Georgia State University
ScholarWorks @ Georgia State University

Spring 5-16-2014

The Effectiveness of Emotional Motivational Feedback Messages

Firat Sarsar

Follow this and additional works at: https://scholarworks.gsu.edu/msit_diss

Recommended Citation

ACCEPTANCE

This dissertation, THE EFFECTIVENESS OF EMOTIONAL MOTIVATIONAL FEEDBACK
MESSAGES, by FIRAT SARSAR, was prepared under the direction of the candidate's Dissertation
Advisory Committee. It is accepted by the committee members in the partial fulfillment of the requirements
for the degree Doctor of Philosophy in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chair, as representatives of the faculty,
certify that this dissertation has met all standards of excellence and scholarship as determined by the
faculty. The Dean of the College of Education concurs.

_____   _____
Stephen W. Harmon, Ph.D.   Brendan Calandra, Ph.D.
Committee Chair   Committee Member

_____   _____
Wanjira Kinuthia, Ph.D.   Janice B Fournillier, Ph.D.
Committee Member   Committee Member

_____
Date

_____
Stephen W. Harmon, Ph.D.
Chair, Learning Technologies Division

_____
Paul A. Alberto, Ph.D.
Dean
College of Education

AUTHOR'S STATEMENT

By presenting this dissertation as a partial fulfillment of the requirements for the advanced degree from Georgia State University, I agree that the library of Georgia State University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote, to copy from, or to publish this dissertation may be granted by the professor under whose direction it was written, by the College of Education's director of graduate studies and research, or by me. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this dissertation, which involves potential financial gain will not be allowed without my written permission.

_____
Firat Sarsar

NOTICE TO BORROWERS

All dissertations deposited in the Georgia State University library must be used in accordance with the stipulations prescribed by the author in the preceding statement. The author of this dissertation is:

Firat Sarsar
Ataturk Mahallesi
894 Sokak No: 13 Bornova, Izmir, Turkey
firatsarsar@gmail.com

The director of this dissertation is:

Stephen W. Harmon, Ph.D.
Learning Technologies Division
Georgia State University
College of Education Second Floor
30 Pryor Street
Atlanta, GA 30030

CURRICULUM VITAE

Firat Sarsar

ADDRESS: Ataturk Mahallesi, 894 Sokak No: 13 Bornova, Izmir, Turkey

EDUCATION:	PH.D.	2014	Georgia State University Instructional Technology
	M.S.	2008	Ege Univesity Computer Education and Instructional Technology
	B.S.	2004	Ege Univesity Computer Education and Instructional Technology

PROFESSIONAL EXPERINCE:

2011-2014   Graduate Research Assistant, Georgia State University, College of Education, Middle Secondary Education and Instructional Technology Department, Atlanta, Georgia, USA

2012 -2014   Instructor of Record, Georgia State University, College of Education, Middle Secondary Education and Instructional Technology Department, Atlanta, Georgia, USA
2010- Computer Skills in Information Age – Undergrad.

2011-2012   Graduate Teaching Assistant, Georgia State University, College of Education, Middle Secondary Education and Instructional Technology Department, Atlanta, Georgia, USA
2010- Computer Skills in Information Age – Undergrad.

2004-Present   Research Assistant, Ege University, Department of Computer Education and Instructional Technology, Bornova, Izmir, Turkey.

2004-2004   Instructional Technology Teacher, Ministery of Education, Osman Manisali Elementary School, Acipayam, Denizli, Turkey.

PUBLICATIONS:

Book Chapters

Keskin, N. O., Sarsar, F., & Gallagher, M. (2013). e-Book Readers for Everyone: The FATIH Project. In D. McConatha, C. Penny, J. Shugar, & D. Bolton (Eds.), *Mobile pedagogy and perspectives on teaching and learning.* [S.l.]: Information Sci Refer Igi.

Journal Articles

Basbay, A., Kagnici, Y.D., Sarsar, F. (2013). *Eğitim fakültelerinde görev yapmakta olan Öğretim elemanlarinin çokkültürlü yeterlik algilarinin incelenmesi (Examining Multicultural Competence Perceptions of Education Faculty).*Turkish Studies International Periodical For The Languages, Literature and History of Turkish or Turkic Volume 8/3, Winter 2013, p. 47-60, Ankara-Turkey

Sarsar, F. (2012). A new instructional design model for online instruction: GRAPE. *Journal of Instructional Technology and Distance Learning*, *9*(4), 27-36.

Sarsar, F. (2012, January). Motivation and online adult learners: How do we do that? *Anadolu Journal of Educational Sciences International, 2*(1).

Publications-Abstracts, Conference Proceedings, Newsletters

Arikan, Y. D., Sarsar, F., Harmon, S. (2014, March). *Educational Media: A study for creating an opinion scale*. Society for Information Technology & Teacher Education International Conference, Jacksonville, FL.

Arikan, Y. D., Sarsar, F., Harmon, S. (2014, February). *Blogs in education: An opinion scale for using blogs in educational media.* Eastern Educational Research Association Conference, Jacksonville, FL.

Sarsar, F., Kisla, T., & Harmon, S. (2013, October). *Transferring and communicating perceived emotions online.* Association for Educational Communications and Technology Conference, Anaheim, CA.

Ball, M., Dias, L. B., Davis, E., Richardson, C. C., & Sarsar, F. (2013, April).*Design Tasks and Podcasts—Helping Pre-Service Teachers Develop Technological Pedagogical Content Knowledge*. The American Educational Research Association, San Francisco.

HONORS:

2009-2014	Fulbright Ph.D. Scholarship sponsored by the U.S. Department of State
2013	Association for Educational Communications and Technology – Cochran Intern
2013	College of Education, Award of Outstanding PhD Students in Learning Technologies
2011	College of Education Ph.D. Student Recognition Scholar

ABSTRACT

THE EFFECTIVENESS OF EMOTIONAL MOTIVATIONAL
FEEDBACK MESSAGES
by
Firat Sarsar

An important technique for learning, feedback has been described as responses to

students' behaviors, tasks, assignments, and outcomes. In this study, the researcher used a

new kind of feedback message called an Emotional Motivational Feedback Message

(EMFEM). EMFEM is a feedback message which includes motivational strategies and

emotional content for motivating and encouraging students to learn more and to focus on

a specific topic. EMFEM is based on Visser and Keller's (1990) motivational message

design, which was influenced by Keller's (1987) ARCS theory and emotional content

strategies. Because EMFEM is primarily used in text-based, online learning environments,

it is limited in its ways of adding emotional content to feedback messages. Therefore,

three main strategies were used in this study to include EMFEM: using the meaning of

the words; formatting the words by using colored, bold, underlined text; and adding

emoticons.

The purpose of this study was to investigate the effectiveness of EMFEM in

online learning environments. This exploratory research was conducted using mixed

method single case study design (Creswell, 2005; Johnson & Onwuegbuzie, 2004; Yin,

2009) and guided by the following question: How effective are emotional motivational

feedback messages in an online learning environment?

Participants were 15 undergraduate students enrolled for an instructional

technology course in a large state university located in an urban region in the

southeastern part of the United States during fall 2013. The researcher used multiple data collection strategies, including a course interest survey, an instructional technology attitudes survey, open-ended questionnaires, a research journal, forum/discussion postings, emails, reflection papers and warm-up surveys.

The findings showed that, in an online course using EMFEM, (a) students' motivation increased; (b) students' attitudes toward IT increased; (c) students liked the EMFEM and the style of the instructor's teaching; (d) students had a closer and friendlier relationship with the instructor; (e) students were satisfied with the course; (f) students started to use more emotional content; (g) students enjoyed having personalized EMFEM and requested to have EMFEM; and (h) students reported positive overall experiences by the end of the course.

THE EFFECTIVENESS OF EMOTIONAL MOTIVATIONAL
FEEDBACK MESSAGES
by
Firat Sarsar

A Dissertation

Presented in Partial Fulfillment of Requirements for the
Degree of
Doctor of Philosophy
in
Instructional Technology
in
Learning Technologies Division
in
the College of Education
Georgia State University

Atlanta, GA
2014

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

FEM   Feedback Message

EMFEM   Emotional Motivational Feedback Message

D2L   Desire2Learn

CHAPTER 1

INTRODUCTION

Education is a multidimensional process and many variables may affect the quality of this process. Feedback is one of these variables. Feedback has been the focus of different approaches in education. Objectivist approaches, such as behaviorism, define feedback as controlling student learning by paralleling students' responses to the real world; subjectivist approaches, such as constructivism, define feedback as guiding and constructing students' knowledge by considering their own reality. Educational approaches from different philosophical perspectives consider the importance of the feedback (Mory, 2004).

In this study, I focus on a combination of three factors: feedback, emotion, and motivation. Feedback in learning gives opportunities to students to see their learning path and also highlights their footsteps behind them. Feedback is also an indicator for teachers to see how their students understand the concepts and how much they learn. Emotion is a complex topic and more than a feeling; it might include physiological responses, brain activity and expressions (Reevy, 2010). Motivation explains the reason(s) of human engagement in a specific task (Barkley, 2010) and "the degree to which students invest attention and effort in various pursuits, which may or may not be the ones desired by their teachers" (Brophy, 2010, p. 3). This study is a combination of these three variables of learning to motivate students emotionally by giving feedback.

In this chapter of the paper, I will explain the problem statement by detailing the concepts of emotion, motivation, and feedback. Then I will introduce the purpose of the study and research questions. Finally, I will also explain the significant of the study and theoretical framework.

Statement of the Problem

Feedback is an important technique for learning, and it has been recognized as responses to students' behaviors, tasks, assignments, and outcomes. Sprenger (2005) defined feedback as an assistance to the students in helping them to know where they are in the learning process. Feedback can have an effect on students in many ways, such as learning (Askew, 2000; Mory, 2004; Sprenger, 2005), motivation (Connellan, 2002), and emotion (Burke & Pieterick, 2010).

Students in learning environments are interacting with each other cognitively, socially, and emotionally (Spanoudis & Kyza, 2009). Although emotional interaction is not new, the American Educational Research Association in 2005 recognized that the interest in emotion in education has been growing (Schutz & Pekrun, 2007). Emotions are important factors in learning because they affect students' success (Burke & Pieterick, 2010; Hannula, 2006; Meyer & Turner, 2006; Schutz & Pekrun, 2007) and students' motivation (Hannula, 2006). Emotions also give clues to educators about what is happening in classroom environments in the current situation (Meyer & Turner, 2006). Feedback has the power to encourage students to learn more because they believe that positive feedback is a salient indicator of their learning success (Sarsar & Harmon, 2013).

Connellan (2002) identified different types of feedback: motivational, informational, and developmental. Other types of feedback help students to remain engaged in the learning process (Askew, 2000), but motivational feedback messages are one of the powerful types of feedback (Connellan, 2002). There are many studies that have focused on feedback messages to improve student motivation levels and keep them highly motivated (e.g., Borham-Puyal & Olmos-Migueláñez, 2011; Brookhart, 2008; Kim & Keller, 2008; Nicol & MacFarlane-Dick, 2006; Van den Bossche, Segers, &

Jansen, 2010). Motivational feedback messages help students to be motivated during the

learning process by informing and encouraging them about their progress (Sprenger,

2005). The reactions of students to the feedback are generally emotional (Burke &

Pieterick, 2010). Feedback might be recognized as a personal message, which makes it a

powerful tool to keep students more motivated (Kim & Keller, 2008).

In this study, I introduce a new terminology in the field of instructional tech-

nology, Emotional Motivational Feedback Message (EMFEM), which provides feedback

by using motivational strategies and adding emotional content (see Figure 1). EMFEM is

important to motivating students because it affects students extrinsically (as a reinforce-

ment) and intrinsically (as an encouragement). Extrinsically, EMFEM provides

Figure 1. The Emotional Motivational Feedback Message's content design.

reinforcements from the instructor to the student for doing better and/or improving their

learning activities, leading to the student's being motivated to continue in the same
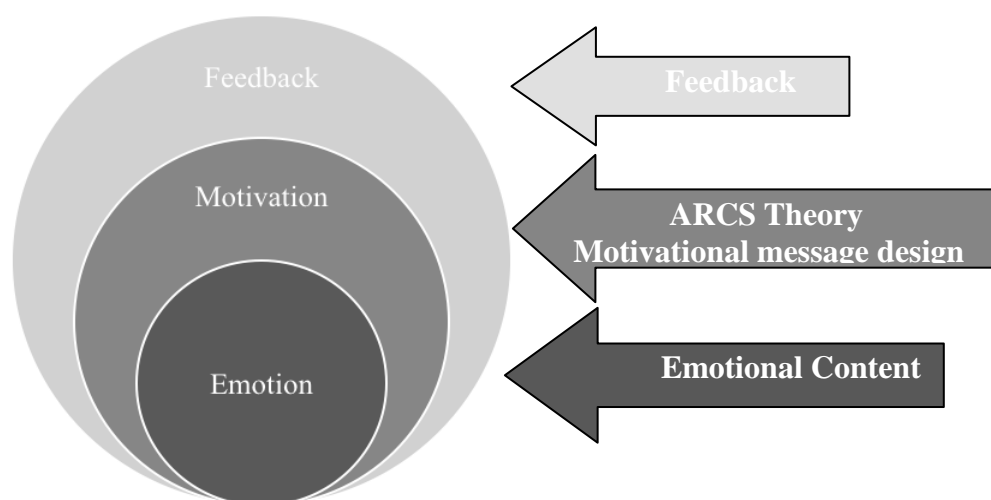
manner (Ryan & Deci, 2000). When the student internalizes those reinforcements,

coming to understand that because they have learned successfully in the past, then they can learn successfully in future tasks, they become "moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards." (Ryan & Deci, 2000, p. 60).

We should consider here two points. The one point of EMFEM is motivation, which, as Deci (1971) stated, might be more effective by using positive feedback and verbal praises. Another point of EMFEM is emotion, which affects motivation by using feedback (Burke & Pieterick, 2010). These two powerful variables of feedback, emotion and motivation, were investigated in this study. I focus on the use of emotion within feedback for motivation in this study because, as an instructor in a text-based, online learning environment, I sought to increase students' motivation to complete their learning tasks.

This study defines Emotional Motivational Feedback Message as a feedback message which includes motivational strategies and emotional content for motivating and encouraging students to learn more and focus on the specific topic. Kim and Keller (2008) investigated the motivational feedback messages in online learning environments by using motivational components of the ARCS model (Keller, 1987), adding volition components (Gollwitzer's Rubicon model, Gollwitzer, 1999), Kulh's six action control strategies (Kulh, 1987), and Visser and Keller's (1990) strategy of motivational messages to design feedback email messages.

In this study, I used different components to understand the effectiveness of EMFEM, which is grounded in feedback strategies (Brookhart, 2008), Visser and Keller's (1990) motivational message design (which was influenced by Keller's, 1987, ARCS

theory, and emotional content strategies (Ekman, 2003; Goddard, 2011; Kappas & Krämer, 2011). The emotional message is a personal message. Therefore, instructors must pay attention to emotion in online learning because in education, it helps to support students to achieve their goals (Meyer & Turner, 2007; Yunus, Osman, & Ishak, 2011). Consequently, instructors benefit by knowing how to design emotional feedback messages for online settings. Emotions can be transferred in many ways, such as using facial expressions and mimics (Ekman, 2003; Marinetti, Moore, Lucas, & Parkinson, 2011; White & Gardner, 2012), gestures/postural movements (Marinetti, Moore, Lucas, & Parkinson, 2011; White & Gardner, 2012), verbal emphasis (Marinetti et al., 2011; White & Gardner, 2012); unfortunately, these ways are not applicable for text-based, asynchronous online learning. Text-based options to facilitate the transfer emotions include considering the semantic value of words (Farrell, 2012), bold/colored/underlined typing (Dweck, Mangels, & Good, 2004), and emoticons (Kappas & Krämer, 2011; Sarsar, 2008; Sarsar & Kisla, 2013). Because online learning environments are mostly text-based learning environments, the ways of adding emotional content to feedback messages are limited. Using the meaning of the words, formatting the words by using font effects, and adding emoticons to get students' attention are some of the strategies to infuse emotional content into messages.

This study is built on the ARCS model because that model has been used for designing motivational messages (e.g., Kim & Keller, 2008; Visser & Keller, 1990). In addition, research shows that the ARCS model works efficiently to design motivational feedback messages (ChanLin, 2009; Cheng & Yeh, 2009).

The other part of this study discusses the use of emotion to motivate students to complete their tasks. Researchers (e.g., Pintrich & Schunk, 2002; Schutz & Pekrun, 2007) have shown that emotions in education affects students' achievement and motivation. However, there is limited research on emotions in education, especially in online learning environment, and this study contributes to ameliorating that gap in the literature.

