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Emoticon Usage in Task-Oriented and Socio-Emotional Contexts in Online Discussion Boards

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EMOTICON USAGE IN TASK-ORIENTED AND SOCIO-EMOTIONAL CONTEXTS IN ONLINE DISCUSSION BOARDS

By

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To my parents

Bekir - Salime Yigit

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This study aims to understand the frequency of emoticon usage in Computer Mediated Communication (CMC) using discussion boards. It also aims to understand whether the contexts (i.e., socio-emotional versus task oriented contexts) in which emoticons are used make any difference. In addition, this study will examine whether using emoticons in online discussion boards helps communicators to exchange emotions and thus to enhance the message content. The result of the study suggests that participants use more emoticons when they are provided. Participants in socio-emotional contexts use more emoticons than they do in task-oriented contexts. The results of the study also suggest that participants in socio-emotional contexts found emoticons helpful in expressing their ideas and in understanding others' ideas, and also expressing their feelings and understanding others' feelings.

CHAPTER 1

INTRODUCTION

Purpose of the study

The purpose of this study is to understand the frequency of emoticon usage in CMC when it is provided to communicators. It will examine whether providing the emoticons causes students to use emoticons more and will examine the effect of task-oriented and socio-emotional contexts on emoticon usage in online discussion. In addition, this study will examine whether using emoticons in online discussion boards helps communicators to exchange emotions and to enhance the message content. This is important because increasing numbers of college, and even high school, courses include a computer-mediated component, such as a discussion board, to enhance the class. However, at least some educators fear that online communication between students in a course context excludes the richness of in-person class communication.

Computer mediated communication (CMC) provides opportunities to communicate in both synchronous (instant messaging, Internet Relay Chat (IRC)) and asynchronous (e-mail, discussion boards, bulletin boards) ways. Early research argues that text based forms of computer mediated communications lose nonverbal cues such as facial expressions, gestures or tone of conversation (Daft & Lengel, 1984; Kiesler, 1986; Rice & Love, 1987; Culnan & Marcus, 1987). However, more recent research argues that communicators can use emotional icons (emoticons) to express nonverbal cues missing in CMC (Walther, 1992; Thompson & Foulger, 1996; Walther & D'Addario, 2001).

Rezabek and Cochenour (1998, p. 371) define emotional icons (emoticons) as "visual cues formed from ordinary typographical symbols that when read sideways represent feelings or emotions." Thompson and Foulger (1996, p. 226) called them "pictographs" that are used "to express emotion or as surrogates for nonverbal communication." Common examples of emoticons are happy face :-) and sad face :-(. Recent developments in computer mediated communication makes emoticons graphic based. Common examples are happy face  and sad face  .

Research suggests that transmitting nonverbal cues helps communicators in the exchange of emotions and also enhances the message content (Walther & D'Addario,

2001; Thompson & Foulger, 1996; Rezabek & Cochenour, 1998). However, no research has directly addressed emoticon usage in discussion boards.

Research also suggests that emoticon usage differs between task-oriented contexts and socio-emotional contexts in CMC (Derks *et al*., 2003). In task-oriented contexts communicators use CMC to state their opinions about a certain task, e.g. how to write instructional objectives in a lesson plan. In socio-emotional contexts communicators state their opinions about a social or emotional issue, e.g. how they were motivated in school settings. Again, no research has directly addressed different contexts and emoticon usage in authentic online discussion board settings.

Research suggests that emoticon usage is very low when it is not provided to communicators. Recent CMC computer software such as instant messaging and discussion boards provide emotional icons within the software itself and communicators can select it from the menu embedded in the software. Emoticon usage was 13.2 % in Witmer & Katzman's (1997) research, it was 6.1 % in Rezabek and Cochenour's (1998) research and it was 4% in Jeong's study (personal communication, April 18, 2005). However, it is noteworthy that none of this research provided emoticons to communicators in order to understand the frequency of usage.

CHAPTER 2

LITERATURE REVIEW

Computer mediated Communication (CMC) has been described as "any communication patterns mediated through the computer" (Metz, 1992, p. 3). Computer mediated communication has also been defined as "synchronous or asynchronous electronic mail and computer conferencing, by which senders encode in text messages that are relayed from senders' computers to receivers" (Walther, 1992, p. 52).

Computer mediated communication (CMC) not only includes e-mail and computer conferencing but a variety of electronic message systems and electronic conference systems supported by audio and video links. CMC can be either synchronous, meaning real-time computer based communication such as AOL instant messenger, Microsoft NetMeeting, Yahoo messenger, Internet Relay Chat, ICQ, Web-phone or it can be asynchronous. Asynchronous computer communication systems include email, discussion forums, any type of group decision support systems (GDSS), discussion groups, and bulletin boards. One of the educational applications of asynchronous CMC is discussion boards. The discussion board (known also by various other names such as discussion forum, message board, discussion group, and online forum) is an asynchronous communication module. Users post messages that can then be read and responded to by others. Discussion boards in an educational setting are defined as "an organized, on-line interactive forum where students, instructors and/or guest participants have asynchronous discussions by posting questions, comments and responses" (Discussion board, http://en.Wikipedia.org/wiki/Message_board).

