온라인과 면대면 학부 수업에서의 성별 담화 분석

다니엘 크레이그*

요 약

많은 사람들이 온라인 포럼에서의 상호작용은 면대면 담화 속에 존재하는 성차별적 요소를 없애줄 수 있다고 생각했다. 하지만 이런 생각은 지금까지 실증적인 증거 없이 믿어져 왔다. 따라서 본 연구에서는 면대면 수업과 온라인 수업 속에 나타난 담화를 분석함으로써 실증적인 증거를 제시하고자 한다. 미 중부에 위치한 대학의 교수법 관련 면대면 수업과 동일한 주제의 온라인 수업을 듣는 예비교사 48명이 본 연구에 참여하였다. 연구에 사용된 수업자료, 대화, 인터뷰를 분석하기위해 mixed-method를 사용하였다. 대화와 인터뷰를 분석한 결과를 보면 면대면 수업에서 남학생들이 여학생들보다 참여도가 높았고 지배적인 성향을 나타냈다. 그러나 온라인 수업에서는 여학생들의 참여도가 높았다. 결론에서 앞으로의 연구를 위한 제안을 제시하였으며, 컴퓨터를 매개로 한 대화가 토론 중심 수업에서의 남녀 간 참여도 차이를 없앨 수 있을 것으로 예측된다.

Gender differences in online and face-to-face undergraduate education courses

Daniel A. Craig*

ABSTRACT

Faceless interactions in online discussion forums were thought by many to be a democratizer of gendered discourse, places where students could meet as equals. This was largely an assumption without the support of much empirical evidence. This study attempts to fill this gap through an analysis of gendered discourse in face-to-face and online classrooms. Forty-eight undergraduate pre-service teacher education students in online and face-to-face classes at a large mid-western American university participated in this study. A single teaching methods course offered one class face-to-face and an identical class online. A mixed-methods approach was utilized in this study for the analysis of course documentation, discussions, and interviews. Findings from discussions and interviews indicate that male students do seem to participate more and display more dominating behaviors in face-to-face classes than do females. However, female students participated more in the online course. While directions for future research are suggested, text-based computer-mediated communication does seem to democratize participation in discussion-based courses.

Key Words : Gender, Discourse, CMC, Face-to-face, Distance Education

* 상명대학교 영어교육과(✉dan@danielcraig.com)
· 제1저자(First Author) : 다니엘 크레이그 · 교신저자(Correspondent Author) : 다니엘 크레이그
· 접수일(2011년 5월 11일), 수정일(1차 : 2011년 6월 10일), 게재확정일(2011년 6월 13일)

www.kci.go.kr

I. INTRODUCTION

Some say that men are from Mars, and women are from Venus. In reality, we are all from the same planet; it just sometimes seems as if we have this great distance between us. What happens then when distance is more than a metaphorical issue in communication?

This is a question that has become of interest to many researchers in the past few years due to the popularity of online courses, especially within higher education [1]. Many universities are either supplementing or replacing their face-to-face (F2F) course offerings with online courses. In this context, no longer are F2F interactions the norm, but rather interactions via computer-mediated communication (CMC).

First, we must consider how male/female participation in classroom discussions differ. There is a fair amount of research supporting the assertion that gender greatly influences our educational experiences in general [2][3][4] and that gender differences in interactions, specifically, are a cause of inequity in traditional F2F classrooms [5][6]. Male students have been shown to dominate face-to-face interactions in traditional F2F classrooms by simply speaking more [7][8][9].

While gender differences are widely acknowledged in F2F courses, online courses using CMC were envisioned to democratize student participation [10]. Even these have now come under attack for being susceptible to gender bias. Some researchers believe that the online classroom suffers from the same ailments as the traditional F2F classroom in terms of gender bias [11][12][13][14][15][16]. The same trends of male domineering speech patterns are evident in these CMC forums as are found with interactions in traditional F2F classrooms.

What does it matter if male students participate more than female students? If everyone is in the same class, are they not having the same experience? Maybe they are all hearing/seeing the same thing, but that does not mean that they are having the same experience. Interaction is an important element for learning [17][18][19][20]. As Picciano [21] states, "the ability to ask a question, to share an opinion with a fellow student, or to disagree with the point of view in a reading assignment are all fundamental learning activities" (p. 21). If male students are the only ones participating, then not only are female students missing out on an important aspect of learning, but male students are deprived of insights their female counterparts can provide.

This study will look at participation in online and face-to-face group discussions through the lens of gendered speech acts. More specifically, we will attempt to judge the instances and levels of domineering speech acts in male and female classroom discussions.

