Creating meaning through discussion:

A review of research dedicated to classroom discussion.

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There is an old saying that people perform better in a world they help create. This famous sentiment is shared in professional trainings and classrooms worldwide. Not only do students *perform* better, but it can be argued that students transform when they participate in the learning process. This, in part, is what classroom discussion accomplishes. According to Kougl (1997), “Through the process of discussing, people develop understanding and engage in sense making, that is they create meaning” (p. 200). Participating in classroom discussion helps students understand and learn, and to create new knowledge. This review of the literature of the past decade (2001-2111) that addresses classroom discussion is the work of a team of four dedicated, interested, and newly acquainted graduate students. Our paper will be focused on psychological factors, followed by a review of research dedicated to how teachers can promote lively discussion. Then, we reviewed the research focused on the role which gender plays into the classroom discussion. The literature trend of mediated or online discussion is chronologically analyzed with the previous trends mentioned as sub-headings.

Through our research we discovered the discussion process as an instructional method is like a complicated treasure hunt led by the instructor but plotted out by the students’ participation (or lack of). The instructor’s role is not to determine which path to take to get to the treasure, but to guide the students through the learning process. The role which central communication concepts of “making meaning” plays in the discussion, as instructional method revealed itself to be quite a fragile task for the instructors and the students. Our approach to building this literature review required us to recall previous experiences in lively and substantial discussions inside the classroom, as well as the non-productive ones where everyone is silent. As traditional and nontraditional graduate students, we assumed that successful and effective classroom discussion can transform students, the instructors, and their collective experience. With this assumption, we initially unpacked articles from *Communication Education* and other related scholarly journals where researchers completed quantitative and qualitative studies by observation, surveying and initiating a dialogue with instructors, students, parents and other major educational influences. We did not limit our research to specific grade levels or types of classrooms. As trends began to reveal themselves, we narrowed our focus to four trends mentioned above (psychological traits, teacher strategies and behaviors, gender, and mediated discussion) and began searching for articles under those headings.

As groups begin to work together, some scholars believe they form, storm, norm, and perform. (Rothwell, 2007). This description of group dynamics fits our research process for this assignment. First, we created a shared document online for each group member to share articles related to our initial research and to begin our writing process. We agreed to read as much as we could before meeting in person and determined which major trends developed in the literature. During our first meeting, we discussed the areas of research concentration, assigned a trend to each member to conduct further research and began writing individually.

 As we were in the storming phase of development (initial uneasiness) and entering the norming phase (beginning to achieve group goals) (Rothwell, 2007), we developed an outline for our project. During our second in-person meeting, we drew out a timeline on the chalkboard to display when certain studies were being researched and if the research was being influenced by specific world events or society throughout the decade. Through this exercise, we wanted to organize our thoughts and outline the research visually. This visualization gave us extreme clarity. Through this method of analysis, we determined there could be a distinct link between the type of research conducted and the world outside of the classroom which we will discuss in the conclusion of this paper.

**PSYCHOLOGICAL FACTORS OF STUDENTS**

 Psychological factors and instructional communication has been the subject of copious amounts of scholarly research. The definition of psychological factors for the purposes of this paper is any mental process that impedes or enhances learning. We determined this trend from the number of studies conducted about the influence of psychological factors on discussion in the classroom. Various researchers proclaimed to focus on “the one” psychological factor that effected instructional outcomes the most (though, of course, they do not all agree). We discovered the list of factors throughout instructional communication and psychology research is quite long. For this paper, we have chosen to focus on how the literature addresses student motivation, attribution, student affect and self-efficacy. Of all of the factors that emerge in the literature, *motivation* consistently appeared in the research.

 Much literature regarding discussion in the classroom focused on motivation as the primary force driving student participation (Huang, 2005; Dallimore, Hertenstein & Platt, 2004; Do & Schallert, 2004; Hseih & Schallert, 2008). The effectiveness of classroom discussion lies in the participation of the students (Bruss, 2009; Dallimore, Hertenstein & Platt, 2004; Graff, 2009; Rocca, 2010). Do and Schallert (2004) posit a student’s affect interacts with motivational processes due to the high amount of interaction procedures. Sixteen college undergraduates in a teacher education program participated in this study that used the coding of classroom observations and post-discussion interviews. The study measured the impact of students’ participation and the effectiveness of the discussion context, content learning, and recall. Do and Schallert (2004) concluded a student’s current affective or emotional state and contextual factors tended to influence both the recall of knowledge, and the motivation to participate.