Online discussion is a widely used tool to enhance today's classroom environment in educational settings. Research evidence suggests that online discussion is an effective tool to engage students in higher level thinking skills (Kirk & Orr, 2003). The asynchronous nature of online discussion gives students opportunity to reflect on their own perspectives, express their ideas and learn from the content of the interaction itself (Harasim 1993; Henri 1992 cited in Angeli, Bonk, & Hara, 1998). Research also suggests that computer mediated communication facilitate critical thinking in online group discussions and learner-to-learner interaction (Ravits, 1997; Collins & Collins, 1996; Ward & Tissen, 1997 cited in Jeong 2004).

Many earlier researchers claim that asynchronous CMC, especially text based forms, lose their social context because of the bandwidth of the medium. Bandwidth is a measure of the capacity of a communications channel. The higher a channel's bandwidth, the more information it can carry. Communication theories state that because of the narrow bandwidth in CMC, nonverbal cues are filtered out by the medium. This model is called “cues-filtered-out” in CMC by Culnan and Markus (1987).

There are three theories supporting the “cues-filtered-out” model. The first theory is Daft and Lengel’s Media/Information Richness Theory (1984), which states that the transmission of rich information requires instantaneous feedback and a higher level of interactivity. Daft and Lengel claim that instant feedback and high interactivity are characteristics of a rich medium. Communications differ in terms of information processed between communicators. Face to face communication is “richer” than CMC because there are more channels (audio, visual, tactile etc.) and there is immediate feedback. During face to face communication more information is processed between the communicators, which make the communication richer, but when face to face contact is lost and communication occurs over the phone or computer, then the communication becomes poorer in terms of information richness because less information is being processed. Therefore, CMC has the least rich information with almost all the cues being filtered out by the medium itself. On the other hand, face to face communication environments have the richest on-line discussion information.

The second theory supporting the cues-filtered-out model is the Reduced Social Cues (RSC) Theory by Kiesler (1986) and Dubrovsky, Kiesler and Sethna (1991). It states that CMC transmits less social and contextual cues than face to face communication (Ftf) which shifts attention to the task rather than the recipient. Kiesler (1986) divides social cues into two categories. The first one is dynamic cues which are personal information transmitted in a typical face to face interaction, such as facial expressions or gestures. She argues that in CMC, "senders have no way to link the content or tone of messages to receivers' responses so they can evaluate how their messages are being received" (p. 48). The second type of social cues is static social cues which include information related to place, position and person such as the room communication takes place or gender of the communicator. As a result, the theory argues

that CMC is less social and more task oriented because of the lack of social and contextual cues. In their research, Kiesler, Siegel, & McGuire (1984) assert that because of reduced social cues people in computer-mediated group show more uninhibited behavior than when they are in face-to-face groups. These behaviors are measured by uninhibited verbal behaviors and they are defined as frequency of comments which contains swearing and hostile statements. These uninhibited behaviors are called "flaming" in CMC. Also, Sproull & Kiesler (1986) identified flaming usage in their study of an e-mail system.

The third theory supporting the cues-filtered-out model is the Social Presence Theory (Short *et al*., 1976 cited in Liu and Ginther, 1999). Short *et al*. state that social presence refers to the extent that the communication medium conveys the actual physical presence of the communicators. Social presence not only depends on actual physical presence itself and the words used in the communication but also on some other nonverbal cues such as physical distance, posture, facial expressions, and tone of voice. Therefore, from the Social Presence Theory view, social presence is very low in CMC environments. In their research, Rice and Love (1987) states that CMC allows less communication richness and interpersonal communication than face to face interaction. As a result, they claim that "as the bandwidth narrows, media allows less social presence; communication is likely to be described as less friendly, emotional or personal and more serious, businesslike, or task oriented." (p. 88)

Based on these three theories and the "cues-filtered-out" model by Culnan and Markus (1987), it could be hypothesized that CMC is better suited for task-oriented contexts because computer mediated communication has a narrow bandwidth compared to face to face communication. Also CMC reduces social and nonverbal cues during the communication process, and allow very low social presence in communication exchange.