Purpose of the Study

The purpose of this study was to investigate the effectiveness of EMFEM in online learning environments. This exploratory research was guided using mixed method, single case study design. Visser and Keller's (1990) motivational message design, which was influenced by Keller's (2010) ARCS Motivational Design Model, was selected as the theoretical framework for this study. This study was designed to investigate the effectiveness of EMFEM on students` motivation, and attitudes in online learning environments of the following research question: How effective are emotional motivational feedback messages in online learning environment?

Significance of the Study

Feedback is a well-known topic in education, and there are many research studies on feedback messages and motivational feedback messages in online learning environments. However, this study was significant for three reasons:

(i)   This research brought two important variables into one strategy. Emotion and motivation were combined in feedback messages.

(ii)   A review of published research literature produced no evidence of research on emotional motivational feedback messages by using motivation and feedback strategies in online learning environments.

(iii)   This study might give a different perspective on online teaching and

feedback by using emotional motivational feedback messages.

The findings of this research might add a new terminology to the field of

instructional technology and help to encourage the growth of the body of knowledge and

literature concerning using emotional motivational feedback messages in online learning

environments.

Theoretical Framework

The theoretical framework of this study was the combination of different theories

and strategies, such as Visser and Kellers's (1990) motivational message design, which

was influenced by Keller's ARCS model, feedback (Brookhart, 2008) and emotional

content strategies (Dweck, Mangels, & Good, 2004; Farrell, 2012; Kappas & Krämer,

2011; Sarsar, 2008). This study used a mixture of feedback strategies, motivational

message design of the ARCS theory, and emotional content strategies (See Figure 2) to

examine the effectiveness of EMFEM. The goal was to investigate this new type of

feedback message.

Feedback strategies can make feedback messages to learners more clear, focused

and effective (Brookhart, 2008). These strategies are also a feasible guide for teachers

while giving feedback to their students. Feedback also should help students connect the
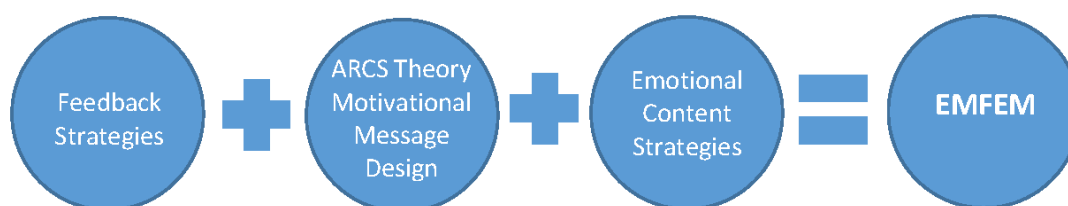
Figure 2. Theoretical framework of EMFEM.

feedback message with students' experiences for making the learning process more valuable; therefore, feedback can be a good "hinge factor" for improving the learning (Pollock, 2012). Pollock mentions "hinge factor" as a metaphor to feedback because a hinge as a device "allows two sides to swing relative to each other, and feedback seems to be a hinge that allows for the transfer of information from the teacher to the student and back to the teacher again" (Pollock, 2012, pp. x-xi). As Pollock mentioned, an important point of feedback is to identify it as a two-way communication. Feedback generally refers to a response for students' assignments (Brookhart, 2012); however, it should be considered as a part of instruction and even instruction itself (Pollock, 2012), such as Gagné's (1985) nine events of instruction, which include providing feedback as an instructional event.

ARCS motivational theory seeks to improve the motivational side of instruction, which is mainly grounded in expectancy-value theory (Keller, 2010). The ARCS Model is a systematic design approach, and it can be conveniently adapted to feedback messages design (Kim & Keller, 2008; Visser & Kellers, 1990).

Visser and Keller (1990) and Kim and Keller (2008) used the ARCS model as a message design by applying the ARCS model's steps. These steps are Attention, Relevance, Confidence, and Satisfaction. Each step supports students' connection to the task, shows how this task is related to what they have learned, makes them feel how important the task is, and comforts them with their learning and the learning process.

In addition to providing motivational feedback messages by following feedback strategies, EMFEM infuses emotional content into the feedback messages. Although there are emotion theories in education (Schutz & Pekrun, 2007), there is limited connection

between emotional motivation and online learning environments. Within EMFEM, the emotional content strategies are to provide emotional feedback using particularly communication practices, such as using emoticons, punctuation marks, and font effects and selecting words based on their semantic values. Considering mostly text-based online learning environments, the emotional content variables should be adjusted very carefully.

There are different strategies for applying emotional content. The first strategy is to use the semantic value of words. The meaning of the word can affect students' motivation. The word "great" might cause a positive feeling in feedback messages because it is a way of expressing emotion (Ekman, 2003). The second strategy is to use different font effects, such as underlining and using all-capital letters (e.g., "GREAT"). The formatting opportunity might help to make the meaning of the word stronger because textual representations make it easier to express emotions (Kalra & Karahalios, 2005). The third strategy is to use emoticons and punctuation marks, such as "Great! ☺," because emoticons, formatting the words, and textual symbols such as punctuation marks may convey positive emotional messages (Kalra & Karahalios, 2005; Kappas & Krämer, 2011; Sarsar, 2008; Sarsar & Kisla, 2013).

EMFEM is a type of motivational feedback message that adds emotional content, which includes the semantic value of the words, formatting techniques, and emoticons. EMFEM is grounded in using feedback messages, the ARCS motivation theory, and emotional content strategies. In this study, I examined the effectiveness of EMFEM and how it affected students' motivation and attitudes.

Terms and Definitions

Feedback. Feedback defines any information which follows a response (Kulhavy & Wager, 1993) by assisting the students in helping them to know where they are in the learning process (Sprenger, 2005).

Motivational Feedback Messages. Motivational feedback refers feedback that encourages the student to accomplish their goal by having fun and enjoying their time during the process of accomplishment (Sprenger, 2005).

Emotional Motivational Feedback Messages. Emotional motivational feedback messages are feedback messages that include motivational strategies and emotional content for motivating students to learn more and to focus on the specific topic by having fun and enjoying their time during the learning process.

Summary

Feedback in online learning environments is a very critical technique because it is a very efficient way to understand the teaching process and how much students have learned. In this study, I explored new types of feedback and their effectiveness. In this chapter, the problem statement was detailed by considering a brief literature review. The limited information from the literature of instructional design in online learning environments on feedback encouraged further research on the effectiveness of EMFEM.

CHAPTER 2

REVIEW OF THE LITERATURE

Feedback has been examined from different perspectives (See Table 1). As Mory (2004) stated, feedback has been considered as reinforcement (behaviorist approach), as information (cognitivist approach), and as a meaningful motivator to learn new information by considering pre-knowledge and constructing new knowledge based on previous experiences (constructivist approach). Most studies on feedback were influenced by behaviorist and cognitivist approaches (Mory, 2004). In this study, I believed that meaningful knowledge might be created by considering learners' past experiences and their emotional and cognitive interaction between teachers and classmates.

As shown in Table 1, the constructivist approach to feedback helps student to learn more and construct their own knowledge by considering their previous experiences. Feedback shows students what and how much they know about a specific topic, so they can construct their knowledge. Mory (2004) stated that constructivist functions of feedback should serve to construct knowledge by providing intellectual tools and helping students solve their problems because learning is a process of making meaning, not a process of transmitting knowledge (Jonassen & Land, 2000). Feedback helps to facilitate the process of making meaning because, as Mory (2004) also emphasized, feedback is a natural effect of the interactions between a student and his or her own constructions of knowledge. Jonassen (1991) wrote that feedback can be a good method for coaching students to analyze strategies to find the solutions of educational problems. Because feedback is one of the key techniques for learning, it should be detailed by considering its types, strategies, and effective content.

Table 1

Learning Approaches

Approach/View	Learning	Feedback
Constructivist	Helping students to interpret knowledge in the context of their own experience. Teacher should assist them to construct their own meaningful knowledge by considering their representations of the real or external world (Jonassen, 1991)	Guiding learner toward internal reality and facilitating to construct learners' knowledge (Mory, 2004, as adapted by Jonassen, 1991)
Objectivist (Behaviorist and Cognitivist)	Helping the students to learn about the real world. Students' interpretations of understanding the real world is not to be encouraged because teacher is the source of knowledge and the creator of the knowledge structure. (Jonassen, 1991)	Checking the response whether it matches with the real world reality (Mory, 2004, as adapted by Jonassen, 1991)

Feedback

Feedback is one of the most recognized topics in education (Burke & Pieterick, 2010; Irons, 2008; Jarzebowski, Palermo, & van de Berg, 2012; Mory, 2004). Feedback defines any information which follows a response (Kulhavy & Wager, 1993). McGrath, Taylor, and Pychyl (2011) highlighted feedback as a technique that helps to communicate to students about their writing/task. Considering education, feedback is an efficient technique which can be defined as a response from teachers to students for students' works, assignments, achievements, and the like (Askew, 2000). Feedback is a key part of healthy communication. It helps people understand each other better and helps them to see the expectations of the message sender.
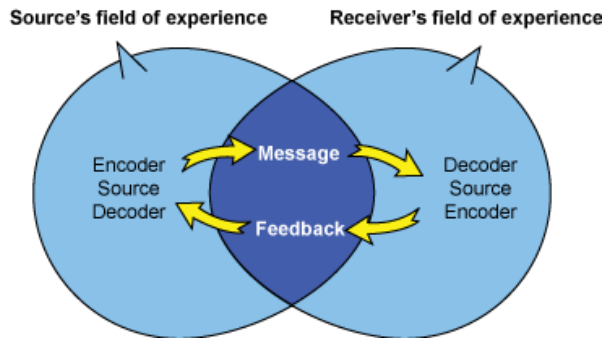
Figure 3. An interactive model of communication (Wood, 2009, adapted from Schramm, 1955).

Figure 3 explains Schramm's (1955) interactive model of communication. This model is relevant to educational communication, which allows interaction between message sender and receiver. Effective communication in life as well as in educational settings should be a two-way process (Churches, 2010). Effective communication also helps to give efficient feedback, which is more understandable by students.

As shown in Figure 4, I prefer to use two-way communication in this study, which is different from Schramm's (1955) model, which provides one channel for the transfer-ring of messages and assumes that the communicator is only the active participant of the process (Steinberg, 1994). Teachers and students should communicate with each other efficiently. While giving tasks to students, the first message from teachers generally starts with the expectations of students. Students generally respond to this message with another message, which shows how they understand their task (Askew, 2000). If the students need help, teachers send feedback to show how they should do better. After the first round of message traffic, the second round comes with feedback from teacher to student and student to teacher. This means students start to give message/feedback to the

Message/Feedback

Teacher Student
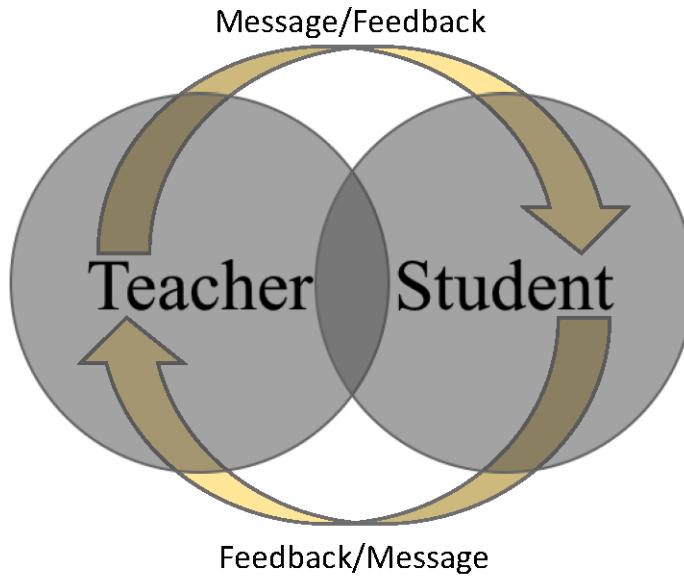
Feedback/Message

Figure 4. Interactive model of communication in education.

teachers after the first round (Pollock, 2012). That way, teachers can see how feedback messages work and, if need be, they can modify/edit the content of feedback.

Feedback should be well explained and designed by using efficient functions and strategies. As Brookhart (2008) stated, feedback can be a very strong and powerful tool if done well. There are many factors that make feedback well designed, such as paying attention to its techniques and effective strategies.

Feedback can be in many different structures and from various different sources (Sprenger, 2005). Figure 5 shows three main elements in this study to consider while giving feedback such as content design, strategies, and types. Each element will be detailed.

Content Design of Feedback

Feedback should have well-prepared content because it leads students to see the main points of their work. Content of feedback also helps students understand clearly

(Black, Harrison, Lee, Marshall, & William, 2003). Educational theorists have focused on giving not only informative feedback but also meaningful content (Burke & Pieterick, 2010). Feedback should contain meaningful information to facilitate learning. It is important to know what should be said/written in the feedback to make feedback meaningful. Content of Feedback should be reflected by considering focus, comparison, function, valence, clarity, specificity, and tone (Brookhart, 2008). *Focus* is one of the main keys of writing feedback because it makes feedback aimed and focused in a specific task. Feedback shows learners what they have done in a specific task and what they have gotten as a result, so it should be focused on the topic, including making comments about strengths and weaknesses of a performance. *Comparison* evaluates student works by using rubrics, the students' previous performances, and/ or peer works. This may help students to see how much they improved their learning. *Function* describes student work without any judgment. *Valence* is used for positive comments about the students` work. Brookhart (2008) suggests that feedback should be positive but that it should also be descriptive about the strengths of the students' works and limitations of the students' works in an encouraging, positive way. *Clarity* is critically important in writing/saying feedback. Feedback should be given in an understandable way by considering students' backgrounds and experiences. *Specificity* is about making feedback specific to a task. It should not be too long and broad. *Tone* is the communicative and sensitive value of the feedback, using word, voice or other ways. The items which make content meaningful should be well-designed because content/task focused feedback is efficient for learning (Dempsey, Driscoll, & Swindell, 1993). The content design's variables aim to make feedback easy to understand.
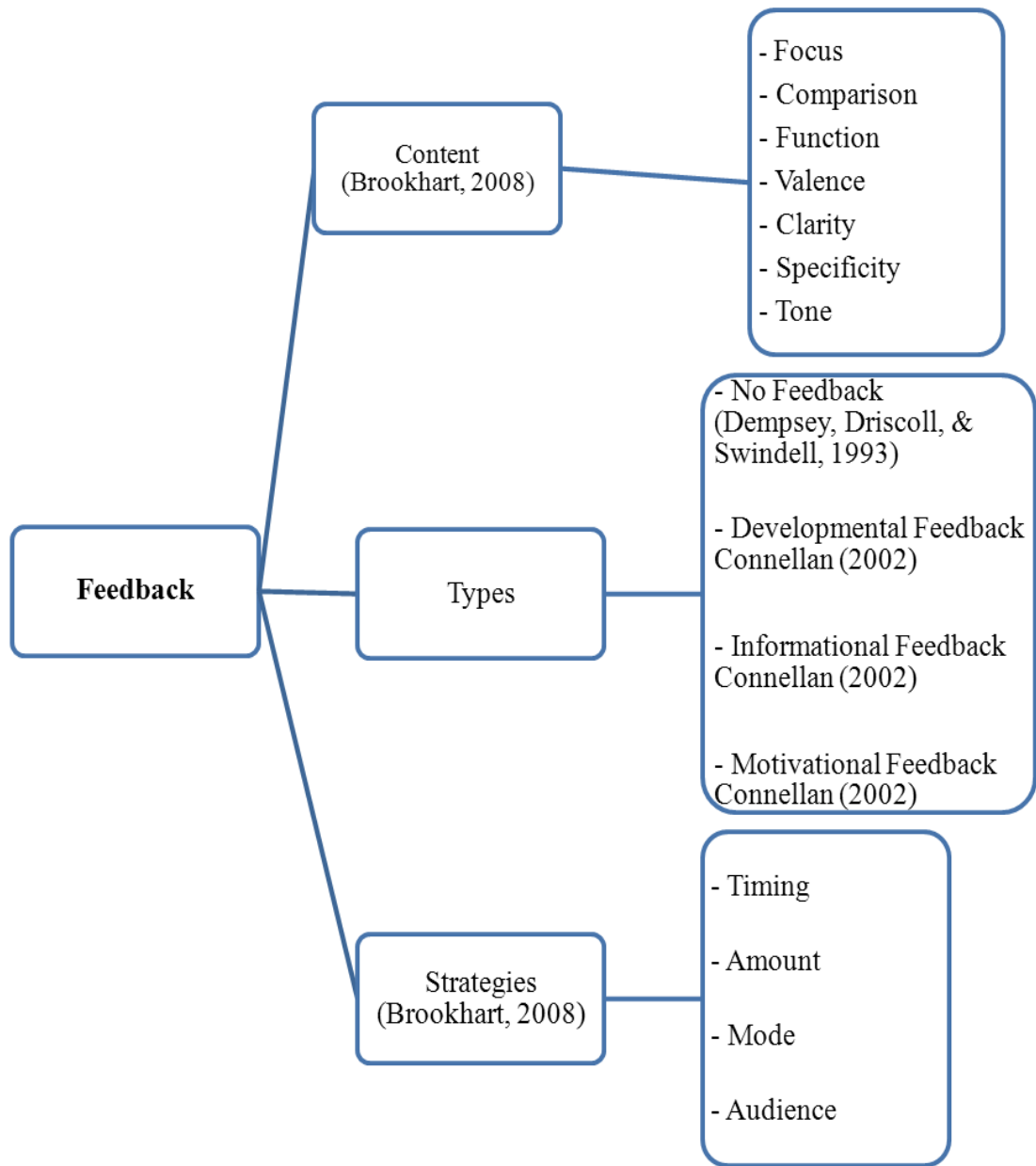
Figure 5. Content, type and strategies of feedback

Strategies of Feedback

  Giving feedback is a process that needs some strategies to facilitate the educational process. Brookhart (2008) divides these strategies into four categories: timing, amount, mode, and audience.