 The literature examined two large influences on motivation- attributions and self-efficacy. Attributions are the explanations an individual gives themselves when explaining their academic success or failure (Weiner, 2000). When attributions are connected to academic performance, it can greatly affect beliefs about the students’ competence, thus effecting their motivation (Bandura, 1993; Hseih & Schallert, 2008). Self-efficacy refers to the belief an individual can complete and/or succeed at the task at hand (Bandura, 1975). The research consistently showed self-efficacy to be highly correlated with academic achievement which in turn has a big impact on student motivation (Bandura, 1993; Jackson, 2002; Lane & Lane, 2001). The literature demonstrated consistent results showing both attribution and self-efficacy independently influenced motivation. However, there were outlying studies conducted in discussion settings which demonstrated attribution and self-efficacy working in tandem to proliferate the motivation to participate in the classroom discussion (Hseih and Schallert, 2008).Hseih and Schallert (2008) conducted a study of 500 foreign language students, 250 participated in discussions and 250 did not. The researchers measured self-efficacy and attribution dimensions after discussion groups and before an exam. They interviewed each student directly after they received a test score. Hseih and Schallert (2008) concluded that students who attributed failure to lack of effort had higher self-efficacy than those students who did not participate in the discussion.

 Much research that analyzed discussion in the classroom focused on the psychological traits of students. The students’ motivation to participate is considered a major factor involved in classroom discussion (Bruss, 2009; Hseih & Schallert, 2008; Huang, 2005 Jackson, 2002; Lane & Lane, 2001). Researchers also consider facilitating discussion to be a teaching *strategy* which can promote democracy and allows students to process information more effectively (Dallimore, Hertenstein & Platt, 2004; Hseih & Schallert, 2008; Huang, 2005) and the individual choices teachers make to facilitate meaningful classroom discussions (Do & Schallert, 2004; Graff, 2009; Rocca, 2010).

**STRATEGY AND BEHAVIOR**

 Discussion as a teaching strategy has been recognized as one of the most valuable tools in facilitating learning (Hackling, Smith & Murcia, 2011; Howard, James, & Taylor, 2002; Huang, 2005; Omatseye, 2007; Parker & Hess, 2001; Weaver & Qi, 2005). As Weaver and Qi (2005) plainly state, “Students who actively participate in the learning process learn more than those who do not.” (p. 570). Classroom discussion is defined as “an exchange of ideas in which multiple participants explain what they think and why” (Shemwell & Furtak, 2010, p. 223). Talking in the classroom allows students to make meaning of what is being discussed. As Hackling et al. (2011) claim, “Learning occurs through talking with others; ideas are created, shaped and refined through conversation.” (p. 8). Many researchers address the efficacy of discussion as teaching strategies.

 We found a great deal of research in the past decade utilizing quantitative methods, and the studies focused on what a teacher can *do* to facilitate meaningful discussion in the classroom. Researchers recognize there are several factors that are out of a teacher’s control that may affect class participation and discussion. For example, class size may impact effective discussion (Howard et al., 2002; Rocca, 2005; Weaver & Qi, 2005), especially in light of the ubiquitous budgets cuts in recent years. However, numerous studies examined the choices teachers make and their behavior in the classroom (Howard et al., 2002; Killen, 2010; Omatseye, 2007; Shemwell & Furtak, 2010; Smith & Connolly, 2005).

 Costa, Van Rensburg, and Rushton (2007) examined the affects of choosing discussion versus lecture as an instructional method for an orthopaedic under-graduate course. In this empirical study, the researchers randomized two groups, one which received information via lecture, the other which addressed the topics in group discussion sessions, to determine student preferences and learning outcomes. They found that not only did the students prefer interactive discussion groups to didactic lectures, but that there was “weaker, but statistically significant, evidence that interactive discussion facilitates better knowledge retention than the didactic lecture format” (Costa et al., 2007, p. 216).