II. LITERATURE REVIEW

Student participation is affected by many aspects of educational environments. These range from course design to student and teacher gender. The literature suggests that some of these issues have a stronger effect on participation than others. These issues include: the teacher's role, the class size, the

www.kci.go.kr

age of the student, and the gender of the student.

2.1 Teacher's role

In the design and implementation of a course, teachers have the ability to greatly influence and even determine the level of student participation. The teacher's role in the class, both F2F and Online, is integral to student participation. Teachers must create and maintain a learning environment that encourages the participation of all students.

This begins with the instructor's belief of what constitutes participation. This ranges from expectations that the students stay awake to use of student-led instruction [9]. Anderson, et al. [22] suggest that teachers do this by designing instruction that is focused on core course concepts and meaningful goals. While this suggestion is certainly a start, there are many other steps that a teacher can take to maximize student participation. Course designers (often teachers themselves) need to design courses that explicitly encourage student participation, through discourse from the very beginning. Philosophies, expectations, and rubrics for class participation should be emphasized in the course syllabus and class activities.

Outside of course design issues, researchers can also take steps to encourage discourse by looking inward at their own biases and how they are reflected in their practice. Research by Karp and Yoels [7] suggests that male students participate more in F2F classes regardless of teacher gender, but that the difference is greatest with male teachers. One classroom practice that seemed to encourage this difference was the male teachers' propensity to direct questions toward male students more often than female students. While this is surely not a conscious expression of bias, it does seem to exist and encourage male domination of classroom interactions.

Teachers, both male and female, need to be aware of these differences in the classroom and should strive to democratize participation. Careful course design and reflective teaching practices would likely make great strides in bridging the gendered participatory gap.

2.2 Class size

While the influence of the teacher on student participation seems to be universally supported, the effect of class size on participation finds less agreement. Karp and Yoels [7] found that class size in traditional F2F lecture classes did not affect the number of students participating. Regardless of the class size, the same few students accounted for a majority of classroom interactions.

In regard to online classrooms, though, Hiltz [23] would disagree. Hiltz suggests that there should be a maximum of 30 students in an online classroom. The researcher acknowledges that while the size of a traditional F2F classroom does not interfere with student participation, the size of a class using CMC does.

2.3 Age

Age has emerged as one of the most influential factors regarding participation in university classrooms. Research suggests that older students, often referred to as non-traditional students, tend to participate more in traditional F2F classes than their younger counterparts [9][24][25]. While these

www.kci.go.kr

findings have focused on students in F2F classrooms, we would expect similar findings with students in online classes using CMC. With the ability of online courses to cater to students with work and family constraints it stands to reason that non-traditional students will comprise a larger percentage of students in online courses [26].

2.4 Gender

While other factors influencing student participation are important to address in the design and implementation of courses, gender is a factor that is highly divisive in our society. The issue of gender equity has been a contentious issue in social and political arenas for many years. Students' experiences in education are directly effected by their gender [2][3][4]. One of the reasons for these gendered experiences is the differences in communication patterns [5][6][8][27], which may result in male domination of classroom interactions. Domination of interactions takes on many forms including: greater frequency of participation, length of text, topic initiation, change of topic mid-topic, interruptions, gender exclusive interactions, frequency of postings referencing other participants, consensus assumptions, and positioning.

One exploratory study that looked at participation in traditional F2F lecture-style university courses was Karp and Yoels [7]. In an attempt to understand student behaviors in university classrooms, a group of undergraduate and graduate sociology students from a "Readings and Research" course were sent to observe and survey and students in 10 university courses from the sociology, philosophy, English, psychology, economics, and theology departments.

Observers recorded the frequency and type of participation as well as who the partners in the exchange were and who prompted the interaction. Questionnaires were given to the students and teachers in the observed classes and a sample of students in classes selected at random at the end of the school year. These questionnaire items attempted to ascertain which factors were important in students' decisions whether to talk in class or not from the perspective of the students and the teachers.

A number of interesting findings arose. Of general interest, the findings from observations often ran counter to questionnaire data. First, while students indicated that class size was an important factor in their decisions not to participate, observations found that, regardless of class size, the same average number of students participated in each class. Second, students indicated that the sex of the instructor did not influence their decisions not to participate in a class. However, observation data indicated that while male students participated, on average, almost twice as much as female students, in classes with male instructors, male students participated more than three time as much as female students.