Timing is one of the important dimensions of giving feedback. Feedback should be immediate or slightly delayed because students should still be on task (Brookhart, 2008). Brookhart (2012) highlights some recommendations about timing of feedback: (a) Give immediate feedback for knowledge of facts, (b) take a bit more time to allow for more comprehensive reviews of student thinking and processing, (c) never delay feedback beyond when it would make a difference to students, and (d) give feedback as often as is practical, and definitely for all major assignments (pp. 228-229).

Timing of feedback has been classified into two distinctions: immediate and delayed feedback. Immediate feedback can be defined as feedback provided right after the completion of a task; delayed feedback refers to feedback provided some time after the task has been completed (Butler, Karpicke, & Roediger, 2007; Smits, Boon, Sluijsmans, & Van Gog, 2008). Teachers should decide when students need feedback, and they should also consider that feedback is important when students are still working on a task or right after they completed their task. If the delay of feedback gets longer, students might forget or lose their attention to the task.

The *amount* of feedback is related to content; however, it should be decided how much text should be used and how many details should be mentioned. The amount of feedback affects students' performance. Ackerman and Gross (2010) highlight that from the point of view of students, low amount of feedback is more desirable. The feedback should give students a clear understanding about their steps (Brookhart, 2008), so they can see how much effort is being expected from them, but it doesn't mean that the amount of feedback should be longer and unnecessarily detailed. Brookhart (2012)

recommended that teachers should comment about the most important point, which is related to essential learning goals by considering the development level of students.

The *mode* of feedback is about deciding/choosing the method for conveying the message (Brookhart, 2008, 2012). Feedback can be written and/or oral. The important point is to know what kinds of options teachers have. If it is a text based online learning environment, written feedback via email is the common means of feedback, although other means such as video might be used to provide oral feedback. If it is a face-to-face learning environment, oral feedback might be more efficient. Another option is to demonstrate the expected behaviors (Brookhart, 2012). Feedback in the form of demonstration might be good for a task that needs kinesthetic efforts. Teachers should make the decision of mode because they (should) know the best and appropriate way to reach their students to keep them on track.

Audience refers persons to whom feedback will be given. It can be an individual or a group of students. Brookhart (2012) recommends that teachers should give individual feedback to communicate personally. If they are giving feedback to more than one student, teachers should be aware of the most common mistakes or missed concepts, such as ignoring personal needs. These strategies aim to provide efficient feedback, and it is important what kinds of feedback messages meet the students' expectation and encourage them to learn more.

Types of Feedback

The other important point of giving feedback is to decide what kinds of feedback are best to give to students. There are many different types of feedback. Dempsey et al. (1993, p. 25) summarized the types of feedback as no feedback, simple verification, correct-response feedback, elaborated feedback, and try-again feedback. With no

feedback, the instructor responds to the student but does not identify whether or not the student's responses were correct. With simple verification feedback of the knowledge of results, the instructor gives some signs to students whether the students' responses are correct or not. With correct-response feedback, the instructor provides the correct response to the question. With elaborated feedback, the instructor gives information about why the students' responses are correct or not along with giving additional material related to the correct (expected) responses. With try-again feedback, the instructor identifies the student's mistakes and lets him or her make additional attempts to find the correct answer(s).

Other summarized feedback types were described by Connellan (2002) as motivational feedback, developmental feedback, and informational feedback. Motivational feedback refers to helping students have fun with what they have done and encouraging them to do their best and let them enjoy their success (Ngwenya, 2010; Sprenger, 2005). Developmental feedback refers to giving feedback by informing students about the teaching process and providing strategies for strengthening their performance (Connellan, 2002; Powers & Rothwell, 2007). Informational feedback refers to giving information to increase the knowledge of what students have done or should do (Kidman & Hanrahan, 2011; Sprenger, 2005).

Motivational Feedback Messages

Praising makes students feel good (Ngwenya, 2010) and raises the learning spirit and self-confidence (Dörnyei, 2007). Motivational feedback uses this positive way to encourage the student to accomplish their goals by having fun and enjoying their time during the process of accomplishment (Sprenger, 2005). Motivational feedback is based on informing and encouraging students to know how well they have performed on a task

for making a greater effort in the future (Kulhavy & Wager, 1993). Feedback should

provide information and motivation (Askew, 2000; Brookhart, 2008; Connellan, 2002).

Informational feedback helps students to see their mistakes and includes the correct

answer. While motivational feedback helps encourage students to complete the task, it

doesn't necessarily provide information (Anderson, 2009). However, in educational

settings, motivational feedback is desired to be informative (Dörnyei, 2007); otherwise, it

might not go beyond making students feel good.

Giving feedback is important, but it should be considered that feedback should

not be only informational but also motivational because the nature of feedback is to

improve the student performance and keep the student on track during the learning

process (Askew, 2000; Brookhart, 2008, 2012; Pollock, 2012). Students like having

feedback and knowing how close they are to accomplishing their individual goals

because they are naturally driven to achieve. That is why it is very important and helpful

for them to know their progress (Sullo, 2009).

The other important point is to know how we can give motivational feedback

efficiently. As shown in Figure 6, motivational feedback has three dimensions: positive

feedback, negative feedback, and extinction (Connellan, 2002).

Positive feedback supports students by feeding into their enthusiasm for learning

(Sprenger, 2005) and increasing their willingness to stay motivated to accomplish their

task (Connellan, 2002). Positive feedback not only helps students to stay on track but also

encourages them to finish their tasks. Negative feedback penalizes people (Connellan,
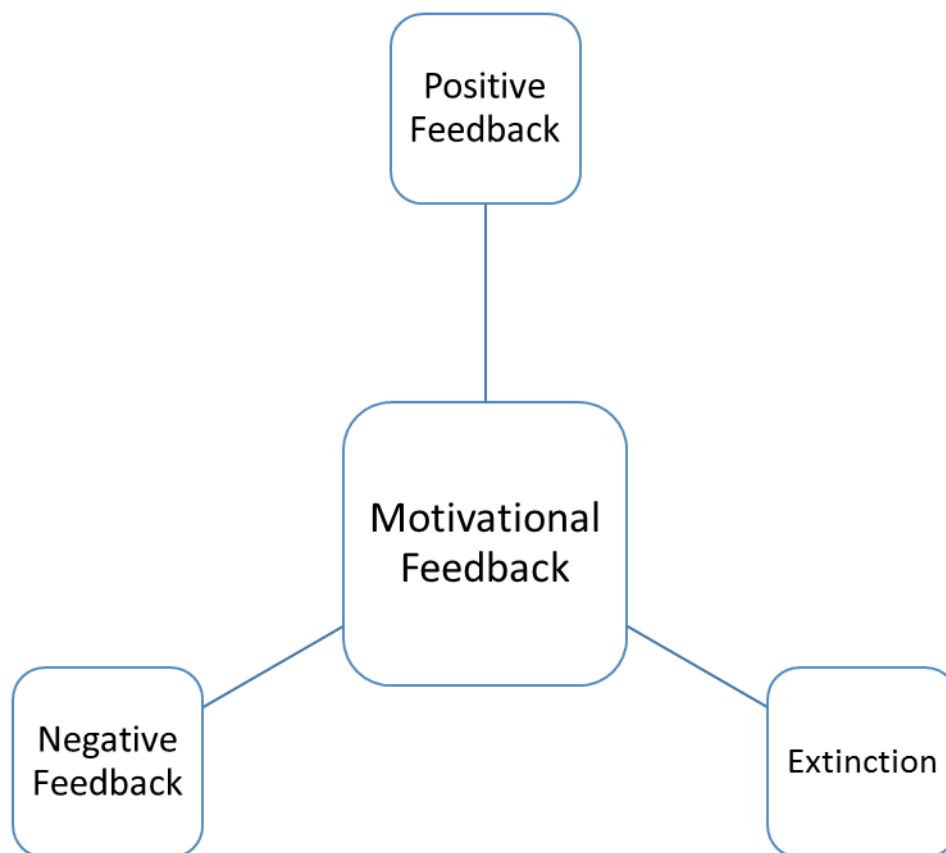
Figure 6. Types of motivational feedback (Connellan, 2002).

2002) and criticizes discouragingly (Askew, 2000). Negative feedback is a less effective

type of feedback that may contribute to increased stress for students (Brockbank &

McGill, 2007). According to Connellan (2002), extinction refers to no feedback. He also

stated that extinction is to give at least motivational feedback without giving any positive

or negative impact. There are also many different perspectives about the emotional side

of feedback. Kluger and DeNisi (1996) emphasized that feedback might be positive and

negative; they also highlighted that negative feedback may encourage students to

complete their task. On the other hand, scholars suggest that feedback should be positive

because students need encouragement and confidence (Askew, 2000; Brockbank &

McGill, 2007), and they also want to see how they have improved their behaviors (Brockbank & McGill, 2007; Dempsey et al., 1993). As a part of the teaching process, instructors should use feedback to help their students to see their progress. Feedback is also a way to help students interact with their teachers and classmates in learning environments cognitively, socially, and emotionally (Spanoudis & Kyza, 2009). Motivational feedback should help students to learn not only cognitively and socially but also emotionally; however, it is very important to define how the emotional part of motivational feedback affects students and how it should be designed efficiently.

Emotional Motivational Feedback Messages

There is limited information in education on emotional motivational feedback messages (EMFEM). EMFEM is to give motivational feedback messages that include emotional content. Although emotional interaction is not new, the American Educational Research Association recognized in 2005 that the interest in emotion in education has been growing (Schutz & Pekrun, 2007). Emotions are important factors in learning because they affect students' motivation and success (Hannula, 2006; Meyer & Turner, 2006; Schutz & Pekrun, 2007).

Before explaining EMFEM, I clarify what I mean by "emotions" and describe the possible links to education. Emotion relates to the quality of people's lives, which can be everywhere, such as in the workplace, at home, and in our most close relationships (Ekman, 2003). Emotions are the key elements of our communication with people, who can be friends in the classroom, family members at home, teachers in class, etc. Although emotion emotion is an old topic that has been researched by different fields, including education, it is not an easy concept to define emotion. Pekrun (2009) described emotion as reacting to significant events and/or objects, although reactions other than emotional

reactions are possible. Emotion can be seen as a way of response towards a task, which is significantly important for people. Ekman (2003) defined six basic human emotions as happiness, sadness, fear, anger, surprise, and disgust. Graesser and D'Mello (2012) defined learning-centered emotions, such as confusion, frustration, boredom, delight, engagement, curiosity, anxiety, and surprise.

Emotions affect not only the learning environments in which students might feel comfortable, stressed, and disconnected, but also the learning in which they might feel engaged and disengaged (Barkley, 2010). Emotions are important factors in learning because they affect students' motivation and success (Hannula, 2006; Meyer & Turner, 2006; Schutz & Pekrun, 2007). Emotions help students focus on learning; Dirksen (2012) found that stories which arouse emotions help learners keep them in their memories. She also highlighted how emotional content can be difficult to create. Barkley (2012) mentioned that emotions help students stay motivated in the learning process. That is, emotions are directly linked to motivation (Hannula, 2006) and give clues to educators about what is happening in the classroom environments in the current situation (Meyer & Turner, 2006).

As Burke and Pieterick (2010) showed, students react emotionally to feedback. Deci (1971) stated that external rewards such as positive feedback and verbal reinforcement may decrease intrinsic motivation. Emotion is related to feedback because it is not easy to discuss a feeling without feedback (Steinberg, 1994). Steinberg (1994) also mentioned that even a smile from a partner as feedback encourages continuing the conversation. Emotion as feedback can be transferred by many ways, such as using facial expressions and mimics (Ekman, 2003; Marinetti, Moore, Lucas, & Parkinson, 2011;

White & Gardner, 2012), gestures/postural movements, and verbal emphasis (Marinetti et al., 2011; White & Gardner, 2012).

Emotional Motivational Feedback Messages in Online Learning Environments

Feedback is an important instrument in online learning environments (Hatziapostolou & Paraskakis, 2010) because sometimes it is the only way to reach students. Feedback should be built into online learning environments by the instructors (Palloff & Pratt, 2007); however, electronic feedback methods are different than traditional methods. Feedback messages in online environments can be sent by emailing comments or using other tools which allow instructors to add the comments electronically (Hatziapostolou & Paraskakis, 2010). Professional online learning environments are built on professional learning management systems (LMSs), which are learning environments designed specifically for learning, such as Moodle, Desire2Learn, and Blackboard. These LMSs have their own tool(s) for giving feedback, such as forum postings, emailing, ranking, feedback boxes, etc. Instructors can use one of these tools or more than one of them because online learning environments give more than one learning possibility, such as learning in a forum(s), discussion(s), assignment dropbox(es), and email option(s); however, there are some challenges in giving emotional motivational feedback messages in the online learning environment.

Ways of Transferring Emotions

Because online learning environments are mostly text-based environments, emotional motivational feedback transfers are becoming limited. There are some strategies (See Figure 7) to facilitate the transfer emotions such as using the semantic
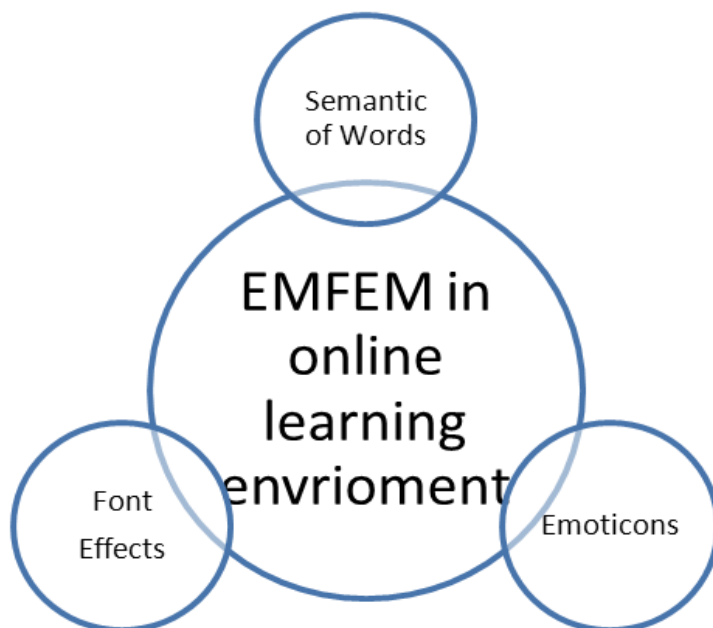
Figure 7. Transferring emotions.

value of words (Farrell, 2012), bold/colored/underlined typing (Dweck, Mangels, &

Good, 2004), and emoticons (Sarsar,2008; Kappas & Krèamer, 2011).

   Semantic value of the words. The meaning of the word may affect students'

emotions (Goddard, 2011). While giving feedback, each word has different meanings to

the students. If a teacher writes "it is a great work," it might make students feel happy.

Ekman (2003) highlighted that words are the ways of the representations of emotions;

therefore, the selection of words is important to transfer emotions.

   Font effects. Using font effects is another option to make messages emotional.

This is one of the good opportunities of online learning environments because the

majority of online environments use word-processing editors which allow both teachers

and students to write their feedback by making italic, bold, and/or colored text. Kalra and

Karahalios (2005) noted that different textual representations, such as different colors, font types, size, and format, can help to express emotional content.

　　Using emoticons. Emoticons are another way of expressing emotions online (Kalra & Karahalios, 2005; Sarsar, 2008; Kappas & Krèamer, 2011; Tossell, Kortum, Shepard, Barg-Walkow, Rahmati & Zhong, 2012). However, commonly used emoticons are more limited than the number of emotions in use. Tossell et al (2012) stated that the top three emotions are happy (":)"), sad (":("), and very happy (":D"). The other emoticons that have been commonly used are Joyful :p, Wink/Joking ;), Surprising :o, Anger :-[, and Uncertainty :-\ (Garrison, Remley, Thomas, & Wierszewski, 2011).

