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Student Participation in the College Classroom: An Extended Multidisciplinary Literature Review

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The goal of this study was to integrate previous research conducted on student participation in the college classroom. Numerous studies have been completed on engaging students in classroom discussions, but no study has synthesized this information in the form of an extensive literature review. Here, previous research is pulled together to gain a comprehensive overview of the benefits of participation, logistical issues in participation, student confidence and personality traits in participation, the instructor's influence on and suggestions for increasing participation, the role of sex in participation, and participation in web-based courses. Specifically, academic journal articles that were published over the past 51 years (1958–2009) with student in-class participation as a major variable were included. Details of the selection process, a thorough review of the literature, implications for the classroom, and directions for future research are provided.

Keywords: Student Participation; College Classroom; Multidisciplinary; Literature; Review

As instructors, many of us have had the experience of teaching courses where students participate frequently, the classes flow well, and all involved feel like the course was a success. On the other hand, most of us have also had quite the opposite experience, where it is a regular struggle to get students to ask questions and participate in discussions. Student engagement, a broader, more encompassing term, which consists of four factors (skills, participation/interaction, emotional, and performance) is becoming increasingly important in higher education (Handelsman, Briggs, Sullivan, & Towler, 2005). Though all areas of engagement are important and the National Survey of Student Engagement (NSSE) has increased as universities try to use student engagement as a significant part of higher education assessment (Kuh, 2001), here the focus is on the participation/interaction factor of engagement. The

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traditional lecture-only format is losing its prevalence in the classroom, as it is replaced with mixed delivery methods which utilize group discussion, dyadic work, and peer review, to name a few, all of which minimize lecturing. In-class participation has become increasingly important with Millennial generation students who demand more interaction from their classroom experience (Allred & Swenson, 2006; Howe & Strauss, 2000).

Method

To begin this investigation, online library databases were searched for academic journal articles that were clearly investigating in-class student participation.[1] Dissertations, conference papers, and book reviews were not included. Though out-of-class communication is clearly important, the effort here was focused on the communication that takes place inside of the college classroom, and to a lesser extent, that which takes place in the "in-class" online environment.[2] Research assessing participation in the younger grades (K-12) was not included, as this review is of college student participation, and there are fundamental differences between the two. For example, the amount of participation is likely to decrease as instructors lecture for longer periods of time while students progress from elementary school through college (Phoenix, 1987). Also, professors have academic freedom in the college classroom and are interacting with adults, rendering student participation significantly different.

All issues of *Communication Education* (1976–current), the premier journal in instructional communication, and of its predecessor *Speech Teacher* (1952–1976), were scanned for relevant articles. As Waldeck, Kearney, and Plax (2001) found that three quarters of instructional communication studies in the 1990s were published in *Communication Education* (47%), *Communication Research Reports* (17%), and *Communication Quarterly* (12%), the latter two journals were scanned as well. Due to its comprehensive nature and peer-reviewed academic journal format, *Communication Yearbook* also was included in the search. The reference list of each article used was then checked for other relevant articles.

Student in-class participation was written about, in *Speech Teacher*, as early as 1958, where Brown and Pruis offered their reasons for the importance of, and suggestions for encouraging, participation. They asked a question which has guided this entire manuscript: "What can we do to make the discussions of the average classroom more interesting and useful?" (p. 344). This article, though not an empirical study, is the oldest article included in this manuscript, but the more popular and widely cited Karp and Yoels (1976) article (e.g., Aitken & Neer, 1993; Fritschner, 2000; Howard, 2002; Howard, Short, & Clark, 1996) is a true empirical study, and is really a clearer starting point for the current manuscript. In a 1980 literature review, Daly and Korinek made arguments for instructional communication researchers to study classroom participation. The most recent articles included in this review were published in 2009.

Many of the articles included are clearly data-driven empirical studies, but some involve a faculty member/researcher who analyzes his/her own class, while others involve well-formulated opinions based on classroom observations. Due to the nature of this topic, it seemed that all should be included in an extended literature review, as each has its place in allowing for a greater understanding of in-class participation. In the reference section, each article is designated as appropriate. As Pascarella and Terenzini (1991) noted, selecting an organizational layout for synthesizing research is challenging and there are several ways to do so. Since the findings from each of the articles seem to fall into particular categories, that seemed to be the most logical means of organizing this body of information. After considering all of the above factors, when there was still a question of whether or not to include an article, I used the underlying question noted earlier and the following question: "What can professors do to increase participation in their own classrooms?" to determine inclusion and relevance for the intended audience of this manuscript.

Defining and Measuring Participation

Though professors all tend to recognize "class participation," and many use it in calculating students' grades, what may or may not be counted as "participation" varies slightly with individual instructors and researchers. Participation can be seen as an active engagement process which can be sorted into five categories: preparation, contribution to discussion, group skills, communication skills, and attendance (Dancer & Kamvounias, 2005). It also has been shown that faculty perceive six levels of participation from students, moving from simply attending class through giving oral presentations (Fritschner, 2000). Participation also has been defined as "the number of unsolicited responses volunteered" (Burchfield & Sappington, 1999, p. 290). It can come in many different forms, including students' questions and comments (Fassinger, 1995b), and it can take a few seconds or an extended period of time (Cohen, 1991). Wade (1994) considered the "ideal class discussion" as one in which almost all students participate and are interested, learning, and listening to others' comments and suggestions (p. 237). It seems that researchers and instructors favor these mainly quantitative and overt means of defining participation. Though the quality of student participation is likely as important, it is also much more subjective and presents more of a measurement challenge.

Several authors have proposed specific ways to measure participation. Melvin (1988) and Melvin and Lord (1995) suggested having both students and professors evaluate participation, and Melvin (1988) found that those ratings were quite similar to each other. In three other studies, however, it was found that students rated themselves higher than their professors did (Burchfield & Sappington, 1999; Dancer & Kamvounias, 2005; Gopinath, 1999); peers also evaluated one another's participation higher than the professor did (Gopinath, 1999). Considering Fritschner's (2000) finding that students and professors have slightly different definitions of participation, these rating differences are not surprising. The difference also may be

explained in part by Bippus and Young's (2000) finding that students consider several types of involvement, not just in-class discussion, to be "participation."

In-class measurement of participation can either be recorded each day in class (which may interfere with the chemistry of the class or the instruction), or by waiting until the end of the semester (which can be problematic because of the reliance on memory and the increased likelihood of biases; Armstrong & Boud, 1983). Thus, the authors suggested recording participation at every other class meeting but not to tell the students when they would be assessed. Another possibility is to have individuals other than the instructor assess participation, including outside observers, peers (though they may be biased), or tutors in that subject (Armstrong & Boud, 1983) whose ratings of student participation are highly correlated with those of professors (Burchfield & Sappington, 1999). The fact that researchers have similar but slightly different definitions of participation and its measurement should be kept in mind while reading this manuscript, but the operational definition used here for article inclusion is "in-class student participation," which consists of asking questions, raising one's hand, and making comments.