However, more recent research suggests that communicators can use emoticons in CMC to express nonverbal cues. In contrast to the cues-filtered out approach, Social Information Processing (SIP) Theory by Walther (1992) supports that communicators using any type of CMC medium experience a similar need for uncertainty reduction and affinity as in face to face communication. And, to meet these needs in CMC, communicators will adapt their linguistic and textual behaviors to the solicitation and

management of socially revealing, relational behavior. Walther and D'Addario (2001) stated that without nonverbal cues, communicators adapt their relational behaviors to the remaining cues available in CMC such as content and linguistic strategies, as well as emoticons and typographic cues. They state that communicators can imbue their messages with social meaning by using of emoticons. Moreover, Derks *et al*. (2003) contend that emoticons can serve to represent emotions in CMC at least partially. They argue that emoticons may add a "paralinguistic component to a message and serve as nonverbal surrogates, suggestive of facial expression" (p. 2).

Despite their potential importance in CMC, very few studies have been conducted to understand the usage and effect of emoticons in CMC. Thompson and Foulger (1996) argue that by providing the nonverbal side of communication, emoticons can improve the exchange of emotions by adding nonverbal cues to the actual text of a message, and as a result, reduce the flaming in communication. Thomson and Foulger analyzed emotional icons in e-mail messages to understand their effect on flaming. They suggest that emoticons have a moderating effect on reducing flaming. Also, Rezabek and Cochenour (1998) stated that CMC users often use emoticons as visual cues to expand the meaning of textual electronic messages. The fact that emoticons are used implies that individuals at least feel the need to express some of their emotions with short symbols rather than text (Fischer, in press, cited in Derks *et al*., 2003). According to Social Information Processing Theory (SIP) therefore, it is possible that communicators can exchange nonverbal cues by using emoticons. Also, emoticons may help express feelings and ideas in CMC.

Derks *et al*., (2003) stated that context affects emoticon usage. They find that if the context is socio-emotional, participants use more emoticons than in task-oriented context. Although the research is based on a good theoretical background, it has major limitations. First, the research is about understanding emoticon usage which is part of online communication, but the researchers provided simulated, paper-based chat sessions to participants in order to measure emoticon usage in different contexts. Emoticon usage would be different in paper based short chat sessions from actual online asynchronous CMC. Second, the researchers used short chat sessions to stimulate socio-emotional and task-oriented contexts to understand the emoticon usage. However, they used two

different topics for each context; one group discussed what kind of present to buy and other group discussed a classroom project. Therefore context was also confounded with different simulated relationships (i.e., friend vs. classmate)

CHAPTER 3

RESEARCH QUESTIONS

Rationale for Research Question

Research about emoticon usage in CMC is very limited and it yields inconclusive results. Early research claims that CMC can not transmit nonverbal cues. However, more recent research states that communicators can use emoticons to express nonverbal cues which are missing in CMC. It has been suggested that emoticons can improve the exchange of emotions and they can expand the meaning of textual electronic messages.

Despite emoticons' potential effect on communication and the low rate at which emoticons are used when unprompted, research has not yet been conducted on the impact of prompting users to use emoticons by providing a menu of emoticons for them to select from. Almost all of the research in the literature review used e-mail or online discussion archives to understand frequency of emoticon usage. This study takes research in this area a step further assessing the frequency of emoticon usage by providing the menu to communicators.

The results of the only experimental study (Derks *et al*. 2003) suggest that the contexts (i.e., socio-emotional versus task oriented contexts) of communication affect emoticon usage, but they tested the effect of contexts in short simulated paper-and-pencil chat sessions. Although discussion boards are effective tools used in education, none of the previous research was conducted to understand emoticon usage in the discussion board format. Therefore, the current study will examine the effect of context on emoticon usage in an online discussion board context.

Research Questions

1. Do participants use more emoticons when emoticons are specifically provided?
2. What is the frequency of emoticon usage in discussion board format?
3. What is the effect of the contexts (i.e., socio-emotional versus task oriented contexts) in emoticon usage?
4. Do students find emoticons helpful for expressing their feelings and understanding others feelings in online discussion?

5. Do students find emoticons helpful for expressing their ideas and understanding others' ideas in online discussion?

CHAPTER 4
METHODOLOGY

Participants

Participants of the study were 68 undergraduate students enrolled in two educational psychology courses in the Department of Education at Florida State University. There were 9 males and 59 female participants, and all were in their early twenties.

Although there were initially 68 participants, twelve students either did not participate in the online discussion or they did not complete the survey. Therefore, they are excluded from the study. The total number of participants at the end of the study was 56.

Instrumentation

The frequency of emoticon usage data were collected electronically by using Blackboard for four consecutive weeks. Students received a survey (Appendix A) after each week about the discussion board format. The survey had five items. Two questions asked how helpful students perceived that week's discussion board format was for expressing their ideas and understanding others' ideas. Also, two questions asked how helpful students perceived that week's discussion board format was for expressing their feeling and understanding others' feelings. The survey also had one question to understand the general satisfaction level of students' with the discussion board format for each week. Participants' Likert scale responses were coded one to five, from strongly agree (5) to strongly disagree (1).