Choosing the emotions which can be reflected in online learning environments.

　　Online learning environments have limitations on using all emotions, so emotions should be chosen carefully considering learning management systems and their options. The new learning management systems allow teachers to use emoticons to reflect emotions. The main emoticons which were used by preservice teachers as reported by Sarsar (2008) are shown in Table 2. Sarsar (2008) also stated that it is difficult to reflect complex emotions in online environments, so emotions should be chosen considering by basic and common use in online environments.

EMFEM and Motivational Message Design by ARCS Model

　　The feedback message with emotional motivational aspects should be well designed and well structured. The ARCS model is a model of motivational design based on expectancy-value theory which considers a person to be motivated when personal needs and positive result expectations from the task have been met (Chyung, 2008). The

Table 2

Emoticons used by preservice teachers (adapted from Sarsar, 2008)

Emoticons*	Meaning to Pre-service Teachers
🙂	Happy (I use when I am happy or smile)
🙁	Sad (I use when I am sad)
😡	Angry (I use when I am angry)
😳	Shy (I use when I feel shy)
😉	Joyful (I use when I confirm something by feeling joyful)
😲	Shock (I use when I feel shocked)
😕	Confusion (I use when I am confused)
😛	Tongue out (I used when I made joke)

* Listed from most frequently used to least frequently used.

model provides a strong systematic approach to integrate motivational tactics into

instructions (Keller, 2007; Keller, 2010, 2010a; Kim & Keller, 2010). As Keller (2010)

mentioned, the ARCS model has been used for different types of learning environments

from classroom instruction to computer-based instruction (CBI).

ARCS is the acronym of Attention, Relevance, Confidence, and Satisfaction (See

Figure 8). *Attention* refers to engaging, maintaining, and capturing learner interests and

attention of students. *Relevance* refers to the materials' and instructions' relatedness with

students' goals during the learning process. *Confidence* refers to enhancing students'

confidence in content while helping them to achieve their educational goals. *Satisfaction*

refers to being pleased by the learning process (Keller, 2010).

Attention
- Perceptual Arousal (Capturing Interest)
- Inquiry Arousal (Stimulating Inquiry)
- Variability (Maintaining Attention)

Relevance
- Goal Orientation (Relating the Goals)
- Motive Matching (Matching interests)
- Familiarity (Tieing to Experinces)

Confidence
- Learning Requirements (to Success Expectations)
- Success Opportunities (to Success Opportunities)
- Personal Control (Personal Responsibilities)

Satisfaction
- Natural Consequences (intrinsic satisfaction)
- Positive Consequences (Rewarding outcomes)
- Equity (Fair Traitment)

Figure 8. The ARCS Model and its Strategies (adapted from Keller, 2010a).

Motivational message design was developed and validated by Visser and Keller (1990), and Kim and Keller (2008, 2010) studied the same topic by adding different components. The ARCS model is a step-by-step model that has specific strategies to follow while designing an instruction. Gaining students' attention should be the first step, and the instructor accomplishes this by making them curious and willing to learn. The second step is to help students know what they learn and what material they use and how it is related to their experiences. The third step is to make them confident about the

learning expectations. The final step is help them know about how much they have learned and how it affects their lives by rewarding their successes.

The efficient motivational message design should cover the categories of ARCS model (i.e. Visser & Keller, 1990). Keller (1987) defined the process questions for each of the four categories as shown Table 3.

The questions in Table 3 give clues about how to design motivational feedback messages. While designing the feedback messages, it is important to call the students' names (attention), give information based on individual need (relevance), encourage students to believe and achieve their goals (confidence; Kim & Keller, 2008), and let them know what they learned and how they can use it in their life as a valuable information and/or skill (satisfaction; Chyung, 2008).

Emotion can be adaptable to all steps of the ARCS model, potentially making feedback more personal and more motivational. Using the three most common ways of expressing emotion in online environments might assist students because if the teacher would like to stress a point of view, he or she can make it bold, italic, in a different color, and/or use the emoticons to make message more emotional. There are many studies on feedback, motivation, and emotion in online learning environments; however, there is limited research on the effectiveness of motivational feedback email messages, and my review of the literature in preparation for this study revealed no research on effectiveness of emotional motivational feedback email messages.

Table 3

Process questions of ARCS Model (Keller, 1987)

Model Step	Questions
Attention	A1. Perceptual arousal (What can I do to capture their interest?)
	A2. Inquiry arousal (How can I stimulate an attitude of inquiry?)
	A3. Variability (How can I use a variety of tactics to maintain their attention?
Relevance	R1. Goal orientation (How can I best meet my learner's needs?)
	R2. Motive matching (How and when can I provide my learners with appropriate choices, responsibilities, and influences?)
	R3. Familiarity (How can I tie the instruction to the learners' experiences?)
Confidence	C1. Learning requirements (How can I assist in building a positive expectation for success?)
	C2. Success opportunities (How will the learning experience support or enhance the students' beliefs in their competence?)
	C3. Personal responsibility (How will the learners clearly know their success is based upon their efforts and abilities?)
Satisfaction	S1. Natural consequences (How can I provide meaningful opportunities for learners to use their newly acquired knowledge/skill?)
	S2. Positive consequences (What will provide reinforcement to the learners' successes?)
	S3. Equity (How can I assist the students in anchoring a positive feeling about their accomplishments?)

Visser and Keller (1990) designed the clinical use of motivational message to help

adult learners in an in-service continuing education program. They modeled their study as

an embedded single case study by using mixed method design to implement and test

motivational message design of ARCS model. They used a variety of data collection tools,

such as weekly questionnaires, round-table discussions, observations, and grades. They

had 15 adult participants. and the results showed that motivational message design

provided positive influence on students' motivation to learn. They also found the

retention rate and students' performance improved.

With a similar interest, Kim and Keller (2008) investigated the effectiveness of

supportive information by using motivational and volitional email messages which were

based on different theories and methods, such as Keller's ARCS model, Kuhl's action

control theory (Kuhl, 1987), Gollwitzer's Rubicon model of motivation and volition

(Gollwitzer, 1999), and Visser and Keller's strategy of motivational messages (Visser &

Keller, 1990). Motivational and volitional email messages were sent to 30 students

(Personal Message Group) with personal messages and to 71 students (Non-Personal

Message Group) without personal messages. The results showed that the personal

message group evinced a higher level of motivation, especially in regard to confidence,

than the Non-Personal Message Group. Kim and Keller conducted another research study

to examine effectiveness of motivational and volitional email messages on preservice

teachers' motivation, volition, performance, and their attitudes toward technology

integration (Kim & Keller, 2010). Fifty-six preservice teachers participated in this study.

The results signified that motivational and volitional email messages worked as an

effective tool for facilitating preservice teachers' positive attitudes toward technology

integration and showed higher volition and more positive attitudes toward technology

integration.

In another study, Sampasivam and Wang (2012) determined that their learners'

math test anxiety was associated with changes in their achievement goals and task-

specific emotions in response to different types of feedback. Ninety-five students

participated in their study, and they were randomly assigned to a Negative Feedback

Condition, Positive Feedback Condition, or Control condition. The results showed that there is no significant difference in interaction between feedback condition and math anxiety and multivariate effects for both math anxiety and feedback condition, but feedback had a significant effect on participants who had positive feedback, and students in the negative feedback condition reported the most negative effect.

Terzis, Moridis, and Economides (2012) explored the effect of emotional feedback on behavioral intention to use computer based assessments. They used a virtual agent for giving emotional feedback. The agent appeared female, and it was rendered in 3D to express common facial emotions, such as sadness or fear. They applied a survey questionnaire on 134 students. They observed that emotional feedback had a direct effect on behavioral intention to use a CBA system and on other crucial determinants of behavioral intention. This study highlighted that emotional feedback makes computer-based assessments playful and easy to use.

Summary

This review of the relevant literature on emotional motivational feedback messages offers limited information on the challenges of researching this complex topic. This review also points to the need for research on emotional motivational feedback messages and their impacts in online learning environment. This study seeks to fill this gap in the literature by using emotional motivational feedback messages in online learning environment and understanding how it affects student motivation and attitudes.

CHAPTER 3

METHODOLOGY

In this chapter, I will explain the methodology of the study. I will first discuss the

purpose and the rationale of the study. Then, I introduce the design and construction

process of the design. Finally, I lay out how the data were collected and analyzed.

Purpose and Rationale

The purpose of this study was to examine the effectiveness of emotional

motivational feedback messages in an online learning environment. I conducted this

exploratory research study on an emerging issue: emotional motivational feedback

messages. This study provided new information in the field of instructional technology

related to the understanding of the relationship between emotional motivational feedback

and learning.

One of the main goals of an exploratory research study is to investigate the

behavior of people in the setting under question, what meanings research subjects give to

their action, and what issues concern them (Halloun, 2006). It also attempts to explore an

area where little or no knowledge is (Kumar, 2011). Although there is literature on

emotion and motivation, there is little information available on the role of emotion in

motivational feedback messages in online learning environments. Hence, in this study, I

investigated the effects of emotional motivational feedback messages by employing

exploratory research within a mixed-methods, single case study design. This study was

aimed at describing and understanding the effects of emotional motivational feedback

messages in an online course by gathering qualitative and quantitative data.

I was the researcher and instructor of the course; consequently, my experiences,

background, and personality may have affected the research process. I have been in the

field of instructional technology since 2000. My undergraduate and master's degrees are in instructional technology. I have focused on emotional intelligence, social and emotional skills, and emotional effectiveness since 2005. The reason that I am focusing on this research is because it relates to my personality. I am known as an emotional person. I can also easily understand people's emotion and manage the emotional dialogues. I believe that being a good listener and showing empathy with others are the keys to understanding and knowing people better. As a part of my teaching philosophy, I try to understand my students better in learning environments both online and face-to-face. This might make strong communication and provide closer relationships between me and my students.

Another important point was the course, which was Computer Skills for the Information Age (IT 2010). I started to teach the course in 2011 and since then, I have experienced not only teaching in an online learning environment but also improving my expertise on the content. I am also aware of teaching technology by using technology which requires frequent updates, so I am trying to keep myself open to learning about emerging technologies.

My interests and experiences led clearly to my selecting studying the incorporation of emotional messages in online feedback for this study. Throughout the study, I was aware of my opinion that including emotional messages would increase students' motivation; however, during data analysis, I attempted to put my opinion aside while I analyzed my results. Additionally, I relied on peer review to help decrease biases I might contribute to the analysis. I discuss this issue in more detail in the "Trustworthness" section below.

Research Question

To investigate this gap in the literature, I aimed to answer the following research question: How effective are emotional motivational feedback messages in an online learning environment? In this study, I employed the Course Interest Survey (CIS), and the Survey on Attitudes towards Information Technology Attitude Survey (IT) to gather quantitative data. The open-ended questionnaires, research journals, emails between instructor and students, and discussion/forum postings generated the qualitative set of data. I also employed the Course Interest Survey and Attitudes towards Information Technology Survey as a posttest. Table 4 presents more detailed information about alignment of research questions with methods and analysis.

This study was a single case study employing mixed methods of analysis. In this section of the paper, I explain why I chose a single case study and then describe the elements of the mixed methods I used.

Case studies allow for exploration of contemporary contexts or events. A case study can be restricted to a single individual, a group of individuals, organizations, courses, event, programs, institutions, and the like (Bassey, 1999; Yin, 2009). Most case studies are qualitative in nature, but case study approaches can include quantitative analyses (Creswell, 2007; Yin, 2009). The case study can be on any topic, but it must produce empirical (qualitative or quantitative) data (Yin, 2009).

Table 4

Alignment of Research Questions with Methods and Analysis

Research Question	Data Collection	Data Analysis
How effective are emotional motivational feedback messages in an online learning environment?	Course Interest Survey Attitudes Survey	Descriptive Analysis
	Open-Ended Questionnaires Research Journal Forum/Discussion Postings Emails Reflection Papers Warm-up Surveys	Content Analysis

A holistic single case study focuses on a single unit of analysis, defined as the case in the case study (Yin, 2009). The case, as defined in this study, was the section of the IT 2010 course. Yin (2009) emphasized that mixed-methods design helps researchers deal with research questions and collect rich, strong data. As with other forms of sampling, a case study design can be used with the mixed method design (Scholz & Tietje, 2002; Yin, 2009).

Creswell (2005) and Creswell and Plano (2011) identify a number of ways to combine the use of quantitative and qualitative data. The data can be collected and either analyzed separately or examined simultaneously, as is the case in the given study. Applying both qualitative and quantitative research methods in a study will complement the strengths of the data (Mishra, 2009; Johnson, Onwuegbuzie, & Turner, 2007).

In this study, I used open-ended questionnaires, instructor's research journal, emails, forum/discussion postings, reflection papers, and warm-up surveys as the qualitative data sources and the course interest survey and IT attitude survey as the quantitative data sources. These two methods together allowed me to have a better understanding of the educational experiences that I investigated in this study because, as Johnson and Onwuegbuzie (2004) explain, both qualitative and quantitative data help researchers to see details in the big picture.

I used mixed method single case design for two reasons: (i) gathering various data for understanding the context in depth (Bassey, 1999; Scholz & Tietje, 2002; Yin, 2009) and (ii) using multiple data sources to gain a broader understanding of effects within the bounds of the case. The details of the mixed method single case design for this study are shown as in Figure 10.

Context and Sampling

I used purposive sampling because of the necessary relationship between cases and the research questions. Purposeful sampling assumes that researchers want "to discover, understand and gain insight and therefore must select a sample from which most can be learned" (Merriam, 2009, p. 77).

The broad context of this study aimed to use efficient feedback message strategies in the growing online learning environment. The IT 2010 Computer Skills for the Information Age course offered by one urban university was part of this context. This class uses a text-based online learning environment and approximately five sections are offered each semester. I chose IT2010 as an appropriate context for this study for four reasons:
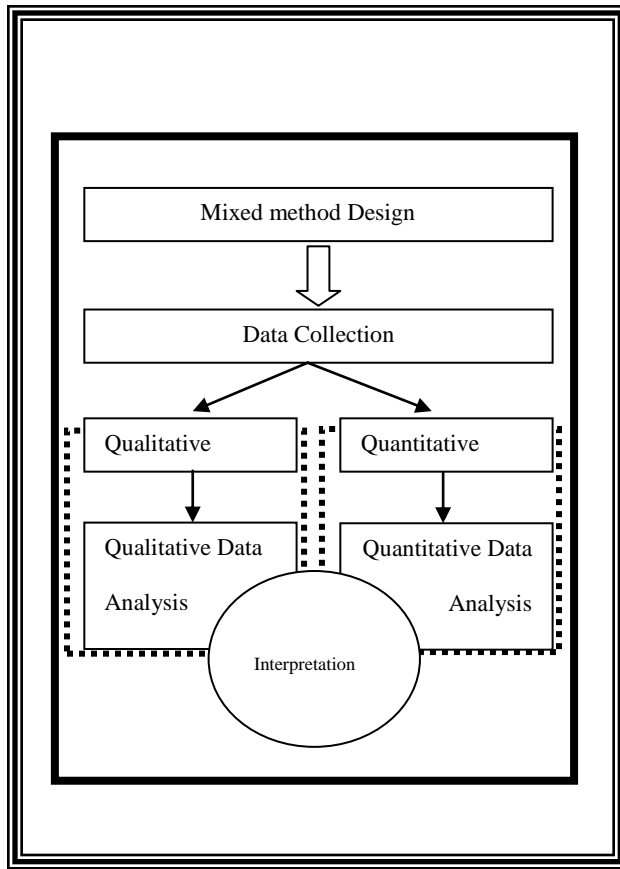
Figure 9. Design of Mixed-Method, Single-Case Study.

(i) I was familiar with the content and nature of the IT2010. I had taught this course at least three times, so I was familiar with managing online environments.

(ii) This course was offered in multiple sections per semester.

(iii) This online learning environment gave many options for giving feedback, such as the feedback box, dropbox, forum/discussion postings and emails.

(iv) This environment helped to find the answers of the research question, which aimed to determine how effective the emotional motivational feedback messages in online learning environments are.

The IT 2010 course was offered in an online environment where students and instructors met asynchronously and entirely online. That meant teachers and students were not meeting live as a group or in person.

In this study, my students completed activities and submitted their assignments within a given time frame as a nature of the course. Students received feedback messages from me for their assignments. The IT 2010 course also provided knowledge about basic information-age terminology and concepts relevant to university and the professional settings, as well as confidently using information technology to enhance students' work in a university or real life.

Desire2Learn (D2L) was the selected learning environment at the university for offering online courses. Although it is a fairly new learning environment for the university, I had a chance to gain experience using this learning environment for more than seven semesters. D2L had easy to use opportunities and a user-friendly graphical interface (See Figure 10). Students logged in to Desire2Learn by using the university website, as it was a secure and protected learning environment.