 Other studies investigated how teacher behavior impacted the efficacy of classroom discussion. Mottet, Martin, and Myers (2004) examined how students’ perceptions of teacher behavior, specifically perceived instructor use of verbal approach and avoidance relational strategies impacted classroom communication. The findings suggested students may be more willing to communicate in the classroom when teachers express messages of inclusion and appreciation (Mottet et al., 2004). The verbal and non-verbal messages sent by the teacher, the type of questions asked and the amount of time dedicated to discussion during class time were found to impact the quality of discussion. (Killen, 2010; Mottet et al., 2004; Shemwell & Furtak, 2010; Omatseye, 2007).

In order to promote lively discussion, everyone should participate. Gritter (2011) stated, “Generally the classroom teacher should not be the primary speaker unless he or she is prompting students to make textual connections or connections among student contributions.” (p. 447). In order to facilitate effective discussions, the teacher should talk less and be a participant in the discovery of knowledge. Reducing the instructor’s authority over the text being discussed may positively foster dialogue (Smith & Connolly, 2005).

Additionally, in order to encourage active participation, teachers can physically arrange the classroom to cultivate inclusion. Omatseye (2007) proposed various room layouts in order to foster active participation and called for a “decentralized sitting arrangement” (p. 93) so that participants have visual contact during class time. Arranging the seats in the classroom so all members can address each other, not just the teacher, can promote discussion (Gritter, 2011; Weaver & Qi, 2005). Parker (2010) claimed that promoting discussion is not only an effective teaching strategy, but also promotes democracy.

 Teachers can make decisions and choices that foster classroom discussion. Classroom discussions, in turn, facilitate learning. As Omatseye (2007) stated, “interactions in the classroom that promote cooperative learning are successful strategy (sic) for reducing stereotyping and social rejection across disability, race and gender lines. In other words, all see themselves as members” (p. 89). The theme of utilizing discussion as a way for teachers to encourage democracy and fairness, particularly regarding gender, was prevalent in the literature from the last decade. Therefore, in the next section, we highlight themes and finding related to gender and discussion as a teaching strategy.

**GENDER ROLES**

 How does gender play a role in discussion instruction? Research demonstrates the students’ gender, ethnicity, culture, perceptions, and knowledge all play a part of their meaning making and participation (Polnick, Ritter & Raymond, 2011). For Polnick, et al. (2011), the instrument used to measure a successful classroom community was called a Classroom Community Scale (CCS) and was developed by Rovai (2002). The scale includes three measures: *total classroom community,* *connectedness*, and *learning* (Rovai, 2002) and was used to assess gender fairness in online and face-to-face graduate classes.

 The professor’s role in the creation of a classroom community, or “safe space” allows both genders (male or female) to feel connected to the discussion, openly share and learn from the instructor and students (Toraiwa, 2009). In order to determine whether or not a women’s classroom in Great Lakes University was safe and free of judgment, Toraiwa (2009) administered extensive sixty-minute interviews of twenty-five women; 15 former students who were then hired as instructors, ten women were instructors who did not graduate from Great Lakes. The conclusion of Toraiwa’s (2009) research supports the hypotheses of several academic journal articles which states the role of the instructor as facilitator in a discussion setting is a balance between empowering students of both genders and of all ethnicities and remaining the leader.

 Some of the conclusions from the literature run contrary to our perspective which is that gender roles can (but do not always) make a difference during classroom discussions. Recent literature referenced and reaffirmed prior research results, that participation in discussion depends less on the sex of professor than the individual group dynamics (Howard et al., 2006). It has been found, however, that in more vulnerable situations, females tend to participate more in class discussions (Howard et al., 2006). The question still remains. Does gender play a role in how instructors set the stage for an effective, meaningful discussion? For the past ten years, the studies demonstrate a mixed bag of results. Carlile’s (2009) research demonstrated the power of language used by the instructors, as well as how cultural norms play a part in the classroom climate. This research aligned with our previous findings from the sections above. Carlile (2009) stated, “Compulsory heterosexuality (Francis, 2005, p.14) is a device of institutional norming which refers to the way in which young people are required to exist according to stereotyped gender expectations” (p. 33). For example, an instructor may have the preconceived notion that a female student should be polite and quiet in a classroom (Carlile, 2009).

 Research completed within a K-5th grade elementary school demonstrated similar biases. One study observed six teachers in their classrooms and their use of discussion as an instructional method with gender equity in play, and found that gender-neutral language and authority used by the teachers encourages both genders to feel safe to engage in discussion and participate in meaningful ways (Perry, 2002). The research methods used were classroom observation and surveys.