Procedures

As a part of the normal course requirements, participants were required to make eight postings to an online discussion board using the courses' Blackboard web pages over the course of a four week period. They were required to make two postings per week on a topic that had been covered in the class. The first postings required that students express their ideas on the topic, and the second weekly postings required that students give feedback to their classmates' postings. Students received verbal announcements

about postings each week in the class, and they also received an e-mail about which group they were in and a link to make the postings. Participants could post whenever it was convenient for them each week.

A repeated measures design was used. The discussion topic changed each week for four weeks, and the researcher randomly assigned participants to a different group each week until all participants had been assigned to each of four different conditions (see Table 1 below). This design made it possible to determine the effects of providing an emoticon menu and discussion context (i.e., task- or socio-emotional oriented) on emoticon usage. The repeated measures design also controlled for emoticon usage due to a novelty effect and established the consistency of the results. By crossing the two levels of emoticon facilitation with the two levels of discussion context, four conditions were created (see Table 1).

Table 1

Overall Study Design: Discussion Groups, Contexts and Emoticon Availability

Groups	Contexts and availability of Emoticons
Group 1	Task oriented context with emoticon menu available
Group 2	Socio-emotional context with emoticon menu available
Group 3	Task oriented context with no emoticon menu available
Group 4	Socio-emotional context with no emoticon menu available

Students received an e-mail at the beginning of each of the four weeks which included that week's discussion topic, due dates for the postings and a link to their group's discussion board. By using Blackboard, participants in one group were not able to see the other groups' discussion board or their responses.

Participants in the emoticons group received an emoticons menu on the side of discussion board when they logged on to the course's web page. There were six emoticons on the menu (see Table 2); happy face/smile, sad face/frown, sarcastic/wink were selected because they were used frequently by the communicators in the previous studies (Derks *et al*, 2003; Rezabek & Cochenour, 1998). Disagree, applause and

confused were selected due to the discussion board format. Communicators could convey disagreement, applause or confusion when giving feedback to others' postings.

Table 2

Emoticons provided in the Menu

Meaning	Graphic Representation
Happy face/Smile	
Sad face/Frown	
Confused	
Disagree	
Sarcastic /Wink	
Applause	

Participants made postings in two contexts, which were the task oriented context and the socio-emotional context. In the task oriented context, participants were prompted to make task related postings about a topic. Task oriented context topics for online discussion were selected from book chapters which were covered in the classroom as a normal part of the class. Participants discussed Motivation, Cognitive and Moral Development, Social Learning and Modeling, Intelligence, Instructional Design and Classroom Management. In the socio-emotional context, participants were prompted to make socio-emotional postings about the same topics. See examples in Table 3 below.

Table 3

Examples of Book Chapters and Discussion Topics

Book Chapters	Task Oriented Discussion Topic	Socio-emotional Discussion Topic
Motivation	How can you use cognitive factors of motivation such as Expectancies, Values, and Goals in your classes?	Think about your educational experiences, how did you get motivated OR how did you get de-motivated. What did your instructor do to motivate you OR de-motivate you?
Cognitive and Moral Development	Based on the knowledge of Piaget's level of development, what levels of moral development do you think your students will have, and why?	Do you think it is your role as a teacher to foster Moral Development of your students? Why or why not?
Social Learning and Modeling	What are the characteristics of an effective role model? How would you use it in educational settings as a teacher?	Who was your role model? How she/he effect you as a model?
Instructional Design and Classroom Management	After you choose a topic to teach, what steps would you take in instructional planning to teach that topic effectively?	How would you react If you were planning a lesson with a group and two of the members were talking and off task most of the time?

Table 3 continued

Book Chapters	Task Oriented Discussion Topic	Socio-emotional Discussion Topic
Intelligence	According to Gardner, there are multiple intelligences. What might you do as a teacher to address to students' multiple intelligence?	How would you respond to a teacher who said to you that her female students were NOT doing as well in math class because of their inherent intelligence?

Hypotheses

Hypothesis 1. Participants will use more emoticons when the emoticon menu is provided.

Hypothesis 2. Participants will use more emoticons in socio-emotional contexts compared to task-oriented contexts when the emoticon menu is provided.

Hypothesis 3. Participants who receive emoticons will report higher in helping to express their ideas than participants who did not receive emoticons.

Hypothesis 3a. Participants who receive emoticons will report higher in helping to understand others' ideas than participants who did not receive emoticons.

Hypothesis 4. Participants who receive emoticons will report higher in helping to express their feelings than participants who did not receive emoticons.