Design of the Course

The IT2010 took place over 14 weeks and required 13 weekly assignments and 1 reflection paper. Topics for the course covered each week were Web Communications, Information Literacy (2 weeks), Word Processing (2 weeks), Cyber Ethics (2 weeks), Spreadsheets (2 weeks), Virtual Design, Digital Presentations, and Web Design and Development (3 weeks). I gave students feedback weekly on their assignments. The grades of assignments also came with descriptive feedback about the assignments.

Figure 10. Screen Shot of Desire2Learn – IT2010 Homepage.

Students received the feedback right next to their grades under the "Grades" sections, their "Dropbox" section, or directly in their email boxes.

Students communicated with their peers and me by emails, feedback box, and discussion/forum postings. During one section of the course, I emailed students and/or published approximately 150 emails, 250 forum postings and 300 feedback messages.

Participants

The participants were undergraduate students enrolled in the course, "IT 2010 Computer Skills for the Information Age," in a large state university located in an urban region in the southeastern part of the United States for the Fall 2013 semester. Demographic data for the participants is presented in Table 5.

Table 5

Participants

Student	Gender	Field	Course Required?	CIS Results
s01	Male	Exercise Science	Yes	105
s02	Male	Exercise Science	Yes	102
s03	Male	Exercise Science	Yes	149
s04	Female	Communication	No	146
s05	Male	Exercise Science	Yes	157
s06	Male	Communication	No	104
s07	Female	Exercise Science	Yes	153
s08	Male	Exercise Science	Yes	134
s09	Female	Exercise Science	Yes	134
s10	Male	Exercise Science	Yes	158
s11	Female	Communication	No	128
s12	Male	Exercise Science	Yes	140
s13	Male	Exercise Science	Yes	129
s14	Female	Communication	No	136
s15	Male	Exercise Science	Yes	126

I coded students' names for protecting their identities. Five of the students were female, and 10 of the students were male. The majority of students (11) were in the field of exercise science, with the remaining 4 coming from different majors in the Department of Communication. The results of the course interest survey are showed in last column of Table 6. According to individual results, participants were over the midpoint of the survey, which reflected that all students were motivated by the end of the course. According to students' reflections, many of my students mentioned that they were taking an online course for the first time in their lives. This study also provided them new learning

experiences by using online learning environments. Participants were recruited from one section of the course, and 15 students agreed to participate.

Unit of Analysis

The unit of analysis for this study consisted of a group of 15 students who took the IT 2010 Computer Skills for the Information Age course in the online learning environment during the Fall 2013 (14-week) semester. As treatment, these students received emotional motivational feedback messages during the course.

Treatment

In this study, I was careful to write personalized feedback messages, which were a way of providing direct feedback by mentioning the personal information (name) and considering the background of the participants (their field; Kim & Keller, 2008). Because the research took place in an online learning environment, there were primarily two options for giving feedback. The first was to use D2L learning environment's feedback option. This option allowed me to provide feedback after grading an assignment. Students could see their grades and my feedback in the same table, which was called "gradebook." However, I previously observed and experienced that students do not pay attention to the feedback in the gradebook upon receiving full credits, as their priority was to see the grade. I also experienced that although gradebook feedback included some additional questions addressed to all the students, those who received the full credit did not provide answers to the questions. However, when I asked the same questions and incorporated it in Feedback messages provided via email, the majority of students replied to these email messages. Therefore, this research mainly used email as the delivery option for giving/receiving feedback. The other options for giving/receiving feedback were forum postings and gradebook.

I only used one type of feedback strategy in this study: emotional motivational feedback messages which were sent to participants. In the remainder of this section, I define Emotional Motivational Feedback Messages by detailing their construction process.

Emotional Motivational Feedback Email Messages:

I designed Feedback Messages (FEM) through Emotional Motivational Feedback Messages (EMFEM). Each week, I sent personalized messages to students containing emotional content as part of feedback for the weekly assignment. I provided EMFEM with added emoticons, caps, color, bold and punctuation marks.

Table 6 shows the specific type of feedback message which was used in this study, its definition, instruction keys and an example of a feedback message. The feedback for all the participants was constructed by assisting individuals with their learning problems.

I constructed FEM in a brief manner because long messages could be difficult to read and comprehend. Each student received one welcome message (WM) and approximately 14 FEMs. It was also difficult for me to write long FEMs for each student because of the amount of time involved. In the end, I wrote more than 235 personalized FEMs during the semester (15 welcome messages + 15 × 14 FEMs). The details of how to design emotional motivational FEMs are explained later in this paper.

A welcome message (WM) included EMFEM by using emotional content strategies and the ARCS model. This WM (See Appendix A) was sent to all students as an EMFEM.

Table 6

Type, Definitions, Keys, and Examples

Type	Definition	Keys	Example
Emotional Motivational Feedback Message (EMFEM)	Using high emotional content as a part of personalized motivational messages	• Using emoticons (☺, ☹, etc.) • Using Caps (VERY, PERFECT etc.) • Exclamations (!, ?, etc) • Bold, italic, colored Text	This homework was designed VERY well. ☺ I like the discussion part VERY much. !!

The name, field of participants, etc. were be modified for each student. I emailed this personalized WM to each of them at the beginning of the course.

Steps of Research Design

As shown in Table 12, there were a total of 14 activities during the 14 weeks. Each week included different topics and activities. After each activity, students received EMFEMs to see how successfully they could complete the task. At the first week of study, I sent the Welcome Message via email. The WM was the first message and also informative, so it is longer than other messages because it covered the importance of the course, relatedness of their fields, my expectations, and other necessary information.

After the WM, I sent three warm-up surveys to determine how my students were familiar with the emotional content strategies. During the second week, the Pre-Open-Ended Questionnaire was sent to the students. While filling out the questionnaire, students received the first activity of the course. Students had one week for each assignment. The weekly activities were accessible on the first day of each week. After seven days, the access to the activity was closed and the next activity started.

Table 7

Weekly Activities, Grades and Surveys

Week	Data Collection	Research Steps	Topic
1	Warm-Ups (Three Mini Surveys)	Welcome Message Activity 1	Communication tools
2	Discussions, emails, research journals, open-ended questionnaire	EMFEM for Activity 1 Activity 2	Information literacy
3	Discussions, emails, research journals	EMFEM for Activity 2 Activity 3	Word processing 1
4	Discussions, emails, research journals	EMFEM for Activity 3 Activity 4	Word processing 2
5	Discussions, emails, research journals	EMFEM for Activity 4 Activity 5	Visual literacy
6	Discussions, emails, research journals	EMFEM for Activity 5 Activity 6	Digital presentations
7	Discussions, emails, research journals	EMFEM for Activity 6 Activity 7	Cyber ethics 1
8	Discussions, emails, research journals	EMFEM for Activity 7 Activity 8	Cyber ethics 2
9	Discussions, emails, research journals	EMFEM for Activity 8 Activity 9	Spreadsheets 1
10	Discussions, emails, research journals	EMFEM for Activity 9 Activity 10	Spreadsheets 2
11	Discussions, emails, research journals	EMFEM for Activity 10 Activity 11	Web development 1
12	Discussions, emails, research journals	EMFEM for Activity 11 Activity 12	Web development 2
13	Course Interest Survey, Attitude Survey, Open-Ended Questionnaire	EMFEM for Activity 12 Activity 13	Web development 3
14	Reflection paper, research journals	EMFEM for Activity 13	
15	Research journals		
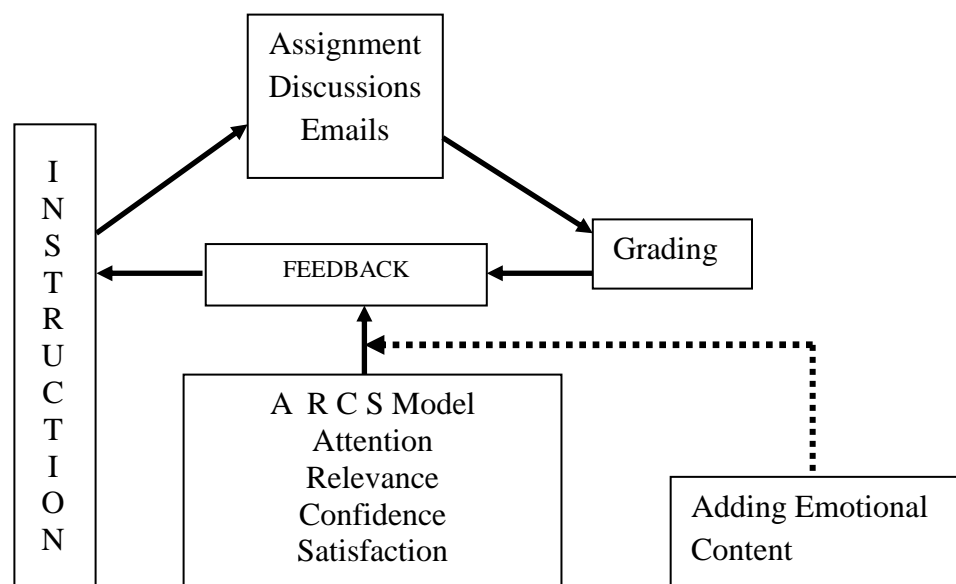
Figure 11. Weekly Steps of Research Activities.

    Assignments for each activity were submitted weekly, and I graded each assignment upon reception. After grading, I emailed EMFEM to students. During the 13th activity, student received the post Open-Ended Questionnaire.

    All participants' FEMs were structured according to the ARCS Model Strategies (See Figure 11). I considered Attention, Relevance, Confidence, and Satisfaction steps while writing FEMs.

Constructing Motivational FEMs

    To create EMFEMs, I relied on feedback strategies (Brookhart, 2008), motivational strategies (Keller, 2010), and emotional content. Brookhart (2008) mentioned four strategies, timing, amount, mode and audience, which I used during the research. FEMs were given after each assignment and on a weekly basis; they covered main points and the level of achievement of major goals. I sent FEMs individually by

using email-messaging or relevant tools. Keller's motivational strategies were mostly reflected in the structure of content, which was focused, clear, personalized and brief.

In this study, I assumed that feedback provided not only the information on participants' previous activities, but also prepared and encouraged them for subsequent activities. Therefore, I believed that feedback messages should be motivating and make use of motivational strategies. The phases of construction of motivational FEM by using ARCS model's steps (Keller, 2010) are shown in Table 8. At this point, the important issue was to write brief and personalized FEMs because long FEMs could be unreadable, boring, and lacking purpose.

Constructing Emotional Motivational FEMs

The next step was to add an emotional component based on the purpose of the study into motivational FEM (see Table 9). I gave feedback via Emotional Motivational FEM (EMFEM), which contained motivational and emotional content. I also used three strategies of the Emotional Motivational FEM for adding emotional content, including the semantic value of the words, formatting/editing the text and emoticons.

Data Collection Tools

Because of the nature of mixed method single case design research, data instruments were designed for gathering qualitative and quantitative data. I collected quantitative data by using CIS survey and Attitudes Survey and qualitative data by using Open-Ended Questionnaires, research journals, warm-up surveys, online discussion postings, reflection papers, and emails.

Table 8

Steps of Constructing Motivational FEM

Stage	Keys	Example
Attention. Capturing the interest (Keller, 2010)	- Writing their names at the beginning of the FEM - Humor (Keller, 2010)	Hi John, Thank you for sending this great homework.
Relevance. Meeting the personal needs and expectation for positive attitude (Keller, 2010)	- The goal of previous assignment - Relation between goal and activity - Relation between their field and activity	This homework was about the ways of using MS office Word efficiently. All of us using one of word editors to save our documents electronically. You are majoring in health care, so it was a very good opportunity for you to learn how to use this software for reporting the health information of your patient.
Confidence. Awareness of achieving and controlling success (Keller, 2010).	- Meeting the teachers expectation - Improving advanced skills by giving advices. - Information about the assignment quality and correction (if needed)	You met all the expectation of this small activity. We used MS Word, but I recommend you to try Open office as well. You will see that you can do the same kind of tasks using other word editors.
Satisfaction. Reinforcement (Keller, 2010)	- The grade of assignment - Praise (Keller, 2010)	This excellent homework got 6 full credits. You did a great job. I know that you will do the same for others.
Motivational Feedback Messages. Using ARCS strategies	- Personalized (Attention) - Bridging the new knowledge to academic knowledge (Relevance) - Mentioning how fine the product is (Confidence) - Giving the deserved grade (Satisfaction)	Hi John, Thank you for sending this great homework. This homework was about how to use MS office Word efficiently. All of us using one of word editors to save our documents electronically. You are majoring in health care, so it was a very good opportunity for you to learn how to use this software for reporting the health information of your patient. You met all the expectation of this small activity. We used MS Word, but I recommend you to try Open office as well. You will see that you can do same thing with other word editors. This excellent homework got 6 full credits. I did great job. I know that you will do the same for others.

Hi John,

Thank you for sending this GREAT homework. ☺

This homework was about to use MS office Word efficiently. The

majority of people using one of word editors to save our documents

electronically. I am also one of them ☺ You are majoring in health care,

so it was a very good opportunity for you to learn how to use this

software for reporting the health information of your patient!

You met all the expectation of this small activity. YAY!

We used MS Word, but I recommend you to try Open office as well. You

will see that you can do same thing with other word editors.

This excellent homework got 6 full credits!!! YOU did GREAT. I know

that you will do the same for others.☺

Figure 12. Constructing EMFEMs.

Keller's Course Interest Survey

Changes in participants' motivation during the course were measured using

Keller's (2010) Course Interest Survey. The survey has 34 items and consisted of 4

different subcategories related to ARCS. The minimum score of the survey is 34 and the

maximum score is 102. Some of the questions were reverse coded. The reliability of the

survey was calculated at 0.95 and the validity of the survey was examined on the

graduate and undergraduate levels. (Keller, 2010)

Information Technology Attitudes

The information Technology Survey (Wong, 2002) was used to measure the

attitudes of participants towards Information Technology. The survey includes 24 items

by using a Likert-type scale which ranges from a score of 1 (*strongly disagree*) to 5 (*strongly agree*). The Cronbach alpha was reported .79.

Open-Ended Questionnaire

The open-ended questionnaire was developed by me and implemented as a pretreatment/posttreatment assessment. It had 10 questions to investigate students' motivational factors and attitudes toward information technology and the course. This questionnaire helped me to understand the research questions more deeply and in more detail.

Warm-up Surveys

The warm-up surveys were developed by me and implemented as three mini-surveys to determine how familiar students were with using emotional content strategies. These three minisurveys helped me to create the EMFEM efficiently.

Research Journal

I wrote a weekly research journal during the process. I saved the journal electronically. The research journal helped to investigate the process, my perspective on the treatment and students' behaviors in the learning environment. Fifteen research journal entries were written during the data collection process. This data set was analyzed qualitatively.

Emails

The email correspondence between students and me was recorded. These emails helped me to calculate the frequency of email exchange between me and students and understand the level of emotional content shown in the emails.

Discussion Postings

The other data collection tool was discussion posting. This data set helped me to understand ways in which students interacted with each other in group discussion. Group discussion postings led me to understand how their writing styles in an online discussion forum might change during the experiment.

Data Analysis

The quantitative data collection tools were the CIS and IT surveys. The CIS and attitudes survey were analyzed using descriptive analysis for comparing the statistical differences between the groups. The qualitative data collection tool, including Open-Ended Questionnaire, teachers' memos, online discussion postings, and emails were saved electronically and analyzed qualitatively.

The process of Data Analysis is shown in Figure 13, the quantitative data results gave two main results of effectiveness of EMFEMs: motivation and attitudes. Qualitative data supported these main results and also provided other effects of EMFEM. At the end of the content analysis, I created the code frame. I categorized the code frame by considering motivation, attitudes and other effectiveness of EMFEM. I explain the details of content analysis below.

Content Analysis

I used content analysis to analyze the content of the research journals, warm-up questionnaires, reflection papers, emails, forum/discussion postings and open-ended questionnaires. Because the main focus of the study was a new topic in online learning environments, content analysis was recommend for developing a framework to categorize the codes as a suitable method to conceptualize the content (Ulrike, 2010).
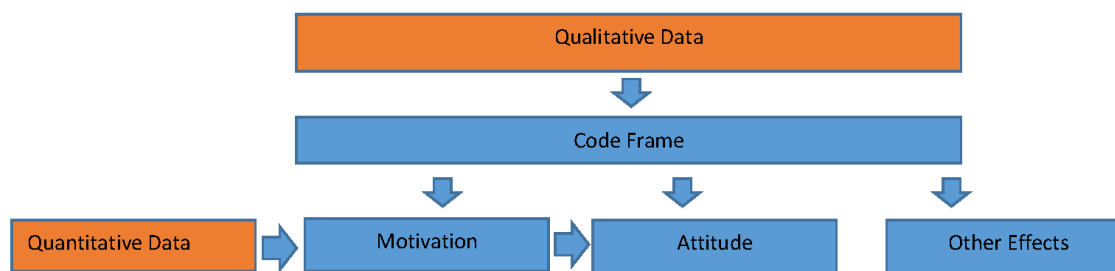
Figure 13. Data analysis.