Benefits of Class Participation

There is strong evidence for the importance of participating in class (Lyons, 1989; Petress, 2006; Weaver & Qi, 2005). Participation is a way to bring "students actively into the educational process" and to assist in "enhancing our teaching and bringing life to the classroom" (Cohen, 1991, p. 699). Students are more motivated (Junn, 1994), learn better (Daggett, 1997; Garard, Hunt, Lippert, & Paynton, 1998; Weaver & Qi, 2005), become better critical thinkers (Crone, 1997; Garside, 1996), and have self-reported gains in character (Kuh & Umbach, 2004) when they are prepared for class and participate in discussions. The more they participate, the less memorization they do, and the more they engage in higher levels of thinking, including interpretation, analysis, and synthesis (Smith, 1977). Students who participate also show improvement in their communication skills (Berdine, 1986; Dancer & Kamvounias, 2005), group interactions (Armstrong and Boud, 1983), and functioning in a democratic society (Girgin & Stevens, 2005).

Fassinger (1995a) noted that both students and professors can see the benefits of student participation, and Fritschner (2000) found that students thought participation was "essential" to their own learning. Students have been found to earn higher grades as their participation increases (Handelsman et al., 2005). Though students see participation as important, and one-third would like to participate more (Wade, 1994), research suggests that it is not happening, as it is only a handful of students in any given classroom who participate regularly (Karp & Yoels, 1976), a phenomenon dubbed "consolidation of responsibility" (p. 429). This finding has been reconfirmed decades later in several studies (Crombie, Pyke, Silverthorn, Jones, & Piccinin, 2003; Fritschner, 2000; Howard & Henney, 1998; Howard et al., 1996; Nunn, 1996). Howard and Henney (1998) found that about 90% of interactions were made by a handful of students and only around one-third were regular participators, while half

of the students observed did not participate at all. Nunn (1996) found that an average of only around one minute of a 40-minute class period was spent in student participation. Pearson and West (1991) and West and Pearson (1994) found that students asked only 3.3 and 3.6 questions per hour of class time, respectively, and around 73% of these were in reference to procedures, content, or clarification (West & Pearson, 1994). Although instructors, researchers, and students all appear to recognize the importance of and seemingly want to increase participation, many students do not participate for multiple reasons.

Reasons Students Do or Do Not Participate in Class

Logistics

There are various reasons, both speculative and empirically supported, that students fail to participate in class. One reason is class size, with students being more willing to participate (Berdine, 1986; Howard & Henney, 1998; Hyde & Ruth, 2002; Myers et al., 2009; Neer, 1987; Smith, 1992), less anxious about participating (Smith, 1992), and less likely to be able to "hide" (Weaver & Qi, 2005) in smaller classes than larger classes; large class size tends to hamper communication (Gleason, 1986). Howard et al. (1996) found class size to be more predictive of participation than sex. Karp and Yoels (1976) found that while the number of students who participate in any given classroom is often the same, courses which have more than 40 students have fewer overall interactions per class period. Bowers (1986) and Nunn (1996) found this to be true for courses with over 35 students, and Crombie et al. (2003) found small differences based on class size in their assessment of courses with 16–50 students. Auster and MacRone (1994) found that the courses where students reported the most participation were likely to be smaller (i.e., 10 or fewer students) than those where students reported the least participation (i.e., 40 or more students). Often, more lecturing occurs in larger classes, which, in turn, means fewer participatory opportunities for students (Weaver & Qi, 2005). It also is possible that just the perception of being in a large class can deter participation. For example, a course of 30 students at one university might be small, but could be perceived as large by students at another university (Howard et al., 1996). Large classes, however defined, are not something we can eliminate on our college campuses, and thus, educators must find means to encourage participation, regardless of class size (Gleason, 1986).

To combat the issue of large class size, Sprecher and Pocs (1987) suggested that students meet for smaller weekly discussion sessions with former students who had performed well in the course, and they reported that this worked well in the classroom during a trial period. Dividing the large class into smaller groups also can be helpful to facilitate discussion (Ferguson, 1986) and to enhance group activities (Cohen, 1991). Gleason (1986) also offered ways to encourage communication in large classes, including making the lecture hall feel small and thus personal—even if it is not—by moving around and by talking with the students before class, and Fritschner (2000) noted the importance of moving into closer proximity of the

students. These suggestions are similar to instructors' nonverbal immediacy behaviors, which also have been found to increase participation (Rocca, 2009).

Seating arrangement is another logistical variable which impacts student participation. Even as far back as 1958, seating arrangement was considered to be a factor (Brown & Pruis, 1958). Though each seating arrangement can serve a purpose, McCroskey & McVetta (1978) noted that certain arrangements and specific seats within each arrangement were more conducive to student participation. Traditional row and column seating (Bowers, 1986) allows for less participation than a U-shaped/circular/semicircular arrangement (Berdine, 1986; Fassinger, 1995b; Ferguson, 1986; Fritschner, 2000). Bowers (1986) found no relationship between student seating preference and classroom apprehension, but Neer and Kircher (1989) found that those high in apprehension feel more anxious in circular seating, and McCroskey and McVetta (1978) found that those individuals high and moderate apprehension preferred traditional row/column seating, whereas those individuals low apprehension preferred a U-shaped pattern.

Timing also can play a factor, participation is less likely to occur in night classes, especially those that meet only once per week (Howard & Henney, 1998; Howard et al., 1996). The time of semester also has been found to impact student participation with students being more likely and instructors less likely to initiate participation as the semester progressed (Howard & Henney, 1998). Further, participation increased overall throughout the course of the semester (Howard et al., 1996).

Course policies on participation as set by the instructor also impact student participation. Berdine (1986) and Smith (1992) suggested that whether or not students participate depends on how much their participation counts toward their final grades. The "pearls of wisdom" approach where students record their participation each day to count toward their end of semester grades was found to be effective in increasing participation in the assessed course and reported to increase participation in other courses (Junn, 1994 p. 385). Fassinger (1995a, 2000) suggested that students should earn extra credit rather than counting participation as part of a student's grade, and Boniecki and Moore (2003) and Smith (1992) found that rewarding students with extra credit did increase participation.