These findings highlight the importance of both student and instructor gender in F2F class participation. Male students' control of classroom discourse can be seen in the frequency with which they participate. In classrooms with male instructors female students, with only a quarter of the instances of participation as male students, are effectively silenced. If all students are to be provided with a quality learning environment the silent minority needs to be given voice.

www.kci.go.kr

Fritschner [9] took these findings a step further and found that rates of participation did differ by gender, but differences were greatest in introductory-level courses. The study utilized thirty-two students (26 females and 6 males), trained in non-participant observation techniques, to observe between ten and twelve courses of their choice (in the natural sciences, the social sciences, and the humanities) throughout one semester. These courses consisted of fourteen introductory-level, six intermediate-level, and twelve upper-level courses taught by fifteen female teachers and seventeen male teachers.

Out of these observations Fritschner concluded that students participated more in the upper-level classes than in lower-level classes. These results are not surprising given the expectation that students in the upper-level courses are older than students in the lower-level courses and age has been shown to greatly influence levels of participation [9][24][25]. More surprising was the observation that males averaged more interactions in the introductory-level courses than females, but females actually average slightly more interactions per student than males in the upper-level courses. These results suggest a need for instructors for introductory-level courses to focus more on increasing total class participation and, in particular, participation by female students.

With the popularity of online courses, some researchers claimed that CMC would provide female students with that voice [10]. On the surface, how could anyone disagree? Text on a screen is gender neutral, isn't it? With the growth of online classes and the maturation of CMC came the observation that many of the same male domination behaviors evident in traditional F2F classes appeared in online courses as well [13][14][15][16]. With this realization, researchers have attempted to determine which male behaviors lead to the domination of online interactions and how those correspond to similar behaviors in traditional F2F classes [13].

Blum [13] analyzed an online discussion forum at an online university for insight on male and female discourse patterns in online CMC environments. The discussion forum, while not part of an online class, was a general forum dedicated to school-related issues. Blum collected 149 forum messages over a one-month period from the discussion forum. Using content analysis, these messages were then coded for: feminine (elegant in nature) and masculine (rough content) tones; position (seeking power, striving to help others, or as one seeking to establish status); categorized by gender for frequency, domination, initiation, and the use of tag words; quality of writing; and number of words and sentences in each message, number of messages posted, number of responses, and number of questions asked.

Though online CMC courses are supposed to democratize participation [10], Blum [13] found that male students continued to demonstrate similar controlling behaviors in this environment as they did in F2F classrooms. Results indicated that males were more likely to answer questions posted by females and males posted more total messages than females. Male messages were also shorter than female messages and lacked the tag words; questions; and references to self, personal experiences, or family that female messages contained.

Blum [13] uncovers some very interesting results. Male students have a higher frequency of

www.kci.go.kr

participation just as has been found in F2F courses [7][9]. Another interesting finding was that male messages were found to be shorter than female messages.

2.5 Research Questions

1. Do male students in face-to-face introductory pre-service teacher education classrooms exhibit controlling behaviors?

2. Do male students in introductory pre-service teacher education online classrooms exhibit controlling behaviors?

III. METHODOLOGY

3.1 Participants

The participants are students from two introductory undergraduate pre-service education courses offered simultaneously in F2F and online formats at a large Midwestern university by two female instructors. Instructors for these two courses allowed the researcher into their classrooms (one virtual) to recruit their students. The study was explained to the students and all signed consent forms allowing use of the data collected during the observation sessions. An additional section on the consent form asked the students whether they would be willing to be contacted for an interview and requested an e-mail address for those who would.

The F2F course was in its twelfth week of class and had 27 students (25 female and 2 male); while the online course was in its seventh week of class and had 21 students (11 male and 10 female). The participants are mostly freshman and sophomore students. They are taking one of their first pre-service teacher education courses as this is a course used to introduce education students to the field of K-12 education. While the courses are technically the same, they are not identical. The teachers are required to design their own course as long as it includes the core course content.

On the day the F2F class was observed, the class watched a video of a classroom in which a constructivist teaching technique was being used. The class then divided into pre-existing groups and was instructed that the "leaders" (those who had prepared for the topic) should begin the discussions by informing the other group members about what they found. Then they were to do two things: (a) discuss what the meaning of constructivism was; (b) discuss whether it can be used in the classroom, and why or why not. The small group discussions lasted for 31 minutes, during which time the instructor monitored the discussions, intervening occasionally to make sure that groups were on task.

The discussion in the online class was similar to the one in the F2F class. The topic of this discussion forum was prompted by a passage describing a teaching situation utilizing a constructivist technique. Students were then asked to post their answers to two of four questions related to the passage and respond to other students' postings. The resulting BBS discussion lasted one week, during which the instructor posted two messages encouraging students to further explore issues arising out of the discussions.