Hypothesis 4a. Participants who receive emoticons will report higher in helping to understand others' feelings than participants who did not receive emoticons.

CHAPTER 5

ANALYSIS OF THE DATA

Participants competing the study were 48 females and 8 males enrolled in two educational psychology courses at Florida State University. The majority of the participants were elementary education students (38). There were students with majors in science education (8), physical education (3) and literature and creative writing (3).

The number of students who used emoticons was computed to answer the frequency of emoticon usage and also whether providing emoticons caused students to use emoticons more. There is a difference between frequency of emotion usage when it is provided to communicators (64.3%) and emoticon usage when it is not provided to communicators (5.4%) (see Table 4-5).

Table 4

Emoticon Usage When Provided

Emoticon Usage	Number of participants	Valid Percent
No Emoticons Even When Provided	20	35.7
Emoticons Used When Provided	36	64.3
Total	56	100.0

Table 5

Emoticon Usage When Not Provided

Emoticon Usage	Number of participants	Valid Percent
No Emoticons	53	94.6
Emoticons Used Even Not Provided	3	5.4
Total	56	100.0

The paired sample t-test was conducted to see if participants use more emoticons when an emoticon menu was provided (Hypothesis 1). Results suggest that there is a significant difference in emoticon usage when it provided to communicators (t= -8.8, p= .00, one tailed). Statistics are presented in Table 6.

Table 6

Paired sample t-tests of emoticon usage when provided vs. not provided

Contexts	Mean usage	Std. Deviation	Std. Error Mean	t	Df	Sig. (1-tailed)
Emoticon provided vs. not provided	-.59	.49	.06	-8.883	55	.00

Participants used emoticons for various reasons such as expressing agreement, disagreement, and applause. The types of emoticons used in the discussions are presented in Table 7 and Figure 1.

Table 7

Type of emoticons used in the discussion board

Types of Emoticon	Frequency	Valid Percent
Happy Face/ Smile	46	47.4
Applause	26	26.8
Sad Face/Frown	13	13.4
Disagree	5	5.2
Confused	4	4.1
Sarcastic/Wink	3	3.1
Total	97	100.0

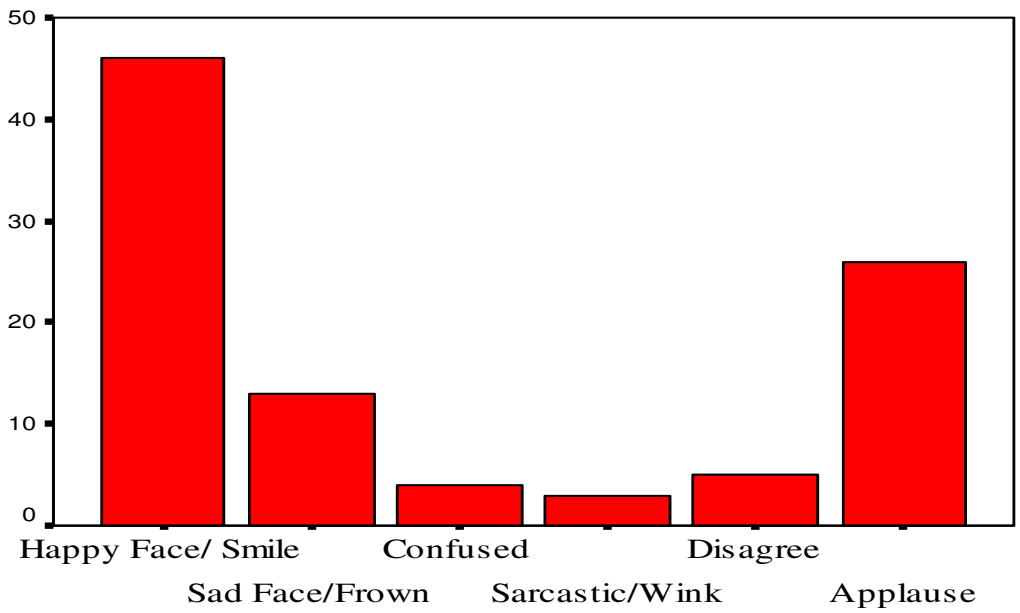

Figure 1: Types of emoticons used in discussion board

Examples of the emoticon usage in discussion board are in figure 2 and 3. Names of the participants are erased due to confidentiality.

Forum: Social Learning and Modeling
Times Read: 10
Date: 04-06-2005 13:51
Author: [redacted]
Subject My Role Model

Remove

I would have to say that my mother was my role model. She is a very strong and independent person. She has been through many diffrent things in her life, but she has had the will and determination to overcome them all. I would not follow all of her decsions or actions, but through those decsions I can see what I would not want to do in a simpilar situation. My mother has always been there for me when I needed her. She is the kind of mother and person I hope to be.