Allowing students to be a part of the participation grading process is helpful in increasing their quantity and quality of participation, attendance, and preparedness for class (Zaremba & Dunn, 2004), and students are appreciative of having a say in their participation grades (Peterson, 2001). Yoakley (1975) found that when students helped to define class rules on participation, they were more likely to participate. Delprato (1977) found student self-monitoring (i.e., observing and recording one's own behavior) of their own in-class participation to increase participation overall, as recorded by an outside observer. Additionally Dancer and Kamvounias (2005) found that giving students a midsemester assessment of their participation encouraged increased participation throughout the semester.

Mandatory participation (Dallimore, Hertenstein, & Platt, 2004) and calling on students, even when they have not volunteered (Auster & MacRone, 1994; Dallimore et al., 2004) can both be effective practices for encouraging participation. However,

Moguel (2004) noted mixed perceptions of cold-calling, and Karp and Yoels (1976) noted that this happens in only about 10% of classroom participation.

The type of course can have an impact on whether students participate. Not surprisingly, students are more likely to participate (Crombie et al., 2003) and feel comfortable in (Bowers, 1986) communication courses than those in the other social sciences or the natural sciences. Students are more likely to ask questions in the natural sciences than in the arts or social sciences, but more likely to talk for longer periods of time in the arts and social sciences than the natural sciences (Cornelius, Gray, & Constantinople, 1990). Whether a course was a requirement or an elective did not impact student-reported comfort level (Bowers, 1986), but did impact preference for seating type with the U-shaped arrangement preferred by those in elective courses, and the row/column arrangement preferred by those in required courses (McCroskey & McVetta, 1978). Students in upper level courses were more likely to participate than those in lower division courses (Fritschner, 2000).

A professor's use of media in the classroom can impact student participation. Playing on the Millennial generation's need for interaction, Allred and Swenson (2006) created a learning tool called the "Random Selector Model" to increase student participation through an interactive software program where the instructor is able to "randomly select" students and groups of students to participate in class. The authors note positive student feedback and encourage instructors to use this model as a supplement to their own courses. In another media-related program, Lourdusamy, Khine, and Sipusic (2002/2003) used a program called "Conversant Media," which is designed to encourage collaborative learning by allowing preservice teachers (i.e., current students) to watch videos and practice commenting to future students. The authors found that its use contributed to higher levels and better quality participation by students.

Confidence and Classroom Apprehension

Another reason that students may not participate in class is because of their own personal fears of feeling inadequate in front of others, regardless of the logistics of the classroom setting. Armstrong and Boud (1983), Fritschner (2000), Howard and Henney (1998), Hyde and Ruth (2002), Karp and Yoels (1976), and Weaver and Qi (2005) all noted that students may feel intimidated or inadequate in front of their classmates and professors, and thus choose not to participate. Students even reported confidence as the most motivating factor for their participation in several studies (Armstrong & Boud, 1983; Fassinger, 1995a,b; Wade, 1994; Weaver & Qi, 2005).

This concern about being nervous and lacking confidence follows closely with McCroskey's research (e.g., McCroskey, 1984) on communication apprehension, which can be trait- or situation-specific. Individuals who may not be particularly high in communication apprehension as a trait are still frequently anxious about communicating in certain situations (e.g., public speaking, meetings). Stemming from situational communication apprehension is classroom apprehension, the

"avoidance of participation prompted by evaluation apprehension or expectation of negative outcomes associated with participation" (Neer, 1987, p. 157).

Bowers (1986) found that around 70% of students overall reported feeling classroom apprehension at least occasionally, and around 30% of students reported feeling it more than once per week. Of those students who feel classroom apprehension, around 60% will not participate because of the apprehension, but around 33% still participate, which may be explained in part by the finding that if students believe their ideas to be important and worthwhile, or if they are interested in the topic and knowledgeable about it, they are more likely to contribute to class discussions (Wade, 1994). It also may be explained by Aitken and Neer's (1993) finding that a student's motivation to ask questions can be more predictive of that student asking questions than the student's classroom apprehension, or by Garrison, Seiler, and Boohar's (1977) finding that students high in communication apprehension were no different from others in terms of their grades; the authors note that this is likely due to the necessity of participating even though apprehension is felt. Neer and Kircher (1989) also found that students who were high in classroom apprehension were more likely to participate once they got to know their classmates, especially if those classmates were deemed accepting.

Confidence gained by advanced preparation helps to counteract classroom apprehension, as evidenced by the fact that students who were allowed to talk about the topic with another student or to complete it as a homework assignment before discussing it with the entire class were more likely to participate (Fassinger, 1995a; Neer, 1987; Neer & Kircher, 1989; Wade, 1994). Cohen (1991) also made several suggestions to increase participation by all class members through advanced preparation. He asked students to complete readings as homework and bring to class the top five words to explain the readings; in class, words are written on the board and students explain why they were chosen. He also suggested brainstorming what the lesson would cover while in class and using role-playing debates to increase participation through advanced preparation. Crone (1997) suggested having students prepare arguments in advance for weekly debates, and Wilcox (1994) suggested allowing students to go over their answers with a partner or in a group before stating the answers out loud to the class. Cohen (1991), Hyde and Ruth (2002), and Reinsch and Wambsganss (1994) also promoted advanced preparation to increase participation.

Confidence gained by classroom experience may impact willingness to participate. This is evidenced by the fact that students who are young, inexperienced, and immature are less likely to participate in class (Berdine, 1986; Wade, 1994; Weaver & Qi, 2005; Zelko, 1960), especially if they are surrounded by others who are more experienced (Berdine, 1986). Nontraditional students (generally defined as those 25 years of age or older in undergraduate programs) are more likely to participate (Fritschner, 2000; Howard, 2002; Howard & Henney, 1998; Howard et al., 1996; Weaver & Qi, 2005) as are older traditional students (e.g., juniors, seniors; Wade, 1994). Nontraditional students are more likely to be concerned with what the instructor thinks; whereas, traditional students are more likely to be concerned with

what their peers think, and either could prevent students from participating (Fritschner, 2000). Prior experience with interpersonal and group communication increases students' participation (Berdine, 1986).

Closely related with the notion of feeling comfortable and confident in speaking in class, Kao and Gansneder (1995) and Tatar (2005) found that students who did not speak English as their first language were less likely to participate. For international graduate students, the biggest reason not to participate was if they did not know the material well, or felt a "negative classroom climate," (Kao & Gansneder, 1995, p. 136). In courses where East Asian students are learning to speak English, they are said to appreciate the opportunity to participate more and practice the language, but they still tend to feel hesitant and uncomfortable in doing so (Liu & Littlewood, 1997). Similarly, students who see themselves as minorities are less likely to participate in class (Berdine, 1986). In several ways, student confidence plays a role in one's level of participation in any given course.