Students who agreed to be interviewed were contacted via e-mail to arrange an interview time and place. Five students responded to repeated requests,

www.kci.go.kr

and three eventually agreed to be interviewed. Of these three students two were from the F2F class and one was from the online class. Both participants from the F2F class were female and the one from the online class was male.

3.2 Data Collection

Data were collected using non-participant observation, field notes, audio recording, video recording, and electronic transcripts of the online course BBS, and semi-structured interviews.

3.2.1 Face-to-face class observation

The F2F course required a majority of the data collection instruments. One course period was observed and recorded. Whole class recording was done with a video camera and small group interactions were recorded with audio cassette recorders placed in the center of each group. Group discussions were then transcribed from both the audio and video recordings. The video recording provided the transcriber with information on which student was speaking and the audio recording provided the detailed dialogue.

3.2.2 Online class observation

Interactions in the online course were much easier and less time consuming to collect. Since the online course used asynchronous CMC, or a bulletin board system (BBS), the BBS captured every word of the class discussion in that forum. These data were provided by the administrators of the BBS in the form of a Microsoft Word document, which formatted initial postings aligned left with each level of reply indented once.

3.2.3 Semi-structured interviews

Semi-structured interviews were used in order to focus on what was happening in the classrooms that the observations could not reveal. The interview questions attempted to uncover individual reasons for participation and/or non-participation. Interview sessions were audio recorded and later transcribed to provide for a textual document better suited for content analysis. Each participant was interviewed one time for a period of thirty minutes to one hour.

3.3 Data Analysis

3.3.1 Content analysis

Transcript data gathered from the course observations and interviews were analyzed using content analysis [28]. Given the textual nature of asynchronous online communication, as well as the transcripts generated from the F2F class group discussions and student interviews, this analysis technique was chosen for its ability to study trends and patterns in documents and make valid inferences from text [29][30].

3.3.2 Class observations

A coding scheme was developed for the observation data from multiple sources that seemed to cut across F2F and online courses. Transcripts were coded for:

First, responses on all transcriptions were coded either male or female. This was done based on video recorded data in the F2F class and personal data available on the BSS in the online course.

www.kci.go.kr

Next, responses were coded as either initial or reply responses. Responses were coded as initial responses if they took the discussion in a new direction. While this was difficult to determine in the F2F discussions, the formatted of the BBS discussions made it easier to determine whether a response was an initial response or a reply. Even the BBS transcripts were read in their entirety to ensure that the formatting truly did correspond to the flow of the discourse.

After responses were coded as initial or reply, the number of responses in each category was counted for each participant in each class. Then, the number of words for each type of response was counted using the "Word Count" feature in the Microsoft Word word processing software. These were then compiled for each gender group in each course to represent, total frequency and average total length of responses; total frequency and average total length of initial responses; total frequency and average participant and total replies to responses.

Interruptions in F2F conversations were the next item that was coded. Given the asynchronous nature of BBS conversations, interruptions are not an issue, but in F2F communication interruptions are relatively frequent and according to Coates [8] are influential in gendered communication. Interruptions were then totaled by gender group and individual.

Finally, the transcripts were coded for instances of positioning. Blum [13] considered positioning to include the seeking of power, striving to help others, and seeking to establish status. For the purposes of this study only two of these seem relevant when to the issue of male domination: seeking of power and seeking to establish status. In this coding scheme, these were considered attempts at garnering authority. Three types of positioning were found in the online and F2F transcripts and these were the establishing of authority due to: work experience, status, or by proxy. Some participants often referred to their experiences in classroom or as tutors to support their claims of authority. In the case of status, participants would refer to the fact that they went to an exceptional school or took advanced placement courses to support their claims of the authority over the topic. Lastly, positioning by proxy was the claiming of association (often relatives) who were active in the field of education to support for their claims of authority.

3.3.3 Student interviews

Transcriptions of interviews were not only transcribed by me, but were also read and re-read after the transcriptions had been made. Some trends in the data became evident during the interviews and others emerged from analysis of the transcripts. I coded for three categories that emerged: (a) reasons for participation/non-participation, (b) expressions of adequacy/inadequacy, and (c) references to gender differences in classroom participation.

Reasons to participate or not participate were coded when the interviewees' comments reflected reasons that influence participation. Criteria for coding message units as reasons to participate/not participate included: class atmosphere, grades, classmate/teacher perceptions, personality traits, and student roles. These not only reflect the participants' own participation, but also what they perceived other students' reasons for participation were.

www.kci.go.kr

Expressions of adequacy and inadequacy were seen in terms of students' perceptions of themselves. Message units were coded as adequacy/inadequacy if they included references to their intelligence, work experience, school experience, self worth and strengths/weakness. This category could also be seen as reasons for participation/non-participation, but what makes this category unique is its focus on self perception, rather then external factors.