 Gender, race, cultural background, religious beliefs, personal experiences of both the student and the instructor, all play a part in how discussion can be used as a tool in the classroom. We focused our attention on the role which gender plays and found several studies developed over the past decade on this subject. However, the results of the studies completed from 1970 to late 1990’s mirror those of the recent decade. Gender bias and stereotypes remain an issue in the classroom and can greatly impact an instructor’s ability to use discussion as an instructional method. While much of the research we found is dedicated to examining gender in the classroom, research examining race and cultural background of the students also impacts the classroom dynamics. For example, one study demonstrated that African-American students continue to face obstacles in higher education through assumptions and stereotypes made by both instructors and non-minority students, and that classrooms can become volatile and discussions silenced (Howard et al., 2006).

 Thus far we have unpacked the literature that has focused heavily on the psychological traits of students (e.g. motivation to participate), the behavior of teachers, and the role of gender in classroom discussion. However, not all instruction occurs in the classroom, nor does all instructional discussion. Increasingly, classroom discussion is subsidized (or even replaced) by online activity. Therefore, as the need to incorporate mediated instruction increasingly dominates the conversation of educators, we would be remiss not to address how mediated instructional discussion has been examined.

**MEDITATED ONLINE DISCUSSIONS**

 Even before the turn of the new century, the possibility of incorporating computers into the classroom has been explored by curriculum designers (Gunn et al., 2003). The computer was slowly being accepted as a useful tool in universities due to its novelty. Instructors and administrators were a bit hesitant to conduct classes facilitated online due to issues such as budget, lack of faculty training, software availability, and staff resistance (Woods & Keeler, 2001). In fact, early on, there was even little consensus about what to call online classes; different terms such as web-based instruction, distance education, tele-learning, computer-supported learning, and computer-mediated-communication were often used to refer to classes conducted online. Other factors being addressed included the students’ computer skills and proficiency, as these were important consideration when deciding whether online courses would even be feasible (Gunn et al., 2003).