Personality Traits

To this point, Communication Apprehension (CA) has been discussed in terms of situational, or classroom-specific apprehension, but there also has been research on CA as a trait and its impact in the classroom. For example, Booth-Butterfield (1986) found that students high in CA participated more when the task at hand was more structured, and she recommended offering choices in assignments that involve participation so that even those with high CA can participate more comfortably. Booth-Butterfield (1988) also suggested that instructors offer assignment choices to lessen student apprehension and increase participation, and suggested allowing students to work with others with whom they are familiar to decrease apprehension.

Another personality trait, self-esteem, may impact one's willingness to participate in class, depending on how it is measured. In comparing participation behaviors of students with three different measures of self-esteem, Morrison and Thomas (1975) found that only the measure of self-esteem which was directly related to the classroom impacted the participation behaviors of students. Specifically, those with lower school-related self-esteem were less likely to participate and more likely to sit in the back of the classroom, but overall self-esteem did not impact participation. Williams (1971), however, did find low self-esteem in general to be predictive of low levels of class participation.

Students' assertiveness and/or responsiveness also appear to determine whether or not they will participate in class. Those who are high in both traits are more likely to communicate for functional reasons, and those who are more assertive are more likely to communicate for excuse-making reasons (Myers, Martin, & Mottet, 2002). It also appeared from this study that students may participate for reasons dependent upon the instructor's personality combination of both assertiveness and responsiveness. Specifically, when both student and instructors were high in both assertiveness and responsiveness, students communicated for relational and sycophantic reasons,

and when instructors were responsive and students assertive, students communicated for participatory reasons.

Chan and McCroskey (1987) found that students high in the personality trait of Willingness to Communicate (WTC) were more likely to participate in class than those low in WTC across the course of the semester. Students with an external locus of control (Trice, Ogden, Stevens, & Booth, 1987) and those high in neuroticism and insecurity (Williams, 1971) were less likely to participate. Similarly, students with social anxiety, those higher in private self-consciousness, and those with a combination of the two characteristics were less likely to contribute to in-class group discussions (Aamodt & Keller, 1981).

Impact of the Instructor and Classroom Climate

On top of classroom logistics, student confidence, and student personality traits, there is still evidence that the instructor contributes to students' levels of participation, and students believe that their professors influence their participation based on the ways in which the professors communicate with them (Fritschner, 2000). Karp and Yoels (1976) found that "the actions of the teacher are indeed most crucial in promoting classroom interaction" (p. 426) and Wade (1994) noted that a primary reason students do not participate may be because of the instructor. Specifically, students are less likely to participate if their professors do not pay attention to them, make fun of them, put them down, or are overly critical of them. Similarly, Kearney, Plax, Hays, and Ivey (1991) found that offensive behaviors engaged in by instructors, including using sarcasm and putdowns, being verbally abusive toward students, sexually harassing students, and having a negative personality had a negative impact in the classroom and on student learning, and Berdine (1986) found that instructors who were considered "boring, bored, pushy, moody, close-minded, too opinionated, condescending, and unfriendly" (p. 23) were likely to be faced with students who do not participate in class. Even lecturing too often decreases professors' ratings and student participation (Phoenix, 1987).

Neer (1987) found that students high in classroom apprehension feel anxious if the instructor stops talking or challenges them, and Myers and Rocca (2000) noted that when instructors challenged their students verbally, students were likely to become defensive and perceive the instructor as looking down on them. When students perceive their instructors as verbally aggressive, they are less likely to participate (Rocca, 2009).

Alternatively, a climate where students and the instructor respect each other, where the students respect one another, and where the instructor cares about the students, is conducive to class participation (Crombie et al., 2003; Dallimore et al., 2004; Fassinger, 1995a; Wade, 1994), as it is this type of classroom climate that works to increase student confidence and comfort in participation. Kelly (1989) and Wade (1994) noted that it is important for instructors to encourage students to be respectful yet critical, while at the same time seeing the value in their ideas and praising students when appropriate (Nunn, 1996). Mottet, Martin, and Myers (2004)

found that students were more motivated to speak up in class if they perceived their instructors as inclusive and appreciative of them and as using verbal approach strategies. They were also more likely to participate if they perceived their instructors as physically or socially attractive (Myers et al., 2009).

Supportive climates can be created by knowing students' names (Fritschner, 2000; Nunn, 1996), even if it is only a few names in a large class and by giving students written or oral encouragement and praise (Boersma, Gay, Jones, Morrison, & Remick, 1981; Phoenix, 1987), something that only 27% of instructors were observed to do (Boersma et al., 1981). Auster and MacRone (1994) found that students were more likely to participate if faculty engaged in behaviors which showed students that their vocal responses were important and encouraged students when they did respond, as responses to student questions can impact further participation (West & Pearson, 1994). Nadler and Nadler (1990) also found a positive relationship between instructor verbal and nonverbal feedback and student participation. Greeson (1988) found that student-centered rather than teacher-centered classrooms were more likely to have students with higher levels of participation; the ratio of professor: student speaking time was 58% to 42% in student-centered classes and 68% to 32% in teacher-centered classes.

Hyde and Ruth (2002) also found that students were more likely to participate if they considered the climate to be supportive, and noted that the professor should work to create this type of environment by providing positive feedback and handling controversial topics with grace. Though it would seem to impact a "comfortable" climate, the authors found that students' concerns about appearing "politically correct" (e.g., nonracist, nonsexist) did not impact their level of participation in the classroom. However, these results should be interpreted with caution, as the majority of the sample was white and female. This lack of diversity may have impacted their reporting on feeling the need to be politically correct.

Fassinger (2000) surveyed both students and professors and found that higher participation classes were more supportive, cooperative, and student-centered, had students who were less concerned about what others thought and interested in their classmates' opinions, and had professors who were approachable and knew their students' names. It also has been found that students are more likely to ask questions if they perceive higher levels of support (Karabenick & Sharma, 1994) and lower levels of threat (Peters, 1978) from their professors.

As part of creating a supportive climate, there are several characteristics of instructors that may encourage students to participate. One is being a good listener (Cohen, 1991; Pearson & West, 1991) and Cohen noted that professors can do this by listening to their students' comments and questions without judging them, even if professors do not agree with or want to listen to those comments. Other instructor characteristics that can help to increase participation include: "enthusiasm and skills as a facilitator of discussion" (Armstrong & Boud, 1983, p. 35), supportiveness (Armstrong & Boud, 1983), and patience and respect (Wade, 1994).