The last grouping is gender differences in participation. In some of the participants this information came out without prompting while I did need to prompt others. I coded message units as gender differences in participation when the students' referred to gendered roles, stereotypes, or experiences that could influence there own participation or that of others. Since this was my main area of interest, I focused on perceived gender differences or gender issues relating to participation/non-participation.

IV. RESULTS

4.1 Class Observations

Frequency and length counts of all the coded data were summarized into a single table to make comparisons easier to make (see Table 1).

The data indicates that females averaged more instances of participation in the online course than did males, but averaged less instances of participation in the F2F courses than males. Female students in the online course contributed more total text that did their male counterparts, but in the F2F course males contributed an average of over 300 words more than females.

표 1. 성적증명 코딩 요약
Table 1. Summary of Transcript Coding

Coding	Online CMC Course		F2F Course	
	Female n=10	Male n=11	Female n=25	Male n=2
Average Instances of Participation	4.50	3.27	17.89	33.00
Average Total Text Length	830.60	734.18	462.56	778.00
Average Initiated	1.30	1.09	1.56	1.50
Average Initiated Length	496.20	475.18	105.67	17.00
Average Number of Replies	3.20	2.18	16.33	31.50
Average Length of Total Replies	334.40	259.00	356.89	761.00
Average Length of Reply	77.52	109.65*	20.11	22.40
Average Interruptions	NA	NA	3.11	3.50
Average Instances of Positioning	1.30	0.27	0.56	2.00

*p < .05

Female students initiated more responses in both the online and F2F courses. These numbers are relatively small reflecting the small number of initiated responses in both the online and F2F discussions. Not only did they initiate more responses, but they wrote longer initial responses in both the online and F2F classes.

Female students, on average, replied to more responses that did males in the online course, but males replied almost twice as much as females in the

www.kci.go.kr

face to face course. Female students as a group contributed more text in their aggregate replies than males in the online course, whereas males contributed more than twice as much text as females in F2F courses. Though female students in the online class contributed more text, in aggregate, to replies, male students contributed, per average response, longer responses than females in both courses.

Interruptions were only coded for in the F2F class, since interruptions in asynchronous communication are not possible. Male students did interrupt conversations more than female students. Also, due to the fact that male students had no male discourse partners, those they interrupted were always female students.

There were also differences in the frequency of positioning in male and female student in the online and F2F courses. Here we see that female students use positioning slightly more in the online courses and males position slightly more in the F2F course.

4.2 Student Interviews

The insight gained from these interviews was enlightening and in conjunction with the class observations was fascinating. In the following paragraphs, I will briefly describe the students who were interviewed as well as summarize the information as categorized. All participant names are pseudonyms chosen by the participants.

4.2.1 Sally

Sally is a very confident-sounding 20 year old sophomore in the F2F class. Her major is Elementary Education with an interest in teaching health education to elementary school students. After graduation, she would like to take a little time off to "relax", but she sees herself staying in her hometown (same as the university), "I'm gonna stay where my roots are."

Sally is a high participator in the class. In transcriptions of the class discussions she is very active in the conversations, though she is not one of the topic leaders for the day. She says that she is very comfortable in the class. She feels that the teacher is really "laid back" and that this is conducive to her participation in the class. She believes that people who talk more in class in a better grade and those who are outgoing talk more than people who are shy. When seen in relation to her belief that "those people who like to talk a lot, people who know, you know, that what they're saying is right," it seems that Sally's conception of a participator is simply an active person who knows what they are talking about. In my conversation with Sally I came to see that, while she is attributing these characteristics to "those who talk more," she really sees these as her characteristics as a high participator.

Sally does not even hint at a sense of inadequacy in her interview. She was generally confident and felt that her ability to think "on the fly" helped her to get through most classroom interactions. She believed that it did not really matter whether she even did the reading for the class because she found it easy to participate in the discussions regardless.

Sally had very little to say on gender roles in the classroom. When I tried to get her to comment the two male students in her class, though, she made an interesting comment. She stated that one of the male students talked a lot in class, but that the other did

www.kci.go.kr

not and then added, "Maybe he's intimidated cause there's most girls in there." Interested in this response, I asked how would the class be different if there were more male students in the class. She responded mater of factly that, "It would be different, [with more male students] just because guys have different things to discuss than girls do."