 Research conducted in the beginning of the decade focused on how to properly design a course that would be offered online (Poole, 2000; Woods & Keeler, 2001; Zafeiriou et al., 2001). As instructors became more comfortable with utilizing the internet and asynchronous methods of teaching online, it stands to reason that researchers then began investigating the level of student participation, interaction, and problems these types of courses elicited (Davies & Graff, 2005; Jung et al., 2002; Kuboni, 2004; Mazzolini & Maddison, 2003; Poole, 2000; Woods & Keeler, 2001; Zafeiriou et al., 2001) In more recent years, other factors, such as instructor’s roles, criteria for student evaluation, and efficacy of hybrid classes, were explored. These factors followed a logical course of study in the past decade. In the early years, researchers needed to decide what to call mediated instruction, then, as the use of the internet exploded, they needed to examine factors influencing its efficacy. Interestingly, gender as related to mediated discussion is the only prevalent subject that does not seem to have a distinct time-line for research. It has been a consistent topic of investigation from 2001 to the present year.
 Online discussion is a prominent pedagogical method that is currently being widely employed. Both synchronous and asynchronous communication can be seen in web-based courses. In most cases, instructors expect participation via threaded conversations in online classes (Bryant, 2005; Gunn et al., 2003; Huynh et al., 2005; Jeong & Davidson-Shivers, 2006; Jung et al., 2002; Machado, 2011; Mazzolini & Maddison. 2003; Polnick et al., 2011; Poole, 2000; Vess, 2005; Yukselturk & Bulut, 2009). However, one study examined if introducing audio messages (attached to emails) would increase student participation in online discussion and increase students’ perceptions of the instructor and course (Woods & Keeler, 2001). Ultimately, it appears that asynchronous communication remains instructor’s top preference, because it allows students to articulate their thoughts in an organized and cohesive manner. The research demonstrates that using online discussions enables instructors to design their classes effectively and to more efficiently address discrepancies and/or problems that may arise during the duration of the course (Davies & Graff, 2005; Jung et al., 2002; Kuboni, 2004; Mazzolini & Maddison, 2003; Poole, 2000; Woods & Keeler, 2001; Zafeiriou et al., 2001).
 One of the most widely researched topics regarding online discussion is student participation in web-based courses. Poole (2000) found that students’ participation varied depending on their length of responses and task assignment. According to this study, students participated more if they knew that they were the assigned moderator of a discussion. It is important to note, however, that the research demonstrated that frequent posting did not necessarily equate to a better grade in the course (Poole, 2000). Findings also suggested that instructors play a significant role in students’ active participation (Jung et al., 2002; Woods & Keller, 2001). It was found that if an instructor clearly defined their expectations of their students, the level of interaction increased dramatically. Lastly, the research suggested that student participation in threaded discussions was influenced by the type of course (Jung, Choi, Lim, & Leem, 2002). Vess (2005) claimed that students participate more in the online discussions of strictly online classes than those of hybrid classes, both online and face-to-face. Kuboni and Martin (2004) added that the level of potential interaction decreases when students know that participation is not a requirement of the class.
 A popular yet controversial topic in the realm of online discussions is gender equity. Gender difference in the level of participation in online discussions was a trend we discovered. Researchers (Gunn et al., 2003; Jeong et al., 2006; Machado, 2011) found that differences can be due to the students’ demographics and environment, as well as the level of computer literacy among the students. Male and female experiences online were found to be idiosyncratic, which may be due to class dynamics (Huynh et al., 2005). When an online discussion is structured in a gender-neutral way, there will be equal participation among men and women (Huynh et al., 2005; Polnick et al., 2011). An individual’s outside responsibilities often determines how much they can contribute to the online course discussion. Yukselturk and Bulut (2009) found that female students who are engaged in multiple roles, in addition to being a student, interact less often on the discussion boards. Despite individual differences, men and women did not differ in their motivation and ability to learn in an online environment (Yukselturk & Bulut, 2009). In an effort to encourage more instructors to consider using online discussion boards as a teaching method, Sullivan (2001) maintained that online discussions that take into consideration gender differences can create a more gender equitable online classroom and have a ‘less chilly’ climate.
 Upon examination of the literature from 2001 to the current year, one cannot help but notice the evolution in asynchronous communication in online classrooms. During the early years, the research focused on the inception and design of these courses. Researchers focused on student and teacher conduct and participation, as well as the best design for classes with threaded discussions. Later on, the research focused more in the implementation and evaluation of online discussions. Examining how gender influences the online classroom has remained constant throughout the decade.

**CONCLUSION**

Our literature review addresses classroom discussion as an instructional method. We searched for literature pertaining to this topic over the past decade and discovered the themes of psychological factors and behaviors that impact discussions, the role which gender plays in the classroom dynamics, and how the virtual classroom creates a different discussion. The conclusions of the literature we unpacked support our original assumption, which was successful and effective classroom discussion can transform students, the instructors, and their collective experience. Whether the student is online or sitting across from their classmates, effective discussion can influence society, just as society can influence research.

As we completed our analysis, we could not help but notice a possible explanation as to why we saw the type of research conducted when we plotted the themes along a timeline. We found ourselves asking what major events occurred in the world during the past decade that may have guided the research. We noticed that in 2001, research focused on individual student psychological traits. The No Child Left Behind legislation was developed and implemented during this time which focused on the outcomes of individuals and changed the operating systems of public education. Another significant event on the timeline was during the middle of this past decade, the first African-American female was inducted as Secretary of State, Condoleezza Rice. The research that we found was focused mostly on cultural and gender influence in the classroom. The most recent years (since President Obama’s election), the research began to focus on community-mindedness, teacher influence and behavior. The online research trend was seen throughout the decade, evolving along with both technological advances, and the economic state of the country. Overall, this ah-ha moment for our group significantly influenced the way we thought about the research and made our discussions even more meaningful to us. We did not, however, decide to focus solely on how the research mirrored the current events, but the idea helped guide our thinking.

While we have provided a thorough summary of the literature from the past decade that addressed discussion in the classroom, we realize we could not read every article, and address every important theme. For example, some themes present in recent literature analyze the perceived differences in online vs. face-to-face discussion (Qiyun & Huay Lit, 2007), and the effects online discussion may have on face-to-face interaction and student achievement (Yu, 2009). We realize another entire literature review could potentially address these themes, and suggest that future research examines how researchers have compared online and face-to-face discussion.

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