Reply

Forum: Social Learning and Modeling
Times Read: 7
Date: 04-06-2005 14:40
Author: [redacted]
Subject Re: My Role Model

Remove

My mom is my role model too!

Reply

Figure 2: Examples of the emoticon usage in discussion board

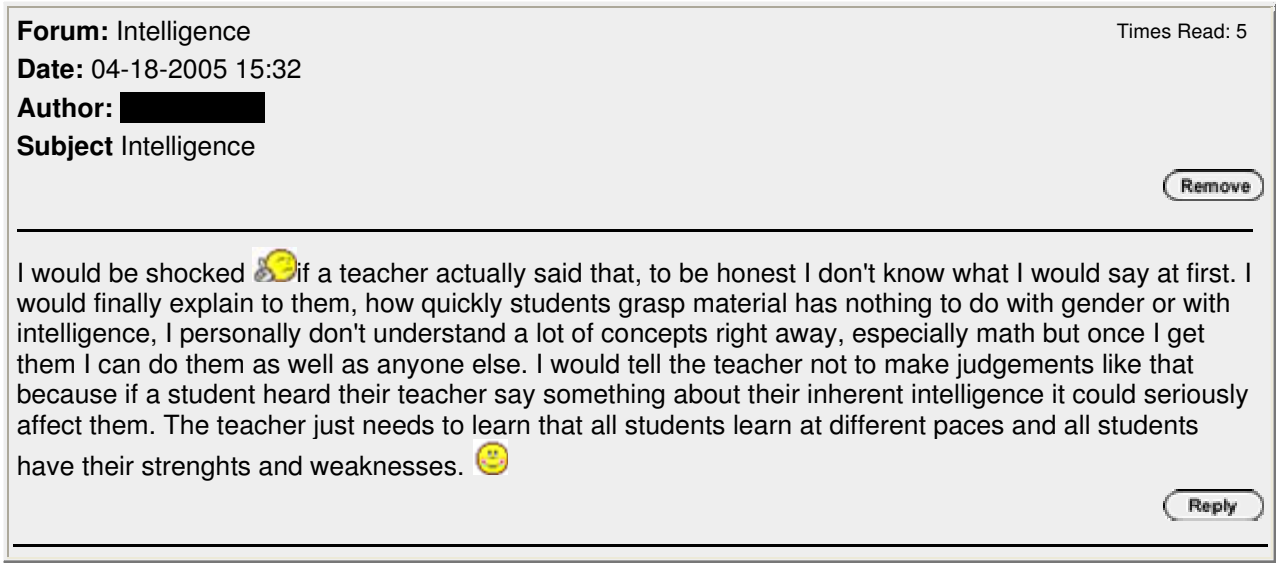

Figure 3: Examples of the emoticon usage in discussion board

Students responded with emoticon if the previous postings have an emoticon in the postings. It suggests that there is a modeling effect in the usage of emoticons.

It appears that students responded with emoticons more often if the previous postings have an emoticon in them. It suggests that there is a modeling effect in the usage of emoticons which future research will investigate.

The paired sample t-test was conducted to test the second hypothesis: participants used more emoticons in socio-emotional contexts than in task-oriented contexts when an emoticon menu was provided. Results for the paired t-test indicated that there was a significant difference between task oriented and socio-emotional contexts in emoticon usage ($t = -1.76$, $p=.041$, one-tailed). All of the hypotheses are directional, one tailed t-tests were used in statistics. Sample statistics are presented in Table 8 and Table 9.

Table 8

Descriptive Statistics of Task vs. Socio-emotional Contexts

Contexts	Mean emoticon usage	Number of emoticon	N	Std. Deviation	Std. Error Mean
Task Oriented	.73	41	56	1.120	.150
Socio-emotional	1.00	56	56	1.307	.175

Table 9

Paired Samples Test for Task vs. Socio-emotional Contexts

Contexts	Mean emoticon usage	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Task oriented vs. Socio-emotional	-.27	1.136	.152	-1.764	55	.041

Paired sample t-tests were also used to test hypothesis 3 and hypothesis 3a: participants who received emoticons will report that the discussion board format helped them to express their ideas more than participants who did not receive the emoticon menu. And, participants who received emoticons will report that the discussion board format helped them to understand others' ideas more than participants who did not receive the emoticon menu. The survey results of participants in either task oriented or socio-emotional groups with emoticons, and the task oriented or socio-emotional groups with no provided emoticons conditions were compared to see whether there was a difference in the perception of expressing ideas and understanding others' ideas when emoticons were provided. There were two questions regarding expressing and understanding ideas. By crossing the two groups with the two questions, four groups were obtained. The result suggests that there is a significant difference between providing emoticons and not providing emoticons in terms of expressing one's ideas and

understanding others' ideas. Statistics related to these hypotheses are presented in Table 10 through Table 17.