4.2.2 Jennifer

Jennifer is a soft spoken 19 year old freshman in the F2F class. Her major is Elementary Education and her area of interest is Science Education. She wants to begin teaching right away when she graduates from school. Jennifer plans on returning to her hometown and teaching in one of the local elementary schools. She still sees herself as a teacher in ten years, but plans thinks she may work on her Secondary Education endorsement, so she can teach Junior High or High School classes.

If the class observation data is representative of her normal participation behaviors, Jennifer is an average participator. Even if the group participation were uneven it will "even out," because when some members are not talking, it makes other members talk more. Jennifer immediately states that she thinks that she talks more in this class because it is mostly female students. When comparing this class to another which is about half female and half male students, she states, "I think I talk a lot more in the girls one." She also agrees with Sally that the classroom atmosphere is really good and that the teacher is "easy going."

While soft spoken, Jennifer is absolutely confident in her abilities as a teacher, reinforced by the teaching experiences that she has already had. She gives no evidence of feelings of inadequacy, but rather refers often to her previous teaching experiences, "I've already student taught," as proof of her knowledge in this class.

As mentioned above, Jennifer quickly points the number of male students in class as a factor in her participation. At the very beginning of the interview she compares two of her classes. One (history) has about half male students and half female students, while the course that I observed has two male students and twenty-five female students. She relates, "I think I talk a lot more in the girls one, just because I don't care, I think. I don't talk a lot in the history one, I get nervous. I just feel easier when it's all girls, I don't know why."

4.2.3 Bob

Bob is a soft spoken 20 year old sophomore in the online class. When asked why he took the online class, he replies that, "I didn't know. I didn't mean to. I wish I hadn't actually." The conflict between Bob's learning style and discourse preferences in general, in relation to the online environment, are evident throughout our conversation. Bob recently turned his attention from a major in Art to Art Education. He is not really sure what he wants to do with his degree in education, but he has a great interest in teaching in a Native American Reservation in the Southwest either for his student teaching experience and/or after graduation. Bob has not given his teaching career much thought. He has not decided on exactly what he will do or where he will do it. He just "fell into education" and is seeing where it will take him.

From the online transcripts I can see that Bob is a

www.kci.go.kr

low participator. He contributed the bare minimum to the discussion forum (1 initial response and 1 reply). He worries that his low participation has hurt his grade in the class, "That's kind of one aspect of the class that I don't care for, is that it's quantity not so much quality." He indicates numerous times that he prefers speaking to people face-to-face, but when asked whether he would participate more in a face-to-face class he responds, "I'm kinda shy. And, like, if I were in class I probably, I would definitely not participate as much as I do." Knowing his participation rate in the online discussion forum, I wonder if he would participate at all in a face-to-face class. Throughout our conversation, though, he hints at the reason he does not write much in the forum, it's because he believes that his writing is not good enough to communicate his thoughts. This is a common complaint of writer's at all stages in their education, but it particularly problematic when all of a students participation is in a textual medium.

Much of Bob's references to inadequacies, relate around his perception that he is a poor writer. He states, "I'm not a writer by any stretch of the word. I don't feel like my opinion is completely taken the way that I want it, cause I don't know, with things that I do care about I would much rather put them in words, like spoken words." He goes on to lament, "people probably don't understand my writing as much as they would understand me in person."

When Bob is first asked about whether male students and female students participate differently in the course, he responds, "I don't even know who are guys and who are girls." This sounds reasonable for an online course, but, throughout the conversation, he refers to other members of the course as he or she. This indicates that, at some level, he does know the genders of many classmates. He also carries forth some very interesting stereotypes about female participation in his classes. He states that, "The girls in my classes don't really do anything. The guys all participate." When asked why this is he says, "…they're like kinda sorority, like, cheerleading, and like that type and they just kinda sit there and don't do anything." He goes on to explain that female students do not participate as much because, "Girls just don't want to sound stupid to the guys and guys just don't care."

V. DISCUSSION

The trends in the observation indicate that male participants contributed more for each coding item in the F2F course than females, except in the average number of initiated responses and the average length of initiated responses. This concurs with the Karp and Yoels [7] and Fritschner [9] findings that male students participate more in F2F classes, especially in introductory-level courses such as were used in this study.

Male students also seemed to dominate F2F interactions by interrupting and positioning more than their female classmates. Male students interrupted their conversation partners slightly more than female students did. Coates [8] noted that males seemed to use interruptions as a means of denying female discourse partners the ability to be heard. The male students in this study also used positioning almost four times more than the female students. While Blum [13] used positioning as a

www.kci.go.kr

measure of male dominance in online interactions, it also seems relevant in F2F communication.