McDaniel (1984) suggested motivating students to participate by allowing for success, emphasizing cooperation over competition, setting high expectations, and

asking questions in a way that promotes interaction. Following this suggestion of asking questions that encourage engagement, Gravett (1985) proposed that questions of interpretation, rather than of fact or evaluation, are the only ones sufficient to have a good class discussion because there are no right answers. Auster and MacRone (1994) recommended asking fewer questions of fact. Aitken and Neer (1993) recommend that instructors work on questioning techniques, start the course with task-oriented questions, and have individual progress meetings with students—all to encourage question-asking in the classroom setting. Gravett (1985) and McDaniel (1984) both suggested asking questions to which teachers do not know the answers themselves and asking students whether or not they agree with other students' interpretations. Berdine (1986) noted that the specific type of participation (e.g., direct questions, comments, factual questions) that students are best at answering will impact whether they will participate or not, with all students favoring different types of questions.

Related to the type of question asked is the "wait time" allotted to answer those questions. Bean and Peterson (1998) recommended increasing wait time, and McDaniel (1984) suggested that teachers should increase wait time to 3–5 s instead of 1 s as is typical, and that they should purposely wait for students to elaborate on their answers before making any comments. Fritschner (2000) contended that when instructors speak quickly and do not allow for sufficient wait time, students perceive that their participation is unwanted.

Though it may seem counterintuitive to the finding on listening noted above, instructor self-disclosure has been found to have an impact on student participation. Goldstein and Benassi (1994) found both students and instructors reported higher levels of student participation when instructors self-disclosed. The authors noted that these findings reveal that the reciprocity effect is in existence, that self-disclosure makes the atmosphere more personal, and that the power differential between the students and instructor decreased. In a follow-up study, Wambach and Brothen (1997) found no relationship between observed student participation and observed instructor self-disclosure, but a few years later, Fritschner (2000) again emphasized the importance of instructor self-disclosure in student participation, noting that it lessens the status differential between teachers and students, and in 2009, Cayanus, Martin, and Goodboy (2009) found self-disclosure to be related to an increase in the participatory communication motive. A reason for these conflicting findings on the impact of instructor self-disclosure on participation may be duein part to what types of information the instructor discloses. When students perceive their instructors as having similar backgrounds or attitudes as them, they are more likely to participate (Myers et al., 2009), and less likely to participate if their instructors' political views are different from their own (Henson & Denker, 2009).

Merwin (2002) promoted professors using empathy and getting to know students as individuals, allowing students to believe that their professors care about them, thus increasing their participation. Similarly, Weaver and Qi (2005) found that the single largest predictor of a student's participation was "faculty–student interaction" both in and out of the classroom setting (p. 587). When professors affirmed students'

participation and ideas, students were more likely to participate (Dallimore et al., 2004; Nadler & Nadler, 1990; Smith, 1977). Gleason (1986) and Karp and Yoels (1976) noted that this type of caring environment will encourage participation among students and between students and teachers.

Another way the instructor can impact participation is through his/her level of "eye contact availability" (Caproni, Levine, O'Neal, McDonald, & Garwood, 1977, p. 315). In this study, the instructor stood at one of four positions around the table in the classroom, ranging from high to low in eye contact availability with two of the four positions showing medium eye contact availability. According to observers, when the instructor had high eye contact availability, students in those areas were more likely to participate than those in low eye contact availability areas.

Fassinger (1995b) found that there were several relationships among teacher variables and student-perceived participation, but overall, student and logistical variables predicted 37% of the variance in class participation. However, within that 37%, student confidence was the largest predictor, and of that predictor, there were six variables that predicted confidence, one of which is whether or not the professor is offensive. The others were related to the student and to the classroom logistics. Clearly, the instructor plays a role in encouraging or discouraging student participation, depending in part on whether he/she creates a supportive climate for the students, but it is reasonable to consider the complexity of variables that impact participation in addition to the instructor.

Sex Differences

A substantial amount of research on participation has looked at student and/or instructor sex as a means of predicting participation, and overall, the findings are mixed. Crawford and MacLeod (1990), Crombie et al. (2003), Peters (1978), and Sternglanz and Lyberger-Ficek (1977) all found male college students to participate more than females, and Tannen (1992) noted that this may be because they have had more practice in doing so throughout their education. Wade (1994) also found that males were more likely to participate and saw their own participation and participation in general as more important than females did. The finding of males having a higher participation level is not surprising given the results of a meta-analysis on sex and self-esteem, where females were found to have lower self-esteem than males (Kling, Hyde, Showers, & Buswell, 1999). If females do not think highly of themselves, it makes sense that they would be less likely to participate in class, given the findings noted earlier linking confidence to participation (e.g., Armstrong & Boud, 1983; Kao & Gansneder, 1995; Wade, 1994). Wright and Kane (1991), however, found that females increased their participation when they were encouraged by an experimental program titled "women speak this week," which allowed only females to speak in class during a designated week during the semester (p. 472). In research on communication motives, Myers et al. (2002) found that females were more likely to participate for functional reasons and males for sycophantic reasons.

There is also evidence of differences between males and females in relation to student age. Howard and Henney (1998) found that students were likely to participate in this order: nontraditional-aged males, nontraditional-aged females, traditional-aged females, traditional-aged males, showing that the sex-age combination is more predictive than sex or age alone. Howard et al. (1996) also found age to be a larger predictor than sex with nontraditional students participating more than traditional students. Nontraditional-aged females accounted for 41 percent of the participation in a study by Fritschner (2000), but the majority of students at that university were nontraditional females.

Karp and Yoels (1976) found that over 90% of students perceived no difference in male or female participation level, but when observed, males were more likely to participate, especially in classes taught by males. No difference based on sex was found by Bowers (1986) in assessing student-reported classroom apprehension, or by Pearson and West (1991) in assessing the types of questions asked by students. Cornelius et al. (1990) found very little evidence of sex differences in their study across three different universities, and Boersma et al. (1981) found no difference in the quantity of interactions between male and female students.

A controversial and often cited work regarding sex differences in the classroom is that of a "chilly climate for women," stemming from a 1982 report by Hall and Sandler and a revisiting of that report by Sandler and Hall (1986). The authors of these reports asserted that there are ways in which professors communicate differently with their students, dependent upon student sex. Part of this work involved student participation as Hall and Sandler asserted that professors treat male students differently than females, in mostly subtle ways, and thus, females are less likely to participate in class. Prior to this report, Sternglanz and Lyberger-Ficek (1977) found no difference in the way males and females were treated based on professor sex. Heller, Puff, and Mills (1985) directly addressed the assertions made by Hall and Sandler (1982) by collecting data on students' perceptions of faculty behaviors. They found students' year in school to be more predictive of participation than sex, and did not find much support for the "chilly climate" notion. Williams (1990) published a literature review on the "chilly climate," and asserted that female students were more likely to participate in female professors' classrooms, but with teacher training, males and females were equally likely to participate in class. In subsequent studies, Crombie et al. (2003) and Howard and Henney (1998) found only limited support for the "chilly climate" notion, and Nadler and Nadler (1990) noted that "much of Hall and Sandler's work is based upon anecdotal evidence rather than quantitative support" (p. 46). As the base of this "chilly climate" idea was nearly 30 years ago, and much of the older literature was based on presecondary education, it is not surprising that there are conflicts with this research and that sex differences are less pronounced in the newer literature on college students. Thirty years ago, there were more males present on any given day in the classroom and sex roles have changed quite a bit since the initial "chilly climate" report.