Table 10

Task-oriented contexts' paired statistics for expressing ideas.

Group	Survey question-Emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Task Oriented Contexts	Discussion Board helped expressing ideas-emoticon (Q1)	4.11	44	.655	.099
	Discussion Board helped expressing ideas - no emoticon (Q1)	4.18	44	.657	.099

Table 11

Task-oriented contexts' paired t-test for expressing ideas.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Task Oriented Contexts	-0.06	0.87	0.13	-0.51	43	0.303

Table 12

Task-oriented contexts' paired statistics for understanding ideas.

Group	Survey question-emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Task Oriented Contexts	Discussion Board helped understanding ideas - emoticon (Q2)	3.98	44	.698	.105
	Discussion Board helped understanding ideas- no emoticon (Q2)	4.11	44	.722	.109

Table 13

Task-oriented contexts' paired t-test for understanding ideas.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Task Oriented Contexts	-0.13	0.46	0.06	-1.95	43	0.028

Table 14

Socio-emotional contexts' paired statistics for expressing ideas.

Group	Survey question-emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Socio-emotional Contexts	Discussion Board helped expressing ideas - emoticon (Q1)	4.12	49	.526	.075
	Discussion Board helped expressing ideas - no emoticon (Q1)	3.96	49	.576	.082

Table 15

Socio-emotional contexts' paired t-test for expressing ideas.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Socio-emotional Contexts	0.16	0.58	0.08	1.93	48	0.029

Table 16

Socio-emotional contexts' paired statistics for understanding ideas.

Group	Survey question-emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Socio-emotional Contexts	Discussion Board helped understanding ideas – emoticon (Q2)	4.18	49	.527	.075
	Discussion Board helped understanding ideas - no emoticon (Q2)	4.06	49	.556	.079

Table 17

Socio-emotional contexts' paired t-test for understanding ideas.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Socio-emotional Contexts	0.12	0.48	0.06	1.76	48	0.041

The results suggest that participants in the socio-emotional contexts found emoticons helpful in expressing their ideas (t=1.93, p=.029, one-tailed), and they also found emoticons helpful in understanding others' ideas (t=1.76, p=.041, one-tailed). Participants in task-oriented contexts found the no-emoticon condition more helpful in understanding others' ideas (t= -1.95, p=.028, one-tailed).

Another set of paired sample t-tests were used to test hypotheses 4 and 4a: Participants who receive the emoticons will report higher in helping express their feelings than participants who did not receive the emoticons. And, participants who receive the emoticons will report higher in helping to understand others' feelings than participants who did not receive the emoticons. The survey results of participants in task oriented or socio-emotional groups with emoticons and task oriented or socio-emotional group with no emoticons conditions were used to understand if providing emoticons makes a difference in the perception of expressing feelings and understanding others' feelings.

Two questions were asked about expressing and understanding feelings. By crossing the two groups with the two questions, four groups were obtained. The results suggest that there is a significant difference between providing emoticons and not providing emoticons in terms of expressing one's feelings and understanding others' feelings. The statistics are presented in Table 18 through Table 25.

Table 18

Task-oriented contexts' paired statistics for expressing feelings.

Group	Survey question-emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Task Oriented Contexts	Discussion Board helped expressing emotions –emoticon (Q1)	3.70	44	.904	.136
	Discussion Board helped expressing emotions-no emoticon (Q1)	3.89	44	.841	.127

Table 19

Task-oriented contexts' paired t-test for expressing feelings.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Task Oriented Contexts	-0.18	0.62	0.09	-1.94	43	0.058

Table 20

Task-oriented contexts' paired statistics for understanding feelings.

Group	Survey question-emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Task Oriented Contexts	Discussion Board helped understanding emotions -emoticon(Q2)	3.66	44	.963	.145
	Discussion Board helped understanding emotions - no emoticon (Q2)	3.89	44	.784	.118

Table 21

Task-oriented contexts' paired t-test for understanding feelings.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Task Oriented Contexts	-0.22	0.64	0.09	-2.34	43	0.023

Table 22

Socio-emotional contexts' paired statistics for expressing feelings.

Group	Survey question-emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Socio-emotional Contexts	Discussion Board helped expressing emotions (Q1)	3.98	49	.777	.111
	Discussion Board helped expressing emotions no emoticon (Q1)	3.76	49	.751	.107

Table 23

Socio-emotional contexts' paired t-test for expressing feelings.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Socio-emotional Contexts	0.22	0.71	0.10	2.19	48	0.032

Table 24

Socio-emotional contexts' paired statistics for understanding feelings.