Do male students in face-to-face introductory pre-service teacher education classrooms exhibit controlling behaviors? The data seems to indicate that male students do exhibit controlling behaviors in this context. The data trends in the online course seem to run counter to those found in the F2F class. Female students participated more in the online classes than the male students did. They contributed more text, initiated more of the postings, and replied to more postings. By dominating the amount of text in the online class, female students dominated the discussions. In addition to the amount of time controlled by the female participants, they also utilized positioning more than their male classmates.

Do male students in introductory pre-service teacher education online classrooms exhibit controlling behaviors? Many of the findings for the online class run counter to Blum's [13] claims that male dominance in F2F course carries over into the online realm and lends credence to Harasim, et al. [10] who asserted that online CMC courses would democratize participation in classes. Male students do not seem to exhibit as great an amount of controlling behaviors in the online CMC classroom.

Now the question of why must be addressed. The data from the class discussions demonstrates a trend in male/female participation for online and F2F courses, but what does it tell us about why these differences exist? Why do male students attempt to dominate classroom discussions? While Bob was a member of the online class, he gives us interesting insight into this answer. His impression that "girls in my classes don't really do anything" may not be accurate, but his perception of this reality could have great meaning looking at gendered participation in classes. It could possibly be that male domination of F2F classroom discourse is so complete and systemic that female voices effectively silenced throughout higher education. This collective silencing would then be perceived by male students as complacency in female classmates. This is supported by Jennifer's fear of participating in male majority classes. She feels embarrassed to speak up in those classes, but is completely comfortable participating in the observed class. This same student, with the same personality, in the same content domain, but she seems to be contextually non-participatory.

Why then were female students so much more active than male students in the online course? Some [10] would have us believe that this online environment is somewhat cleansed of gender identity, but this did not hinder Bob's ability to address his classmates as male or female. So, if gender is not "neutral" in online discussion forums, why do females participate more? It could be the out of site out of mind mentality. If female students are hindered by having male students in the classroom, then possibly in a context where the male students significantly less visible and less immediate female students feel freer to assert their voice in the discussion. It could also be as Blum [13] indicates that the quality of writing is better for females than males. Writing quality was a major issue with Bob. He believed that he was not being understood as well in text as he is in person. If this were the case, females would feel more confident that not only are their voices being heard, but understood. While these are all intriguing hypothesis, must more

www.kci.go.kr

research must be done to pinpoint these areas of divergence and bring them together.

V. CONCLUSION

Whether the metaphor of Mars and Venus or cats and dogs is used to describe male/female relationships, the perceived differences in communication do exist. These differences certainly influence the way we approach and succeed within our learning environments. With the popularity of online education at many universities and its promise of democratizing education [10], we must take this time ask ourselves what can be done make it optimally beneficial to all students, male and female, black and white, young and old. Each of these issues must eventually be tackled by educational researchers and given the attention and diligence that they deserve.

The limitations of this study could be summed up as representation. In class discussion data, the F2F class only had two male students. It is difficult to draw any conclusions on male/female interaction patterns when only two male students are studied. Also, in the interviews representation is an issue on two fronts. Ideally, at least one male and one female student from each class would have been interviewed. It was difficult to recruit interview participants. This left me with only one student (male) from the online class and two (female) students from the F2F class. Better conclusions could have been reached both genders were represented for each class.

What are the implications for future research? One glaring issue is male/female representation in F2F and online classes. While the F2F course in this study had only two male students and 25 female students, the online course had eleven male students and only 10 female students. Why such a noticeable difference in representation? This would be an interesting avenue of further research; why the online course has so many more male students than the F2F course. It seems to have made a big difference in the F2F classroom visited in this study and might be an issue wherever online courses run concurrently with F2F courses. This segregation of the genders would lead to very difference and possibly less effective learning environments.

REFERENCES

[1] Galt Global Review, "Virtual classrooms booming," Retrieved April 16, 2003, from http://www.galtglobalreview.com/education/virtual_classrooms.html, 2001.

[2] S. Acker, *Gendered Education: Sociological Reflections on Women, Teaching and Feminism.* Philadelphia: Open University Press, 1994.

[3] J. Blackmore and J. Kenway, *Gender Matters in Educational Administration and Policy - a feminist introduction,* Falmer Press, 1993.

[4] L. Nicholson, "Women and Schooling," *Educational Theory,* Vol. 30, No. 3, pp.225-234, 1980.

[5] D. Spender, *Invisible Women,* The Women's Press, 1982.

