinion was barely listened to or accepted. Probably the other students did not acknowledge the student’s ideology. The third major category would be to do with time that is, “there was not enough time for everyone to participate either because it was a large group or limited time allocated for the group work activity”. The fourth major theme might be, I did not know what to do or rather what was expected of me. Finally, another theme that would arise is that I was just anxious to speak up or less confident that is cautious about claims they will make.

Projected Limitations of the Study and Threats to Validity

One of the limitations of my study will be the possibility of shallow data due to few participants being examined. In addition, my research is qualitative in nature, thus there is no generalizability since what will be reported is about the specific students and how they felt at the time of study. However, my study can still be applicable to anyone else who reads it and agrees to it. In addition, my study will be using unstructured interviews (open ended questions) which are time consuming.

The personality survey used is one that was available to me and is used due to time issues. Therefore, it might not be accurate in identifying a person as an introvert. In addition, limited time might be an issue of concern as I might have done a longer personality survey to get an appropriate approximation of introverts and extroverts. The researcher will try to be aware of research bias due to familiarity of some of the participants and also there is a possibility of female bias because the majority of participants that I may study will be females. This is something that Robinson’s (2014) found that females are more prone to want to contribute in qualitative research than are males.

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APPENDIX 1

Researcher Subjectivity Statement Regarding Topic, Analysis

Extroverts dominate discussions when placed with introverts. Nussbaum (2002) found that extroverts engage in conflictual argumentative talks whereas introverts engage in a constructive style of argumentation when placed together in classroom discussion groups. Therefore, I believe that instructors should place introverts in one group and extroverts in one group during argumentative group work discussions in the classroom so as to avoid instances where the introverts feel left out when the extroverts dominate the discussions.

I think that my own thoughts of having introverts together in one group and extroverts together in another group how group is an excellent solution to the problem that may occur during group work activities. However, sometimes I just think back and say that maybe it will not be as beneficial as I thought, maybe it is not the best solution. I know that my group work concept needs a lot of adjustments, because my ideology of having the introverts together in one group, would be somewhat challenging as they might miss out on benefiting from interacting with the extroverts. I think it is best for the introverted students to learn how to get of their shell and be confident even though it may upset or make them uncomfortable.

I expect to see an argumentative group work discussion which is productive, where the introverts also have a chance of working together as a group, having their opinions listened to without being dominated by the extroverts. I expect to see the introverts more confident during group work discussions, an improvement in their participation and seeing them happy and comfortable during classroom discussion activities.

APPENDIX 2

Survey (If Exists)

Personality Test: The Myers-Brigg Type Indicator (MBTI) assessment.
<https://www.mbtionline.com/>

APPENDIX 3

Semi-Structured Interview Questions (If Exists)

Interview Protocol for Graduate Introvert Students during Group Work Activities

Topic One

Student Attitude and Student Engagement during Group Work Activities

Lead-off question: Tell me how you would define collaborative group work activities?

Implicit/Covert Categories

What are the students underlying or implied belief about group work activities in the classroom?

How does the student's attitude toward group work activity influence their learning outcomes?

Possible Follow-Up Questions

- Tell me how you define student participation during the group work activities
 - What are some examples of how students participate during group work activities?
- How does your level of participation affect the understanding of the discussion topic during the group work activity?
- Can you describe how you participate during the group work activity?
- Tell me about what you believe hinders student participation during group work activities.
- Do you feel excited/motivated about group work activities in your classroom?
- Do you think group work activities enhances your learning outcomes? If not why?
- Have you been in a situation where you wanted to speak up your ideology but did not get the opportunity to say it?
 - If yes, Can you describe why you think you did not speak up?

Topic Two

Systematic/Cultural Impediments and Supports for Group Work Activities in the Classroom

Lead-off question: Tell me about the structure of your classroom and school. Has it helped/or hindered a proper flow of group work activities in the classroom?

Possible Follow Up Questions

- Can you tell me about the structure of your classroom in terms of classroom space and how it has facilitated the group work process?
- Can you tell me about the different students present in your group, did they help or hinder your ability to speak up during the group work discussions?
- Can you tell me about the time allocated for the group work activities?
 - Did the instructor give you enough time for group work/ was time a factor as to why you did not get a chance to participate in the group work activity?