Group	Survey question-emoticon vs. no emoticon condition	Mean	N	Std. Deviation	Std. Error Mean
Socio-emotional Contexts	Discussion Board helped understanding emotions – emoticon (Q2)	3.92	49	.731	.104
	Discussion Board helped understanding emotions - no emoticon (Q2)	3.69	49	.822	.117

Table 25

Socio-emotional contexts' paired t-test for understanding feelings.

Group	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (1-tailed)
Socio-emotional Contexts	0.22	0.74	0.10	2.11	48	0.039

The results suggest that participants in socio-emotional contexts found discussion board format with emoticons helpful in expressing their feelings, also participants in this group found discussion board format with emoticons helpful in understanding others' feelings (t=2.19, p=.032, one-tailed and t=2.11, p=.039, one-tailed, see Table 23, 25). On the other hand, participants in task oriented group found discussion board format without emoticons helpful in understanding others' feelings (t=-2.34, p=.023, one-tailed, see Table 21).

CHAPTER 6
DISCUSSION

Research on emoticon usage is new in the education field. This study examined the usage of emoticons when an emoticon menu is provided to communicators in a discussion board format. The study findings suggest that there is a significant difference in emoticon usage when a menu is provided. Descriptive statistics are 64% when provided and 5.4% when not provided. These statistics indicate that more than half of the participants will use emoticons when is the menu provided. Therefore first hypothesis is supported.

The second hypothesis was also supported. Participants in socio-emotional contexts used more emoticons than they did in task-oriented contexts. This result suggests that the contexts in which emoticons are used makes a difference in emoticon usage. This result also parallels Derks *et al*.'s (2003) finding, which suggests that context makes a difference in emoticon usage.

Hypotheses 3 and 3a were partially confirmed. Participants in socio-emotional groups found discussion boards with emoticons more helpful in expressing their ideas and understanding others' ideas. But participants in task-oriented groups found no-emoticon conditions more helpful than emoticon condition in understanding others' ideas. These results suggest that emoticon usage is sensitive to the context (eg., task) of the particular board.

Hypotheses 4 and 4a were also partially confirmed. Participants in socio-emotional groups found discussion board with emoticons more helpful in expressing their emotions and understanding others' emotions. Statistical results for the task-oriented group with no-emoticon condition suggest that participants found no-emoticon condition more helpful for understanding emotions. This group might have right and wrong answers to the topic when they are discussing the topic, therefore emoticons may not be perceived as a helpful tool in understanding other's feelings.

LIMITATIONS

The present study has some limitations. The majority of the participants (86%) were females. Research suggests that females use more emoticons than males (Witmer &

Katzman, 1997). Therefore further research should use a more balanced sample. Participants were all pre-service teachers and most planned to teach elementary school. It is unknown how much students disciplinary major affects the extent of and type of emoticon usage. There were limited time series data to understand the students overall satisfaction level in terms of understanding and expressing ideas and feelings.

IMPLICATIONS

Future research should consider using more balanced sample in order to control the effect of the gender. It is also important to consider the disciplinary major of the participants for future research. Based on qualitative analysis, there seems a modeling effect in emoticon usage. Therefore further research should take into account of the modeling effect.

APPENDIX A
SURVEY INSTRUMENT

SURVEY

Week
Last name:
Directions
Please complete the survey by expressing your ideas about the following items. For each statement please circle whether you -Strongly agree, Agree, Neutral, Disagree, Strongly Disagree.

1. This week's discussion board format helped me express my ideas.

Strongly agree Agree Neutral Disagree Strongly Disagree

2. This week's discussion board format helped me express my emotions.

Strongly agree Agree Neutral Disagree Strongly Disagree

3. This week's discussion board format helped me understand students' message content.

Strongly agree Agree Neutral Disagree Strongly Disagree

4. This week's discussion board format helped me understand students' emotions.

Strongly agree Agree Neutral Disagree Strongly Disagree

5. I am satisfied with the online discussion board format of the course.

Strongly agree Agree Neutral Disagree Strongly Disagree

APPENDIX B
HUMAN SUBJECTS APPROVAL LETTER

Florida State
UNIVERSITY

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2763
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 4/1/2005

To:
Osman Taner Yigit
2203 W. Pensacola St., Apt. J-13
Tallahassee, FL 32304

Dept.: **EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS**

From: **Thomas L. Jacobson, Chair**

Re: **Use of Human Subjects in Research**
Emotion Usage in task-oriented context and socio emotional context and socio emotional context in internet discussion boards.

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be per 45 CFR § 46.(b) 2 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If the project has not been completed by **3/30/2006** you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446.

Cc: Susan Losh
HSC No. 2005.237

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BIOGRAPHICAL SKECTCH

Osman Taner Yigit is currently a master's student at Florida State University in the Department of Educational Psychology and Learning Systems. His research interest is in educational technology.