[6] J. Stalker, "Women and Adult Education: Rethinking Androcentric Research". *Adult Education Quarterly,* Vol 46, No 2, pp.98-113, 1996.

[7] D. Karp and W. Yoels, "The College Classroom: Some Observations on the Meanings of Student Participation," *Sociology and Social Research,* Vol. 60, No.

www.kci.go.kr

4, pp.421-439, 1973.

[8] J. Coates, *Women, Men and Language,* Longman, 1986.

[9] L. Fritschner, "Inside the Undergraduate College Classroom," *The Journal of Higher Education*, Vol. 71, No. 3, pp.342-362, 2000.

[10] L. Harasim, S. Hiltz, L. Teles, L., and M. Turoff, *Learning Networks: A Field Guide to Teaching and Learning On-line,* MIT Press, 1995.

[11] C. Gunn, M. McSporran, H. Macleod, and S. French, "Dominant of Different? Gender Issues in Computer Supported Learning," *Journal of Asynchronous Learning Networks*, Vol. 7, No. 1, pp.14-30, 2003.

[12] E. Barrett and V. Lally, "Gender differences in an on-line learning environment," *Journal of Computer Assisted Learning*, Vol. 15, No. 1, pp.48-60, 1999.

[13] K. Blum, "Gender differences in asynchronous learning in higher education: Learning styles, participation barriers and communication patterns," *Journal of Asynchronous Learning Networks*, Vol 3, No 1, pp 46-66, 1999.

[14] K. Michel, "Gender Differences in Computer-Mediated Conversations," An Unpublished Manuscript. Retrieved February 24, 2003, from http://www.kidlink.org/history/michel.txt, 1992.

[15] S. Herring, "Gender Differences in Computer Mediated Communication: Bringing Familiar Baggage to the New Frontier," *Making the Net*Work*: Is There a Z39.50 in Gender Communication?* American Library Association, 1994.

[16] D. Tannen, "Gender Gap in Cyberspace," *Newsweek,* Vol. 123, No. 20, pp.52-53, 1994.

[17] L. Harasim, *Online education: Perspectives on a new environment,* Praeger, 1990.

[18] R. Slavin, *Cooperative Learning,* Longman, 1983.

[19] S. Sharan, "Cooperative Learning in Small Groups: Recent Methods and Effects on Achievement, Attitudes, and Ethnic Relations," *Review of Educational Research*, Vol. 50, No. 2, pp.241-271, 1980.

[20] L. Vygotsky, *Mind in Society,* Harvard University Press, 1978.

[21] A. Picciano, "Beyond student perceptions: Issues of interaction, presence, and performance in an online course," *Journal of Asynchronous Learning Networks*, Vol. 6, No. 1, pp.21-40, 2002.

[22] T. Anderson, L. Rourke, D. Garrison, and W. Archer, "Assessing Teaching Presence in a Computer Conferencing Context," *Journal of Asynchronous Learning Networks*, Vol. 5, No. 2, pp.1-17, 2001.

[23] S. Hiltz, *The Virtual Classroom: Learning without Limits via Computer Networks,* Ablex, 1994.

[24] J. Howard, L. Short, and S. Clark, "Students' participation in the mixed-age college classroom," *Teaching Sociology*, Vol. 24, No. 1, pp.8-24, 1996.

[25] C. Auster, and M. MacRone, "The classroom as a negotiated social setting: An empirical study of the effects of faculty members' behavior on students' participation," *Teaching Sociology*, Vol. 22, No. 4, pp.289-300, 1994.

[26] J. Dutton, M. Dutton, and J. Perry, "How do online students differ from lecture students?," *Journal of Asynchronous Learning Networks*, Vol. 6, No. 1, pp.1-20, 2002.

[27] M. Key, *Male/Female Language,* The Scarecrow Press, Inc., 1975.

[28] R. Weber, *Basic content analysis, second edition,* Sage Publications, 1990.

[29] S. Stemler, "*An introduction to content analysis. College Park,*" ERIC Clearinghouse on Assessment and Evaluation. (ERIC Document Reproduction Service No. ED458218), 2001.

[30] H. Kanuka, H and T. Anderson, "Online social interchange, discourse, and knowledge construction," *Journal of Distance Education*, Vol. 13, No. 1, pp.57-74, 1998.

www.kci.go.kr

저자소개



다니엘 크레이그(Daniel A. Craig)

He is also a Ph.D. candidate at Indiana University in Language Education and Instructional Systems Technology

Daniel A. Craig is currently a professor at Sangmyung University in Seoul, South Korea

His research interests include instructional technology, distance education, computer-assisted language learning, and teacher education/professional development

www.kci.go.kr