Schreier (2012) described steps for content analysis after selecting material. These steps are building a code frame, categorizing materials into group of coding, trying out the coding frame, modifying coding frame, main analysis, and interpretation.

In this study, I followed three steps for content analysis:

(i)　　I took the raw data as a theme coding, which means the body/unit of text such as email, forum posting, warm-up questionnaires, reflection papers and open ended questionnaires for individual participants. I noted each theme and used these notes to create a code sheet.

(ii)　　I defined the categories by using a code sheet. Categorizing basically was to sort data mechanically (Bogdan & Biklen, 2003). The code sheet included data code, data source, and code descriptions.

Steps (i) and (ii) were repeated four times (See Figure 14). In the first round, data were categorized. As seen in Figure 5, the sample data were read and coded. In the second round, the other sample of data was read and coded independently. In this round, two coded data sets were compared, then a third round started with coding all data. After, the third round, a draft code frame and categories were created. The sample of data and the code frame were sent to two people to analyze. During the last round of process, the coded data results from two people were compared and the code frame was finalized.

(iii)　　After data coding finished, I abstracted the data.
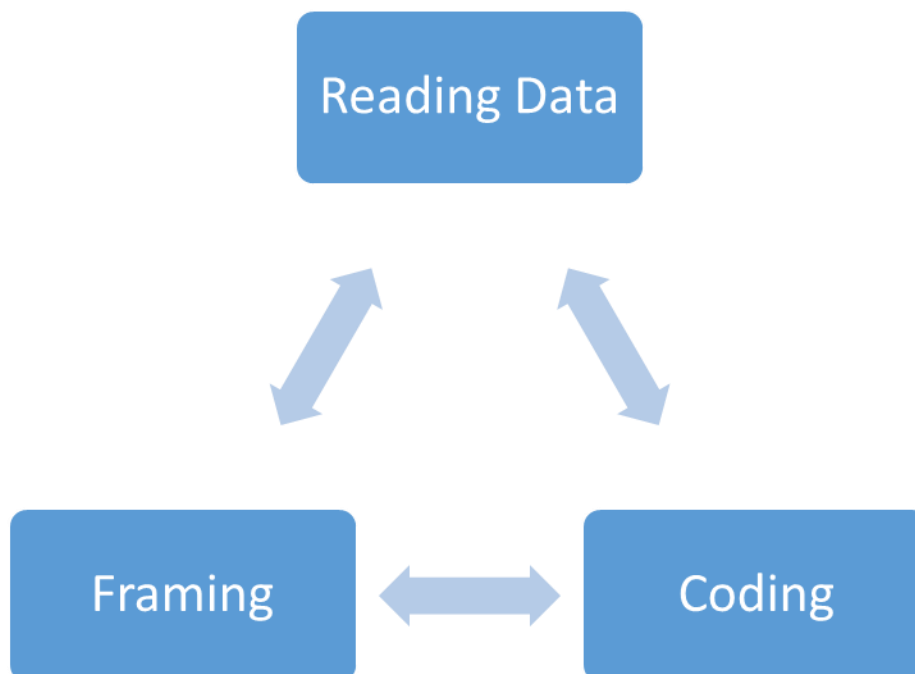
Figure 14. Creating Code Frame.

I created a data code sheet to organize the data and secure the students' identity. A student ID was randomly assigned, such as S09. If a quotation was taken from S09's reflection paper, it was noted as S09, Ref (reflection paper) or S11, PostQ, meaning a quotation from was taken from S11's post questionnaire.

Trustworthiness

The quality in qualitative research has been debated by many researchers; however, with there is little or no consensus as to what constitutes a good, valid, trustworthy qualitative study (Sandford, 2013). Trustworthiness in qualitative research is related to clarifying how the result of the research is dependable, credible, transferable, and confirmable (Lincoln & Guba, 1985). Krefting (1991) gave some strategies for establishing trustworthiness, such as triangulation for credibility, dependability and conformability. Merriam (1998) stated that triangulation is to use multiple methods of

data collection and various data source from different participants. Therefore, this mixed method single case study included multiple participants and multiple means of data collection, such as research journal, open-ended questionnaire, forum/discussion postings and emails.

Transferable or external validity refers to the presentation of findings in such a way that others might be able to transfer or generalize the data to other cases (Merriam, 1998). Firestone (1993) defined transferable as case-to-case transfer which leaves the decisions to the readers for determining how applicable it is in their contexts. In this study, I provided a clear explanation to help readers determine how this study might fit their own needs. I also gave basic steps to apply EMFEM in their studies, and these guided steps might make it easier to manage their research.

This study was conducted in a real learning environment to determine the effectiveness of a new kind of feedback messages. I also investigated how findings in this research matched with reality. This was important for credibility. I had three main steps to increase credibility: triangulation, debriefing, and my experience.

Triangulation. I collected data using many different tools and in a different time period during the study. In this study, participants were the main source of data which was gathered using different strategies, such as their email, discussions postings, assignments, and reflection papers. Also, I was another data source as the instructor of the course. I had a chance to see the same situation in students' and my points of view. This variety of data might help increase the credibility of this study.

Debriefing the data. I had many discussions with different people to see the different perspectives, discuss different alternatives, and share the knowledge. I learned

and recognized different perspectives of emotion and motivation by talking and discussing with different people in different fields. This might help a researcher to recognize his or her subjectivity (Shenton, 2004).

My experiences as a researcher. Patton (1990) suggested that researchers' backgrounds are important for credibility. I, the researcher as well as the instructor of the course in this study, have been in the field for more than a decade. I have taught many courses and conducted many research studies about emotional reflection and motivation. I was also familiar with the content of the course because I had taught the same course more than seven semesters.

Summary

This research was designed for understanding the effectiveness of emotional motivational feedback messages by adhering to a rigorous mixed method single case study. This research design provided sufficient data to offer appropriate answers to the guiding questions of the study design. Findings of this study are presented in the next chapter.

CHAPTER 4

FINDINGS

In this chapter, I present the results of the study. As I detailed in the previous chapter, data were collected quantitatively and qualitatively to answer the research question: "How effective are the Emotional Motivational Feedback Messages in an online learning environment?"

According to the literature, there are limited options to reflect your emotions in an asynchronous learning environment. These include emoticons, text editing strategies, and the semantic value of words. In this study, the feedback messages were categorized by these emotional reflection options. Because of the motivational purpose of the study, the ARCS model was used by applying each step of it into the feedback messages.

Emotional Reflection Strategies

I administered three questionnaires to the students to explore their emotional reflection strategies in the online classroom in detail. I referred to these minisurveys as a warm-up process for the research and administered 3 mini surveys to determine the students' thoughts on emotional reflection. These surveys were based on the three main reflection strategies in text-based environments. The main reason for administering these surveys was to see what these strategies meant to students before starting the research, helping me establish a baseline for understanding the results. The surveys were designed to determine the students' views on emoticons, the semantic value of words, and text editing strategies (font effects). Frequency analysis was conducted to determine which strategy students used most often for the reflection of their feelings. I also recorded my thoughts about the process by research journal.

Emoticons

The first survey was focused on what they thought about emoticons and how they were ready to use them or whether they were willing to use them at all. One question, "How often do you use emoticons?" was asked to determine their familiarity of using emoticons. Results of the survey are presented in Table 9.

According to the results in Table 9, the majority of the students were familiar with emoticons before taking the course. These data also show that students are willing to use emoticons because they use them in real life. One of the questions was asked to determine when they use emotions. This question required students to complete the sentence, "I use emoticons when I…" As seen in Table 10, the majority of students use emoticons for expressing their feelings. Some of the participants mentioned that they used emoticons for texting their friends. Although they used emoticons for reflecting their feelings, they mentioned that they preferred to use them in an informal environment instead of a professional environment.

Table 9

Using Emoticons

How often do you use emoticons?	Responses	Percentage
Very Often	1	7%
Often	6	40%
Sometimes	6	40%
Rarely	2	13%
Never	0	0%

Table 10

When Students Use Emoticons

I use emoticons when I….	No. of Responses	Percentage
Expressing the feelings	10	67%
Text to friends	4	27%
N/A	3	20%

Just over half (53%) of the students indicated that they did not feel emotionally connected when they used emoticons in learning environments. However, 47% of them thought that they felt emotionally connected by using emoticons. These results showed that students were ready to use emoticons, but that they might be conflicted about using emoticons with their instructors based on whether they felt emotionally connected or whether emoticons were acceptable in a learning environment. The qualitative data helped to explore students' thoughts on emoticons.

> I feel weird using these with professors since I use emoticons in an unprofessional friendly setting. School is like a job for me that is professional. I like using emoticons, but in class I feel like i have trained to never use things like that. However, i feel more connected when using them in everyday life, but in class or work it's just a different setting. (S01, WS)

> I'm more focused on what and how an individual delivers a message. Emoticons are nice for emphasis and accentuating a message, but some people just like to use it for the sake of using it. (S11, WS)

> Sometimes, it just feels weird because teachers have told us to refrain from it for so long. But when I get more used to it, I'll probably be more emotionally connected. (S14, WS)

One question asked for the students to write three words which defined emoticons to them. A wordle was used for visualizing this data (See Figure 15). If a word was
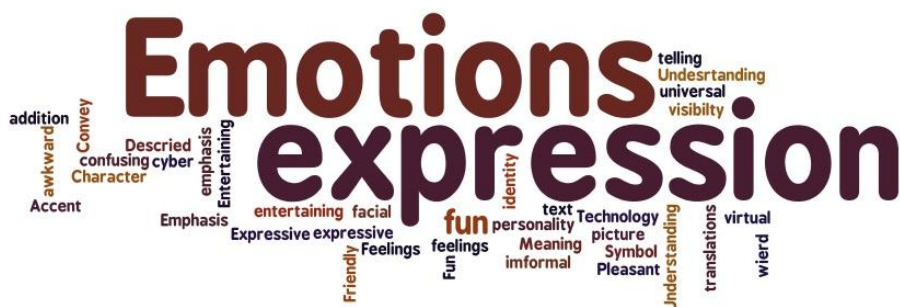
Figure 15. Emoticons wordle.

mentioned more than others, the letter of that words are presented as bigger than others.

That is, the more often a word appeared, the larger it appears in the wordle. As seen in

Figure15, students mentioned most frequently that emoticons meant to them as

"emotions," "expression," and "fun." The first two words suggest that students

understood emoticons as expressing feelings.

Semantic Value of Words

According to the literature, individuals might change the meaning of the words as

they read them. Certain words may not have the same meaning for everyone. In this study,

using the semantic value of the words was one of the strategies for creating emotional

motivational feedback messages. The second questionnaire was designed to help discover

which words make students react emotionally or what kind of words they would like to

hear. Because my research was focused on feedback messages, students were asked a

question about what kind of feedback they prefer to hear; however, the question was

designed for negative feedback.

Question: "You didn't do a good job on your assignment and you knew that your instructor gave you negative feedback." In these circumstances, which sentences below would you prefer to hear from your instructor? Please explain why you chose the one you did.

1.　　This assignment is not good enough, but I believe that you could do better.

2.　　This assignment should be improved, but I believe that you could do better.

3.　　This assignment is bad, but I believe that you could do better.

According to the students' responses, the majority of them believed that "This assignment should be improved, but I believe that you could do better" motivated them more than the other two options (See Table 11). Students also mentioned that it was encouraging to hear that the instructor believes that they can do better. On the other hand, two students said that hearing "this assignment is not good enough, but I believe that you could do better" is a more honest choice than the others. One student mentioned that he or she would like to choose the third option because it would be his or her personal choice to hear from instructor.

Table 11

Feedback

Option	Description	Frequency	Percentage
1	Honest	2	13%
2	Motivating	12	80%
3	Personal Choice	1	7%

One question was aimed to determine which words make students emotionally affected. Students were asked to write five positive words that make them feel happy when they hear them. The results are presented in a wordle (Figure 16). Students mentioned that "excellent," "wonderful," "great," "beautiful," and "perfect" as the 5 top words that make them feel happy. There are also some words such as "inspiring," "flawless," "successful," and "good" that affect students positively. These words were noted to use while writing the feedback to students. However, some words might not make them happy to hear; therefore, students also were asked to write 5 negative words that make them feel upset when they hear them from somebody. As seen in Figure 17, according to the students' responses, some words such as "bad," "terrible," "horrible," "awful," and "stupid" affect them negatively. Other words that affected them negatively included "worst," "ugly," and "inadequate." These words also were noted for not using while writing the feedback.

Figure 16. Positive words.
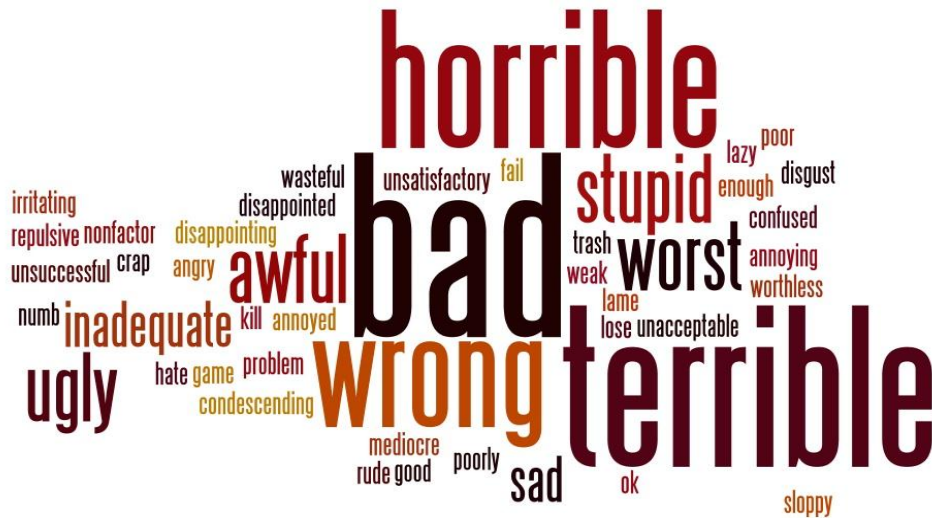
Figure 17. Negative words.

Editing the Text Strategies

Changing the text color or writing in bold, italic and underlined might affect students emotionally. Students in this study mentioned that the colored, italic and bold text emphasized the importance of the meaning.

One question asked students to determine which edited words made them feel different. The options were

a) Great [Normal]

b) GREAT [Caps]

c) **GREAT** [Caps + Bold]

d) GREAT [Caps+ Colored]

If one of the words of "GREAT" above affects you differently from how the others affect you, please explain how.

As seen in Table 20, the majority of students thought that GREAT [Caps+ Colored] might be the first one which affected more than others. However, some of students also mentioned red as a color made them feel different in a negative way.

Table 12

Editing the words

Items	Frequency	Percentage
A (Great)	0	0%
B (GREAT)	0	0%
C (**GREAT**)	4	27%
D (GREAT)	9	60%
N/A	3	20%

Student also highlighted why they chose the word:

> *because i like GREAT bolded and capitalized. It affects me positively and makes me feel like I did a really good job. Black is always a safe professional color to use especially for bold. I like colors bolded as well, and I wouldn't mind them used, but not in red. I associate red with correction and wrong doing so seeing GREAT in red creates a confused reaction for me. (S07,WS)*

> *makes me feel that I have done something amazing and someone is very proud. (S04,WS)*

> *It seems to convey more meaning to me. (S11,WS)*

> *It seems more like a you did good but don't really care to put any emotion in it. (S10,WS)*

> *because it is a different color, which stands out the most among the other fonts. (S13,WS)*

> *because the red throws me off a bit. Red is usually associated with something bad/negative (S15,WS)*

I asked students what they feel when they see underlined, bold and/or different color words in a text. The majority of students (12 out of 15) mentioned that they felt those words were more important than other words in the context and also they said that those were emphasized for getting more attention

I also asked them to determine what they would do if they were an online instructor. The question asked "If you were an online instructor, would you use bold,

italic and colored text while giving feedback to your students?" The majority of students

(67%) mentioned that they preferred to use bold, italic and colored text while giving

feedback; 20% of the students highlighted that they would not agree to use them in

giving feedback; and 13% of the students didn't mention anything about whether they

agreed or not.