Concerning sex differences in teachers, female instructors were found to create a climate in which students would participate more, but that was not as strong of

a predictor as class size was for participation, and the differences between male and female teachers did not impact the amount of participation by male or female students (Crawford & MacLeod, 1990). That is, the students participated regardless of teacher sex, but female teachers had a tendency to get both male and female students engaged more than male teachers did. Brooks (1982) reported somewhat different findings. With female teachers, male students were found to speak and interrupt more often, and to speak for longer durations than female students; no differences were found in courses taught by males. Brooks concluded that these findings may be explained by considering that female professors may encourage participation more than male professors. Nadler and Nadler (1990) also found differences with interrupting patterns—male professors were more likely to interrupt their students than female instructors were. Pearson and West (1991) found that students, especially males, were more likely to ask questions of male teachers than female teachers. Bowers (1986) found that students were more likely to feel comfortable with participating in female-instructor courses, and Nadler and Nadler (1990) found that female instructors were more likely to give positive nonverbal feedback to students and call on students by name. Howard and Henney (1998) found that students were more likely to participate frequently in male-instructor courses, but a higher percentage of students were more likely to participate in female-instructor courses. Boersma et al. (1981), Crombie et al. (2003), and Weaver and Qi (2005) found no difference based on teacher sex in student participation levels. Overall, it seems that the creation of a comfortable classroom climate is more important than instructor sex, and that females may be more likely to create that type of environment. Again, it should be emphasized that there are mixed results for the impact of professor sex on student participation, just as there are conflicting findings based solely on student sex.

A reason that there are conflicting findings when it comes to sex differences could be the way in which sex has been measured– as biological sex. The findings reported thus far are based solely on biological sex, whether students are male or female. In looking at student questioning, Pearson and West (1991) found few differences when assessing biological sex, but when looking at gender, the psychological construct, they found that students who were masculine-oriented, regardless of biological sex, were more likely to ask questions in class. In another study looking only at female participation behavior, Persaud and Salter (2003) assessed the thinking and feeling dimensions (of the Myers–Briggs Type Indicator) with regard to classroom climate, and found that those scoring higher on the feeling dimension were more satisfied with the feeling classrooms, those with a lot of support and interaction, and those who scored higher on the thinking dimension had no preference; the authors purported that it is not necessarily one's biological sex that determines participation, but a personality factor related to sex. This can help in explaining the mixture of findings related to teacher and student sex, as nearly every study assesses biological sex, not gender.

Instructor as Researcher Suggestions

In addition to the suggestions noted throughout the manuscript thus far, several instructors/researchers have suggested specific ways, in addition to supportive environments, to encourage student participation. Hodge and Nelson (1991) suggested using a shaping technique where students rated their own participation to establish a baseline participation level and then were differentially reinforced for their participation. Students who were seen by the professor as "overparticipators" were only reinforced when they did not participate. Those who were infrequent participators were only reinforced when they did participate, and those who were average in their participation were reinforced for participation on a variable ratio schedule. Next, students were asked again about their levels of participation and were asked whether or not they were aware of the demonstration. The professor also rated the students' participation, and those scores were fairly evenly matched with the students' perceptions. Most students recognized that some sort of procedure was in place, but this recognition did not seem to impact their behavior. Overparticipators responded less frequently and underparticipators responded more frequently.

Girgin and Stevens (2005) explained five activities for increasing student participation in Turkey, a very nonparticipatory culture. The five activities all increased participation and students reported getting more out of the class. One activity was called "*think–pair–share*" where students were asked a question, *thought* about their answers, *paired* up with another student, and *shared* their ideas. A second activity called "discussion roles" forced students to take a particular role for the discussion topic. A third activity called "fishbowl" split the class into two concentric circles, where the inner circle discussed a topic and the outer circle observed the discussion. The fourth activity was titled "case studies" and involved small group work analyzing case studies from textbooks. The fifth activity, "student presentation with class discussion" was the most involved. Students wrote a term paper with a partner, gave a presentation on it, and then earned part of their course grade based on the discussion that ensued from their presentation. Girgin and Stevens noted that these strategies were effective in increasing participation and recommended using them in other cultures as well.

Bean and Peterson (1998) offered strategies to encourage participation from all students. Strategies included: participating based on a previous assignment, counting e-mail toward the participation grade, placing the most participatory students in the role of 'observer,' having individual conferences with low participators, and using response cards. Marmolejo, Wilder, and Bradley (2004) also utilized response cards, which are index cards with true/false and a/b/c/d multiple choice answers on them that students hold up in lieu of verbal responses during a class lecture. The use of the cards was found to increase participation from an average of 2.6 responses during a standard lecture to 7.2 responses. Students overwhelmingly (79%) reported that they paid more attention to the lecture during the response card time period, and would encourage other professors to utilize this method.

In assessing his own students, Ferguson (1986) used the Socratic dialogue technique, consisting of a series of questions designed to get students to reason through information one step at a time. One suggestion Ferguson made was to have students turn in their own essay questions based on class material on each Monday of the course. Students then ask the questions in class that they have designed because they know they are fair game for the upcoming test.

Smith (1996) gave a lengthy description of what he had done over 30 years of teaching to move from lecture-only to a more interactive classroom. He reviewed some of the research on participation and supplemented it with his own in-class experiences. Though no data were collected, Smith did note that his teaching evaluations had improved over time and that, at least anecdotally, his teaching had improved over the course of 30 years as he continued to value and encourage student participation. He started by being more patient in answering students' questions while lecturing, progressed to increasing wait time, preparing questions for students for their reading, and inviting guest speakers. He then counted participation as a grade, allowed for small-group discussions to review the assigned questions, used simulation games, had students talk with a student nearby, split the class in half for debates, and began to ask students for their feedback on the pros and cons of his class. Smith also promoted learning students' names, giving small group assignments and presentations, preparing minilectures in the event of nonparticipation by students, and striking a balance between lecture time and interaction in the classroom. As suggested by these instructor trials, there are several possible ways of increasing participation in the classroom, and instructors may want to consider using a combination of approaches (Wade, 1994).

Web-Based vs. Traditional Classes

A very recent area of study in many areas of pedagogy is that of web-based (i.e., online or hybrid online) vs. the traditional (i.e., face-to-face) classroom setting, and this research is just getting underway in the area of "classroom" participation. Investigating web-based student participation is inherently different from measuring in-class participation. As the online course is a different context, participation may be defined, measured, recorded, and analyzed differently than it is in face-to-face courses, and several researchers have begun to assess the differences among these methods and the synchronous (i.e., same time, different place; e.g., instant messaging) and/or asynchronous (i.e., different time, difference place; e.g., e-mail) communication that occurs.

There are structural and psychological differences between online and traditional courses, which impact participation levels (Caspi, Chajut, Saporta, & Beyth-Marom, 2006). Caspi et al. found that students in the traditional classroom both wanted to and did participate more than those in the web-only classroom and that students who were more likely to participate in the traditional classroom were not any more likely to participate in the web-only classroom. The authors note that the nature of the web-only classroom vs. the traditional classroom (written vs. verbal, lasting vs.

transient) may discourage participation by those who would normally participate in the traditional classroom.

In a comparison of traditional vs. "interactive telecourses" (teachers/students interacted long-distance via TV screen and microphones), Howard (2002) found that students in the distant sites were likely to interact with one another at the remote site, but not with the professor and "classmates" who were at the original site, due in part to students' discomfort with the technology. Similarly, Comeaux (1995) noted the need to consider the "psychological distance as well as the physical distance" in assessing the participation patterns of traditional vs. nontraditional classroom delivery (p. 353). She also recommended that instructors increase participation by using humor and making a concerted effort toward getting students involved in distance learning courses. Again, if students are not comfortable, they will not participate.

Jung, Choi, Lim, and Leem (2002) investigated three different types of interactions that occur in online learning environments with Korean students: academic (e.g., task-oriented), social (e.g., interpersonal strategies), and collaborative (e.g., students working in groups). Those in the social group participated the most frequently, followed by the collaborative group, and then the academic group. As further evidence of the importance of participation, even in an online context, those in the social group, who participated the most frequently, also had the highest performance of the three groups.

Mazzolini and Maddison (2003) found that when professors posted on a more frequent basis, students were no more or less likely to post, but when the students did post, the discussion threads were shorter. This may seem to imply that instructors should post less often, but when they posted more frequently, instructors were perceived by their students as both more enthusiastic and more competent. It seems that instructors must walk a fine line between posting excessively and thus impacting the depth of discussion of student postings, and not posting enough and being perceived as unenthusiastic and incompetent. Woods and Keeler (2001) found that students who received instructors' e-mail messages with audio attachments reiterating assignments and/or offering encouragement were no more likely to participate in online discussion groups than those who did not receive the audio messages.

Campbell (2007) found that online chat can be used as a tool to help English as a Second Language (ESL) students participate more regularly, and she gives four suggestions for making online participation effective for all: ideally six to eight people use case studies with a lot for participants to discuss, establish rules for what is effective and ineffective, and set word limits for each posting. Aitken and Shedletsky (2002) also promote setting rules for online student participation because of two problems that can occur without them, first students can be downright mean toward one another, which is easier to do online, and second frequent miscommunication occurs due to a lack of nonverbal cues that accompany the verbal message in a face-to-face classroom.

Davidson-Shivers, Muilenburg, and Tanner (2001) assessed the online communication patterns of 14 graduate students over the span of two weeks. They found that the

students had a greater number of responses to synchronous compared to asynchronous discussion, but they reported liking and seeing the need for both; females were found to be more regular posters in both groups. The most frequently reported postings were those which responded to comments of others and stayed on-task.

Similar to Phillips and Powers' (1979) finding that (face-to-face) student-led discussions were more likely to produce higher participation rates than instructor-led discussions, a case study conducted by Poole (2000) found that when a student acted as the online moderator for a graduate course, other students were more likely to participate in online discussion posts. During the week a student was assigned to be a moderator, that student was also more likely to do more posting. Poole (2000) also found that students who posted in discussions more frequently wrote less per post than students who posted infrequently. The majority of posts were done on weekends, after 4pm, focused on course content, and were likely to be asynchronous. Typing quickly (during synchronous communication), having experience with computers and with the subject as well as having few technical problems all were found to increase student participation in online group discussion (Zafeiriou, Nunes, & Ford, 2001). Davies and Graff (2005) examined first-year business students' grades in comparison with their participation in online discussions throughout the academic year. No differences were found between high/medium/low passing grades and the amount of online discussion that took place, but students who failed the most courses were the least likely to participate.

Several studies have looked at hybrid online courses (a combination of online and face-to-face classes). For example, Vess (2005) found that students in a hybrid history course were more likely to participate in face-to-face discussions after participating in online discussions, and most noted that they felt more comfortable participating in class after the online sessions. In another hybrid course, students were more likely to participate in the online segment of the course if quizzes were used as an assessment tool (Wahab & Mahboub, 2006). In a hybrid online graduate course, Vrasidas and McIsaac (1999) found several elements of the course to impact student participation. Counting discussion as a part of the grade increased participation, but increasing the course workload decreased participation. Having too small of a class size, not receiving enough instructor or peer feedback, and not having experience with Computer-Mediated Communication (CMC) decreased participation. In another study assessing the participation of students in hybrid-online courses, Kuboni and Martin (2004) found that students with higher frequency of logging onto the website for their courses were not necessarily spending more time interacting online. Instead, it appeared that those who were online longer (rather than more frequently) were more likely to be interactive. Most of the students only signed on between 2–5 times per semester, and the authors noted that this low number might be explained, in part, because of the hybrid nature of the course. Students still had face-to-face interaction, so there may have been less of a need for online participation in this format.

Sex differences in online participation were addressed in a study by Jeong and Davidson-Shivers (2006). No differences were found in postings involving criticism of other students' work, but both sexes were more likely to respond with rebuttals to

critiques of their work from those of the opposite sex. Thus, there was not a difference in the number of critique postings, but in response to those critiques.

Although less popular, there are some modes of distance education that use a television monitor to project images of the professor to distant satellite sites. Ritchie (1993) studied this and found that students were more likely to participate when instructors, rather than students, led discussions, were less likely to do so if there were technical issues. She also found that students thought the course was too impersonal, and she attributed this to a lack of nonverbal communication between instructors and students.

> In distance instruction, nonverbal communication, so much a part of face-to-face communication, is either missing or severely restricted. With face-to-face interaction, communication continues during pauses in conversation; silences do no result in a loss of communication. During televised instruction, silences often result in a total lack of communication. (Ritchie, 1993, p. 219)

There are similar concerns for web-based courses. As the participation that occurs in online or hybrid online courses can be quite different from the traditional in-class student participation, it is important to continue to study participation patterns in both contexts and how they may interact with one another.