The students also mentioned that why they use bold, italic, and colored text while

giving feedback:

> *I would point out mistakes in red in bold letters to know what they did*
> *wrong. But if its something they did right I would bold and underline so*
> *they know what they right and it will not take any distractions from what*
> *they did wrong. (S02, WS)*
>
> *because it is exciting and since you do not have face to face time together*
> *it is nice to give variety to students. (S03,WS)*
>
> *I may use it if the student seems to not notice the first few feedbacks about*
> *what I'm trying to hint towards. (S06, WS)*
>
> *i would use it on a word that could sum up the whole point. That way if*
> *students don't take the time to read the feedback, they will at least see the*
> *one word and know what the instructor felt about their assignment(S09,*
> *WS)*
>
> *I would use them because they would be a great way to highlight the key*
> *points in the feedback. (S12, WS)*

These literature-supported strategies were an important part of creating emotional

motivational feedback messages. It was also important to determine what students

thought about these strategies. Those questions above were asked in order to understand

students' perspectives on reflecting emotion by using text. After this warm-up phase, I

decided to start the research in light of the results.

Effectiveness of Emotional Motivational Feedback Messages Evinced in Data

This mixed method case study sought to determine the effectiveness of emotional feedback messages, therefore, the Course Interest Survey and Information Technology Attitude survey were supported with qualitative evidence in data by using reflection papers, open-ended questionnaires, emails, discussion postings, and research journals. The qualitative data also provided an in-depth understanding about other aspects of students' thoughts on the process. It seemed that students classified their thought by different variables such as Instructor Role, Emotional Reflection, Motivation, Feedback, Attitudes, and Expectation.

Motivation

The course interest survey was administered at the end of the semester to measure students' reactions to online instruction. The 34-item survey has four subscales: Attention, Relevance, Confidence, and Satisfaction. The result of the course interest survey is shown in Table 13. The average score of the survey is 133. In Table 13, the data show that students' motivations were higher than the mid score in all subscale categories. However, the Attention subscale was slightly lower than other categories.

The qualitative data gives details about motivational effects of EMFEM. The data cluster organized by word similarity showed that when students mentioned motivation in the same context, they also mentioned different thoughts which were related to motivation for students. The clustered data showed that motivation related to "Personalized," "Responsive," "Instructor," "Emotion," "Feedback," and "Friendship."

> *It shows that the instructor is staying positive and trying to encourage you to do better. (S09, Ref)*

> *Emotional feedback can ultimately be used to help motive but as of now it does not motivate me. (S15, PreQ)*

Table 13

CIS Survey with Subcategories

Subscale	Mean Score	Scale Middle Score	Scale Maximum Score	Out of 5
Attention	29	24	40	3.6
Relevance	36	27	45	4
Confidence	32	24	40	4
Satisfaction	36	27	45	4
Total	133	102	170	4*

* The average is 3.99

it [Feedback] encourages a student and instead of pure degrading of assignments it is refreshing. (S02, PostQ)

As a college student, stress hits you from so many different angles and that one feedback message could give you that extra push. (S06, PostQ)

encouragement, emotional feedback, is definitely something that allows students to push further in their studies and connect with a professor in a way that makes class enjoyable. (S11, PostQ)

I believe that feelings/emotions affect our motivation and how much effort we put forth into our work. (S12, PostQ)

In the open-ended questionnaire, which was applied as a pre and post measurement tool, I asked students "What motivates you in online learning environments?" The Pre- questionnaire's results showed that flexibility, assignments, instructions, grades, feedback, and instructor were factors to make students motivated.

The Post- questionnaire's results highlighted that students started to consider that feedback, instructor, flexibility, assignments, instructions, and grades were high priority factors which students believed made them motivated in online learning environments (See Table 14).

Table 14

Student Motivation

Pre- Questionnaire	Post-Questionnaire
Flexibility	Feedback
Assignments	Instructor
Instructions	Flexibility
Grades	Assignment
Feedback	Instructions
Instructor	Grades

Attitudes

The other measurement tool was the Information Technology Attitude survey. This course aimed to improve students' knowledge of information technology; therefore, I used the IT survey to determine students' feelings about the course. The minimum point of the survey is 74, and maximum point was 97 points. The mean of the students' survey responses was 87.80 ($SD = 7.163$), which is higher than the midpoint of the score range.

During the course, student mentioned that

I feel like this class has opened my eyes to so much that I have been missing out on. (S07, Email)

Im motivated by knowing that even though we're not face to face that I still get the same satisfaction of knowing Im doing well, like a vitrual pat on the back. (S10, PreQ)

I appreciated everything this class was, especially compared to my other classes. (S03, Ref)

Although I am not happy with my potential final grade for the class, I was more than satisfied with the professor's attempt at helping me get a better grade throughout the semester. (S01, Ref)

I feel like the course was exactly how I imagined it would be. I learned good quality material that was very helpful and use as I continued through the course. (S02, Ref)

Overall this was a great class to take and one that I would definitely recommend to everyone because it I s not your average college class where you sometimes wonder if you are ever actually going to use the things that you are learning in life. (S11, Ref)

As I mentioned before, during the research I wrote my research journal weekly. I basically wrote about my feelings during the week, students' reactions and important events related to the research. I also combined them and categorized them by code frame. Following are some examples related to students' attitudes in my research journal:

I think students are enjoying the class and it might affect their satisfaction at the end of the course. Still, some of my students are not close to me. Maybe, I should email some of them to see what they think about the class so far. (RJ, Week7)

End of the course, I can tell that the majority of students like the class. Interestingly, I started to have some feelings about what my students might think. I am not sure why it is. It might be the way of my teaching skills or the experiences that I have had so far that let me sense what my students think. (RJ, Week15)

Instructor Role

One of the important changes during the process was the instructor's role and definition. The students mentioned that the instructor is a part of "interaction," "improvement," "motivation," "personalizing", "Responsive", "Student Experiences," "Success," "connectedness," "emotion," "expectation," "feedback," and "friendship." "Instructor" is one of the most repeated words by students. Students had many different beliefs for the instructor:

I liked just because it made our relationship more then a instructor and student more like a friend level (S12, PostQ)

I think the instructor's use of emoticons and capital words brings more life to the feedback. I like it :) I expect to receive friendly and personalized feedback from my instructor. (S09,PostQ)

They [EMFEM] made me feel like I could contact my instructor whenever, which I did not feel with my other online instructors. because a close

connection between a student an instructor is helpful for the student to want to learn. (S03, PostQ)

The style of my instructor's feedback was great. He would write personalized messages to each and every one of us. He would not only grade our works, but also tell us what he thought about our works. (S01, Ref)

Gave great feedback, responded almost immediately to emails and made you feel that you weren't just a student and an instructor but a friend who is helping you to become at using the computer. (S12, Ref)

I felt like I was closer to the professor I never saw once compared to the ones I saw twice a week this semester. (S07,Ref)

However, the instructor is a complete life saver. Normally, what I've noticed is that a lot of professors like to make the students do a lot of unnecessary assignments; and by unnecessary, I mean it quickly became irrelevant in the future.(S13, Ref)

In this class the instructor would provide good constructive criticism such as using bold, colored and italicized style writing. (S02, Ref)

Professor ABC [course instructor] made it a lot easier to communicate with him by constantly giving feedback and even had a help discussion board in case anyone had questions or was confused about anything. As the semester progressed I noticed the feedback of Professor Sarsar becoming more personalized, as if he was genuinely concerned with something that I was doing, or the way I was absorbing the material, and I appreciate his individualized attention. (S04, Ref)

This particular course was very interesting for me because I never had an instructor who expresses his feelings and emotions to his students. (S06, Ref)

On the other hand, I mentioned in my journal that I had many different struggles during

the process:

I am already overwhelmed to write feedback, because I am writing very individually, so I needed to mention very specific points. Writing feedback to one student takes 20 minutes. I think it would be a great to create a new guideline and leave some parts empty for writing individual points. (RJ, Week2)

This week, I created a new guideline and left the name part, and some parts of the feedback empty. However, the first and second paragraph for all students are the same. The first paragraph was for Relevance and the second was about their confidence. The third paragraph was about their individual part and the last

paragraph was about their satisfaction. This way, the writing email time decreased to 8 minutes. I saved 12 min each. It is a big thing and also convenient. (RJ, Week3)

Students' expectations are increasing; they email me more and want me to respond very quickly. If I wait one day to respond, they are emailing me again. It is the 6th week of the semester and it is getting more difficult to respond to their emails, because they started to write me more. It is the first time that I am dealing with that many emails. (RJ, Week6)

It is the 10th week and I feel that I have become friends with them. They started to share their daily life with me. Although they haven't seen me, they are sharing important events of their lives with me. I feel more connected while they are sharing more. It is the first time I feel that I know my students better. Students also started to write more to the discussion about their lives. (RJ, Week10)

In the open-ended questionnaire, which was applied as a pre and post measurement tool, students were asked, "If you were an online instructor, what you would do to understand your students' feelings/emotions better?" The main difference between the pre and post test showed that students had different thoughts at the beginning of the class, but by the end of the class, many students mentioned that they would do the same as I had done during the course to understand their feelings.

Emotional Reflection

Because of the nature of the class, students in this study reflected their feelings by in different ways in text format, such as emails, reflection papers, and discussion posts. Students mostly used punctuation, especially exclamation marks, to make text more emotional. As seen in Table 15, students used capitalization, emoticons, internet language, and value of the words. On the other hand, they did not use bold, colored and underlined words.

Students reflected their emotion when they talking about their "success," "satisfaction," "improvement," "motivation," "Responsive", "Student Experiences,"

Table 15

Expressing Emotions by Punctuation

Expression	Frequency	Sample
Marks	84	I maybe we will have class together, good luck and great blog! (S04, U1A2)
		I hope you have tons of fun in Texas!! (S05, U3D2)
Caps	24	REALLY glad football has started back up!!! (S12, U2D1)
		I LOVE them! (S05, PostQ)
Emoticons	21	very cool :) (S08, PostQ)
		The blog..... :/ (S12, Email)
Internet Language	13	Lol! Exactly, I feel you man (S09, U3D2)
		Finally get to try something I never got to do before haha. (S13, U3D2)
Value of Word	12	chiiiiiilllllllllllll (S013, U2D1)
		PS4 babyyyyyyyyyy!!!!!!(S013, U6D4)
Bold	0	NA
Underlined	0	NA
Colored	0	NA

"Learning Experiences," "Instructor," "connectedness," "expectation," "feedback," and

"friendship."

> *This week has been one of my easiest weeks, expect for the large test i had to study for on monday, but other than that I had very few hours at work and a small amount of homework. I have nothing to complain about for the week except that it was boring. But everyone needs some boring sometimes (S03, U6D4)*

> *I am very grateful that you were able to aware me of this… (S04, Email)*

> *I love that the directions are clear and concise so I know how to format every assignment. (S05, Email)*

> *[EMFEMs] help me understand what the instructor thought and feel about my work.(S09, PreQ)*

> *I will be able to understand what the professor really likes or dislikes.(S04, PreQ)*

This course has been very different from any of my other classes. For one I felt as though the teacher actually wanted me to succeed. . (S03, Ref)

I found it interesting that we were taking so many surveys to give our feedback on how the instructor should give us feedback. I enjoy that this specific course/department really is curious to see how the students feel about emoticons and instructor feedback, especially for an online course. (S15, Ref)

I loved that there was feedback after most assignments because it gave me more of an understanding of what was expected and how well I was doing. I also liked that there was frequent communication from the instructor. (S14, Ref)

I also mentioned in my research journal that I noticed that students started to share their

emotions more than before.

Students are not ready to talk about their emotion. (RJ, Week1)

When students see that I am comfortable to use emoticons and typing formats, they started to use them as well. I think they were waiting for my move. (RJ, Week4)

I think I started to change something in their lives. At least they feel free to talk about their daily lives' issues with me. They don't know me, I am just an online instructor for them but I also feel that we are getting closer and started to know each other better. I know some of their struggles and their problems. It makes me feel like more of a teacher. (RJ, Week8)

Isn't it good that one of your students says how you are taking care of your students? Yes it is. It made my day and I feel that I am connected with my students. (RJ, Week9)

In the open-ended questionnaire, which was administered as a pre and post

measurement tool, students were asked, "What do you think about instructor's use of

emoticons (e.g., :) , :( ) or capital words (e.g. it is VERY good) in feedback messages?"

The main difference between pre and post questionnaire was a change to a positive view

on using emoticons in feedback messages. They felt that the relationship with their

instructor was getting closer.

Feedback

Feedback is one of the key elements of this research. Students thought that feedback was very important to understand how EMFEM worked. Students reflected their feedback when they were talking about their "Improvement," "Motivation," "Responsive," "Student Experiences," "Instructor," "Connectedness," "Expectation," "Emotion," "Personalized," and "Friendship":

> *. . . who wouldn't want a smiley face after receiving a great feedback (S12, PostQ)*

> *I like it [EMFEM] :) I would require my students to submit feedback to me as well. I would also make sure that they understand that they can come to me about any questions, comment, and concerns. (S09, PostQ)*

> *the instructor did send friendly and personalized feedback which helped. (S01, PostQ)*

> *I would prefer friendly feedback more than negative and hurtful feedback (S05, PreQ)*

> *Feedback messages I can feel like Im actually in the classroom and make me more comfortable to speak to him [instructor]. (S10, PreQ)*

> *Over the semester, I noticed the feedback did slightly change. There was more color and bold incorporated as time went on to emphasize certain points and I liked it. (S07, Ref)*

> *This course also introduced me to emotional feedback. I noticed that my instructor's feedback style was very different from my other instructors' feedback. His style was way more personal and unique. (S09, Ref).*

> *Normally I give my feedback at the end the semester but this class wants the students to give feedback during the semester which is good because then the class itself can makes improvements throughout the semester. One thing that is also good is the constant feedback every time I do an assignment (S06, Ref).*

> *This encouragement and feedback also sparked motivation to keep doing well on my assignments. (S14, Ref).*

I mentioned that writing feedback was taking a lot of time at the beginning, and then I found a way for creating guidelines for saving time. I highlighted this in my research journal such as,

> *Writing a long feedback response is not a fun part of teaching but it is an essential part. It takes time, but I feel that my students are learning by reading feedback. Some of them are writing me back to ask if there is a chance to re-do their homework again. It shows that they would like to re-do and learn from their mistakes. (RJ, Week7)*

> *Feedback is a very important tool for online learning, especially when your students cannot see you. They only know me by my feedback. I wonder what kind of instructor I am in their mind right now. I am very excited to read their reflection paper. (RJ, Week9)*

> *I am happy to see that some of my students would like to be a teacher like me. Isn't it a honor? It shows that your feedback and all your efforts worked. I don't really care how many hours I gave from my life to write them feedback. I feel like I did a great job with a great prize by hearing good comments on my teaching. (RJ, Week 15)*

In the open-ended questionnaire, which was applied as a pre and post measurement tool, students were asked, "Do you think that the emotional feedback messages may improve your communication with the instructor? Please briefly explain." Both questionnaires showed that students agreed that EMFEM might improve their communication with me. The Post-Questionnaire showed that EMFEM as a feedback message helped them to build a closer relationship with me and focus the highlighted points in their course works (See Table 16).

Personalization

One of the other findings of the research showed that students thought feedback was personalizing. Students reflected that personalizing related to "motivation," "Instructor," "Friendship," "Feedback," and "Responsive":

Table 16

Relationship between EMFEM and Communication

Pretreatment Questionnaire	Posttreatment Questionnaire
Visualizing the emotions	Closer relationship with instructor
Approachable	Highlighting the important points
Comfortable	Approachable
Personal Input	Comfortable

> *it is an encouragement to read a personalized feedback. (S01, PostQ)*
>
> *I would not expect to receive personalized feedback from other instructors. (S04, PostQ)*
>
> *I would like to receive friendly and personalized feedback from my instructor for encouragement and learning purposes. (S14, PreQ)*
>
> *His [Instructor's] feedback made me feel like he actually took the time out to personally read our work and respond. (S09, Ref)*
>
> *As the semester progressed I noticed the feedback of Professor [instructor's name] becoming more personalized, as if he was genuinely concerned with something that I was doing, or the way I was absorbing the material, and I appreciate his individualized attention. (S04, Ref)*
>
> *Mr. ABC [course instructor] had a [an] uplifting style of teaching this course. When he would provide feedback it was always personalized (S11, Ref)*

In my research journal, I highlighted that

> *Personalized feedback might be one of the key definitions of EMFEM, because it was mentioned by some of students and it was also a good part of feedback. Although I used the guidelines for feedback, they were still feeling that feedback was personalized by starting with their name and giving some important points of their works worked. (RJ, Week15)*

In the open-ended questionnaire, which was applied as a pre and post measurement tool,

students were asked, "Would you expect to receive friendly and personalized feedback

from your instructor?" Both questionnaires showed that the majority of students would

like to receive friendly and personalized feedback from me.