Conclusions and Future Directions

The foregoing research and suggestions show the importance of participation in the college classroom. Logistical issues, student confidence, and the instructor him/herself all have a significant impact on student participation. A supportive classroom climate is critical to higher levels of participation. The findings on sex are mixed and the distance-learning research is just getting underway.

Limitations of Participation Research

As Cornelius et al. (1990) noted:

> the major problem with understanding fully the factors that influence student–faculty interaction in the college classroom is that the few studies that have examined this issue all have used different methods, have included at most two variables, have been conducted at different colleges, and usually have collected data at only one point in time. The wide disparity of methods and variables in these studies has made across-study comparisons difficulty. (p. 189)

Though this quote is from a research article published nearly 20 years ago, after reviewing the literature in this area prior to and since 1990, a similar conclusion is drawn about the difficulty in understanding all of the variables that impact student in-class participation. Now that communication scholars have also added "in-class" online participation into the mix, the picture becomes even more complex, and the variables that encourage student participation in one medium are not always the same in another medium.

When a suggestion is attempted in one's own classroom, it should be done so with the idea that some findings on classroom participation may not be generalizable due to methodological differences. For example, conducting a one-time classroom observation does not allow for changes over time (Fritschner, 2000; Howard et al., 1996), but observing over time can cause experimenter presence types of effects. Surveys can be problematic because self-reported participation is not always the same as observed participation (Fritschner, 2000). Daly and Korinek (1980) explain several methodological concerns with participation research, but note that the concerns should not stop researchers from pursuing this type of research. With all of these methodological factors considered, there are still some overarching themes and suggestions for instructors that can be taken from this manuscript and brought into the classroom as attempts at increasing in-class student participation. Professors should attempt these suggestions in their own classrooms, one at a time, to gradually work to increase student participation.

Summary and Implications

After reviewing the existing literature, there are several answers to the two questions that guided this manuscript: What can professors do to make the discussions of the average classroom more interesting and useful and what can professors do to increase participation in their own classrooms? Though there are several factors that instructors have no control over, there are numerous ways that they can work around the logistical concerns related to participation and work to create a supportive classroom environment conducive to participation.

Logistically speaking, courses should be capped at 35 where possible, and when this is not possible, instructors should seek to provide alternatives to increase participation, such as break students into smaller groups, use lab settings, meet outside of class in smaller groups, and use clicker systems or response cards. Professors can also work to increase their immediacy behaviors so the classroom will feel smaller. Seats should generally be arranged in a U or circular pattern, but can be alternated with row/column seating to accommodate those high in communication apprehension. Participation needs to be counted as either a part of students' grades or at extra credit, and rules for what counts as participation need to be established for both face-to-face and online courses. Professors may want to consider allowing students to work on formulating what is credited toward their participation grades, and should conduct midsemester check-in to show students where their participation is and where it should be. Cold-calling on students is not recommended due to its mixed findings and the possibility of increasing classroom apprehension. Class time should be broken up to allow for participation activities at least every half hour.

Creating a supportive climate has repeatedly been shown to increase participation, and it is strongly recommended that professors work to create such an environment in a variety of ways. Again, professors should engage in immediacy behaviors, especially eye contact and smiling, to show interest and support. Students should be given opportunities for success very early in the semester to increase their confidence.

Allowing for preparation prior to speaking in class is also recommended. Students can be given assignments out of class to bring in and discuss, or broken into small groups, or even asked to journal their thoughts to allow for the confidence that comes with advanced preparation. Professors should increase their "wait time," vary the types of questions asked, listen with respect, and refrain from making judgments. Younger students can be paired with older students, and both can be given experience in participating that seems to enhance their comfort level. Instructors should be aware of the possibility of sex differences—both in the way students react and in the way they may interact with their students, but there is no real evidence to support treating males and females differently to increase their participation. Appropriate self-disclosure which shows students similarities between the professor and the students is recommended. Professors can do this during class as a part of the course material, but they can also engage in small talk with students during the first minute or two of the class period and jot down items to remember about individual students to continue those conversations.

Verbal aggression, even sarcasm and negativity, should be decreased, praise and verbal encouragement should be increased, and professors need to recognize that even when they think they are challenging students, the students may perceive that as verbal aggression. Even for professors teaching online, climate is still very important, and more work to create a supportive climate may be necessary, since there is a very limited amount of nonverbal communication that takes place. The verbal messages should be clearly supportive with explicit feedback and praise. There are numerous ways to make the classroom more conducive to participation and to make that participation more engaging.

Instructors may be somewhat unaware of their negative communication behaviors, and this impacts the participation rates of their students, even when they are not intending to show negativity (Fritschner, 2000). In the Karabenick and Sharma (1994) study, students perceived fairly high levels of support from their professors, but the professors rated themselves significantly higher in supportiveness than students did. Fassinger (2000) found one difference in the perceptions of faculty vs. students in their own participation behaviors. Specifically, when faculty have a class of students that participates infrequently, professors have an overly positive interpretation of their students' behavior. The implication here is that professors can show some bias in believing their students participate, and it is important to recognize that our students may perceive our behaviors differently than we do, which can in turn, impact participation. As many classroom and instructor variables are within the control of the instructor, they are important to recognize, as minor adjustments by the instructor are often easy to do, and may make a large difference in student participation.

This review has attempted to answer its two driving questions, and professors should now be able to view participation through a multidisciplinary lens with clearer a idea of the reasons students do and do not participate and how participation can be increased. This review presented research from the past fifty years, across disciplines, and with multiple methodologies, thus creating a thorough picture of

student participation and synthesizing the research on participation. College students are clearly influenced by instructor communication patterns, providing further evidence of the importance of the instructor's role in facilitating student participation. As overall student engagement has become increasingly important in the college classroom, the implications of this review and the suggestions made can help professors to increase engagement by working to increase student participation.

Notes

[1]   EBSCOhost and PROquest were starting points for the search. Subject and keywords searched to start the search included: participation, class, discussion, classroom, student, talk, interaction.

[2]   Any article which used the term "participation," but had as its focus student participation in the university overall (e.g., registering for particular courses, being a part of a program) was not included. Thus, if one completes a search with "student" and "participation" in the keywords, there may be journal articles that—by title—appear relevant, but as they were not assessing in-class participation, they were not included.

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ES =empirical study—data collected
IT =instructor trial—in own classroom, with or without data
ASO =author (as instructor and/or researcher) suggestion or opinion
LR =literature review
R =report