Students' Experiences

      Students mentioned their experiences during the course and generally their

experiences related to different categories of clustered data such as "Connectedness,"

"Emotion," "Expectation," "Feedback," "Future Suggestions," "Improvement,"

"Instructor," "Learning Experience," and "Responsive":

> *Hello [instructor name], My computer started giving me problems on Thursday and now isn't turning on at all. I tried to go to the apple store this weekend but I won't get assistance until this week (S07, Email)*

> *This [online course] was my first time and glad it was a great experience! (S12, PostQ)*

> *they made me feel like I could contact my instructor whenever, which I did not feel with my other online instructors (S03, PostQ)*

> *I wasn't used to using emoticons because it seemed informal. But I did like how the instructor used them. (S01, PostQ)*

> *it kind of breaks the technology barrier and gives a personal touch that makes you remember there is a person to help you and guide you during the course. (S07, PreQ)*

> *as a young person I use them a lot when text messaging friends so it's a great way to connect (S04, PreQ)*

> *I think emotional feedback places everyone on the same page and creates a more stable environment (S03, PostQ)*

> *As this is my first online class I cannot really compare it, but since this experience went well I have already signed up for another online class! (S12, Ref)*

> *Although this course was not the first online class I had taken, I feel like it was the first one I really connected with. (S09, Ref)*

> *This course was by far one of my favorites this semester. I never felt overwhelmed with work each week, until my computer broke, and despite*

us not meeting for class [instructor name] was one of my most responsive instructors. (S07, Ref)

This class was actually a great experience and I enjoyed doing these assignments which further educated me in knowledge over the internet. (S08, Ref)

This was one of my first two online courses I've ever taken, so it was really different. (S10, Ref)

This class is so different from any other class that I have taken at [university name] for one because it is an online class and the only one I have ever taken at that. It was also very different from any other class because of the very hands on approach that the class takes with us having an assignment due every Sunday evening. It was a way of bringing something that we already do into the virtual classroom setting and made the while atmosphere when talking to our professor much more relaxed. (S11, Ref)

This particular course was very interesting for me because I never had an instructor who expresses his feelings and emotions to his students. (S06, Ref)

According to my research journal:

I feel that students have some experiences. Some of them are taking their first online course, so they don't know how the online course might be. (RJ, Week5)

I was looking at one of my research journals that I wrote during the 5th week of the semester. I mentioned there that some of my students are getting their first online course experiences. I have noticed that students' expectations are increasing when they are involving the course more and having more experiences on the course. (RJ, Week11)

I think I was observing my students very well, when I was reading their reflection papers. I realized that when they experienced, their expectations were increased. I think it is a very good change, because their experiences might let them become more involved to get more expectations." (RJ, Week15)

CHAPTER 5

DISCUSSION

In this chapter, I discuss the main findings of the study. I briefly explain the

research and the research question, and then I interpret the findings and discuss the

results.

An emotional motivational feedback message (EMFEM) is defined in this study

as a feedback message which was the combination of motivational strategies using ARCS

model (Keller, 2010) and emotional content strategies: using emoticons (Kappas &

Krèamer, 2011; Tossell, Kortum, Shepard, Barg-Walkow, Rahmati & Zhong, 2012),

formatting words (Kalra and Karahalios (2005), and using the semantic value of words

(Goddard, 2011).

I conducted this study in order to examine the effectiveness of EMFEM in an

online learning environment. There were fifteen undergraduate students as participants

during the 14-week instructional technology course. Several different qualitative and

quantitative data collection tools were used in gathering data from the students, including

the Course Interest Survey, IT Attitude Surveys, open-ended questionnaires, research

journals, emails, and discussion postings.

The data showed that participants were affected by EMFEM in different ways

during the course. These are motivation, attitudes, emotion, feedback, instructor,

personalizing the process, and students' experiences (See Figure 18).
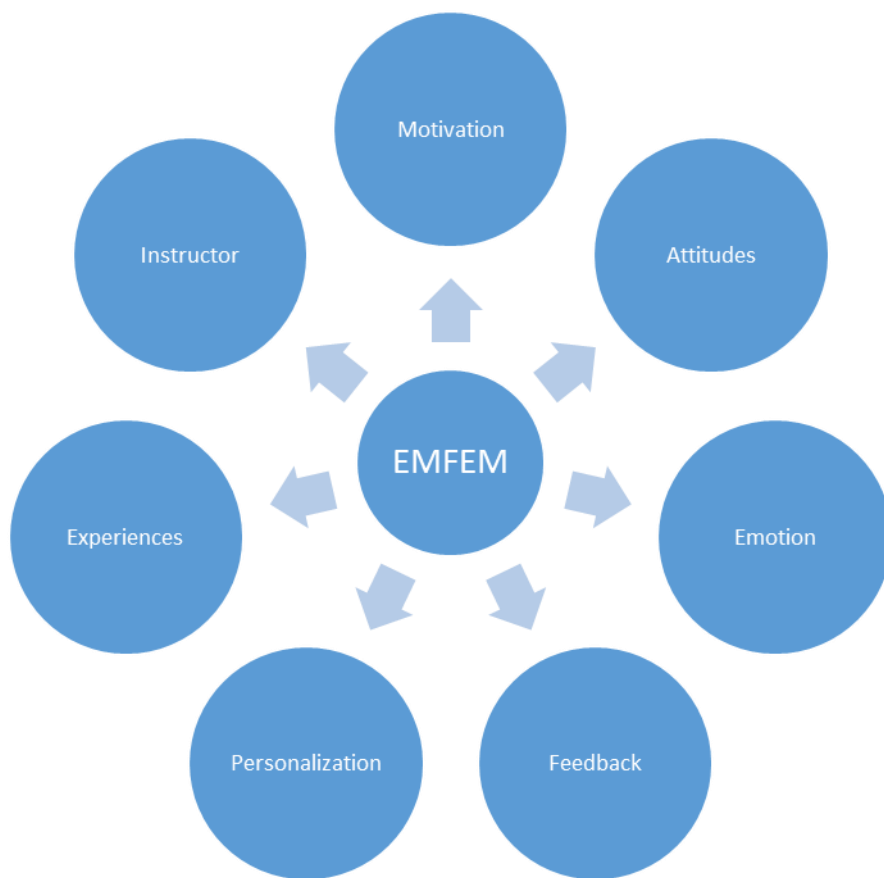
Figure 18. Effectiveness of EMFEM.

Motivation

Feedback messages are a very important element of online learning not only for keeping track of students but also for letting students know how they might do better on their work (Askew, 2000). Students need feedback to monitor their progress (Ally, 2008).

The results of this study suggested that EMFEM contributed to an increase in students' motivation. The Course Interest Survey (CIS) revealed that students were motivated during the online class. The CIS had four subcategories, attention, relevance, confidence, and satisfaction. They were measured individually in this study. Although all categories were higher than the midpoint of the survey, attention was slightly lower than

the other three subcategories. Keller (2010) gives three main strategies to arouse and

sustain attention. These strategies are perceptual arousal by using novel, surprising,

incongruous, or uncertain events; inquiry arousal by having the learner generate questions,

or a problem to solve; and variability by varying the elements of instruction.

I noticed that arousing and sustaining attention during the instruction was a little

bit challenging. The reason might be the nature of the learning platform. The learning

environment in this study was a text-based asynchronous online learning environment,

which meant students and instructor were locally and chronologically separated. The

main way to communicate with the students was through writing strategies using

different delivery options, such as email and discussion posts. One of the strategies was

to arouse the attention in these kinds of environments to start writing messages by using

the students' names, as Kim and Keller (2008) highlighted in their studies. However,

because of the nature of the course, assignments were designed weekly and feedback was

mainly given after assignments. This meant that there was an entire week that students

were engaging with their assignments. During a week, students' attention might shift

often. Additionally, students had more than three courses for the semester and some of

them were taking an online course for the first time; therefore, their additional course

load and lack of seeing the instructor might have affected their attention. Overall,

students' motivational level was increased. EMFEM was one of the catalysts for this

increase during the study.

Mumm and Mutlu (2011) highlight that feedback increases intrinsic motivation of

the students. EMFEM had two powerful components: Emotional and Motivational

strategies. Emotion and motivational strategies might affect students' motivation by using

them individually and also, as shown in this study, by using them together. During the study, students mentioned that it seemed that EMFEM from their instructor motivated them in many different ways:

1. EMFEM provided having a closer relationship with their instructor.

2. EMFEM was an "*extra push" (S02, PostQ)* to help students to go one more step further.

3. EMFEM encouraged students to do their work better.

4. EMFEM put additional enjoyment in the course.

EMFEM played an important role during the course and encouraged students to see a different perspective about feedback messages, which motivated them to do their work better.

Attitudes

The students were taking this online course for the first time, and many of them were even taking an online course for the first time, so these students had had very limited experiences in both online learning environments and the content of the course. Therefore, they might have few or no attitudes towards online learning environments and the content of the course. The Information Technology (IT) Attitude Survey attempted to determine (a) their attitudes towards information technology in general and (b) their attitudes towards the content of the course (as the course was aimed to teach how to use information technology).

The result of the IT attitude survey showed that students' attitudes toward the course improved by the end of the course. The other data also supported this statement. The CIS showed that satisfaction, as one of the subcategories of CIS, increased during the course. Students' attitudes might be one of the indicators which was related to students'

satisfaction, as it was highlighted that e-learners' satisfaction related to learners' attitudes toward IT (Sun, Tsai, Finger, Chen & Yeh, 2008) or the course in this case.

Another aspect of positive attitudes towards the course might be the effectiveness of EMFEM. Students' reflection papers showed that students enjoyed having EMFEM during the course. They also reflected their positive attitudes towards the course by mentioning how they liked to be in the class. This finding is consistent with Kim and Keller's (2010) study, in which they highlight that motivational and volitional email messages can facilitate students' positive attitude toward technology integration.

I noted the increasing interaction between students and myself in my journal. As the instructor, I mentioned that students started to communicate with the instructor more and mentioned how pleased they were to be a part of the class.

Emotion

Another effective aspect of EMFEM was that it was related to students' emotion. EMFEM was built by using emotional transfer strategies such as emoticons, semantic value of words and editing/typing strategies. I selected these strategies because of the limitations of the mostly text based asynchronous online learning environment. At the beginning of the class, I applied three mini surveys to determine what students thought about emotional messages and how familiar they were with online emotional reflection. The results showed that students were familiar with these emotional transfer strategies. However, some of the students hesitated to use them because they thought that these strategies, especially emoticons, were unprofessional to use with an instructor. They mentioned that they used emoticons while texting their friends to reflect their emotions. The purpose of using emoticons were the same for all of the students, but the way of using them was not. It was an expected result because they mentioned that they had never

used them in professional environments. The students also mentioned that if their

instructor used them, they would use them as well.

I used all of these three strategies while sending EMFEM during the course. I

noted that I felt that my students were reading all EMFEM because sometimes, I had

responses from students expressing their appreciation for the feedback. As the instructor,

I also noticed that students started to use these strategies, such as emoticons, the semantic

value of words and some editing strategies; however, on the other hand, the students did

not use some techniques of editing strategies, such as writing in bold, underlined and

colored. The reason might be the limitation of the learning environment because the

editor windows of the learning management system weren't as flexible as other word

processing software.

EMFEM was designed to encourage students by giving emotional and

motivational feedback. The results indicated that although the instructor mentioned that it

was not east to write EMFEM, students were eager to receive it because they felt

emotionally connected. Students started to reflect their feelings in discussion board posts

clearly and freely. They were increasingly comfortable in expressing their feelings and

willing to share more about their lives. However, I noticed that if students were posting to

the discussion board, which was related to class, they were not reflecting their feelings or

using emotional reflection strategies. On the other hand, if students were posting to the

discussion board, which was related to their lives, they were reflecting their feelings and

using some of the emotional reflection strategies more than on other discussion boards.

This might be the reason they felt unprofessional because some of students mentioned

that they weren't comfortable using these techniques in professional settings. Although

students did not prefer to use these techniques, they expected the instructor to write feedback by using these techniques. The majority of students also mentioned that they would use bold, italic and colored text while giving feedback to their students if they were an online instructor because students reflected that these techniques and strategies made the points in the messages more noticeable; however, the colors made students confused because meanings of colors might be affected by personal and cultural views.

During the research process, as the instructor, I noted that students' willingness to do emotional reflection increased. They started to use some words such as "love," "like," "enjoy," and "pleased." They also started to use other strategies for reflecting their emotions. Students might have felt comfortable reflecting their emotions when they figured out that their instructor was comfortable in reflecting his emotions.

Feedback

EMFEM was defined as feedback, which included emotional and motivational strategies in this study. Although it was a kind of feedback message, over the duration of the course, the students' expectations of feedback changed. At the beginning of the course, feedback was one of the important motivational factors in the online learning environ-ment, but by the end of the course, feedback became the most important factor in the online learning environment. This important change might be a result of the way of receiving feedback from the instructor.

It seemed that students liked to have feedback that pointed out the important aspects and encouraged them to do their classwork better. Students also highlighted that the way of receiving feedback from the instructor helped them feel more comfortable. It might be interpreted in different ways:

1. As the instructor, I gave students the survey to determine what kinds of words they felt made them happy and what kinds of words they felt made them upset. The results showed that students liked to hear "excellent," "great" and "wonderful," which made them feel happy; students disliked hearing "terrible," "horrible," and "bad," which made them feel upset. I used the words that affected them positively while giving feedback, and I didn't use words that affected them negatively during the course. This strategy might make them feel positively motivated by EMFEM.

2. The nature of EMFEM included emotional content strategies. Students mentioned that having EMFEM made them feel better and improved their communication with the instructor in a closer and friendlier way. As the instructor, I noted in my research journal that students started to communicate with me with increasing frequency. The friendly communication between students and instructor might make them feel more comfortable in communicating with the instructor.

Another important effect of EMFEM might be changing the meaning of feedback. During the course, the meaning of EMFEM was slightly changed by students. At the beginning of the course, students defined EMFEM as the way of visualizing emotions and highlighting the important points of their coursework. By the end of the course they mentioned that EMFEM is the way not only of receiving emotional and motivational feedback messages for the points which should be improved in their course work, but also of providing a closer relationship with the instructor. That is, students gave another role to EMFEM which helped them to communicate with their instructor comfortably.

Emotional motivational content strategies might help students feel that way, because emotional strategies caused them to feel that they had a friendly relationship with the instructor.

Personalization

Personalization was one of the important effects of EMFEM. Gallien and Oomen-Early (2008) define personalized feedback as a feedback message which is given individually. This result might be explained under the title of feedback; however, it might be better to explain it separately for considering the limitation of asynchronous online learning environments and effectiveness of the feedback messages. There were several strategies applied during the research. These are (i) mentioning students' names in each EMFEM; (ii) mentioning specific information about them such as their field of study in the first EMFEM; (iii) giving specific points of their assignments in each EMFEM; and (iv) using emotional and motivational strategies. Students mentioned that EMFEM helped them feel personalized. On the other hand, personalized feedback messages might affect students' satisfaction, as noted in Gallien and Oomen-Early's (2008) study. They highlighted that students who received personalized feedback were more satisfied and performed academically better than students who received only collective feedback.

One of the challenges of motivation in large classrooms is to make students feel that the instructor is addressing their individual needs. Lack of instructors' personal attention might affect students' motivation (Kim and Keller, 2008). Students mentioned that they would like to have personalized feedback messages as their instructor had done. That way, they felt encouraged when they knew that the instructor gave his attention to all students' work, read it and responded individually. As the instructor, I noted that personalized feedback was a part of the EMFEM, which made them feel like they

belonged in the learning environment and encouraged students to do their work better. These results overlap with Kim and Keller's (2008) study. In their study, they highlight that personalized motivational volitional emails might be useful supports for improving students' motivation.

Students' Experiences

EMFEM also might affect students' experiences. Students hadn't taken this course before and many of them hadn't even taken any online course before. This means many students in this study might have had new experiences in online learning. According to the results in this study, students had positive experiences with online learning. They mentioned that they would like to take another online course. It might be interpreted that students' views in online learning might change in a positive way by the end of the course.

During the course, students started to share their daily life experiences, such as technological problems, school issues, health difficulties, and personal life problems. Sharing their daily life experiences with their instructor might be one of the effects of EMFEM, because as it was mentioned before, students felt a closer relationship with their instructor during the course. They might feel comfortable communicating with their instructor due to a closer/friendly relationship with them. This process of changing might affect the students' view of an online instructor.

Because EMFEM was a new term and process for students, it might be considered as a new experience for students. They mentioned that their experiences with EMFEM changed their views on feedback in many ways. First, they considered feedback as the most important motivational factor by the end of the course; second, they found EMFEM more individual and friendly; third, they mentioned that they expected the same style of

feedback from other instructors as well. These changes might also affect students' experiences in online teaching.

Students began using emotional content strategies during the course. This might be influenced by the instructor, because as the instructor of the course, I was using emotional content strategies and I helped them to feel free to use them if they would like to. Based on students' previous experiences, they were thinking that it would be unprofessional to use these strategies in school related environments. However, during the course, they were using emotional content strategies to reflect their emotions. Students were glad to reflect their emotions in class freely.

Instructor

One of the important effects of EMFEM was, according to students' views, the instructor in this study. Students interacted virtually with the online instructor whom they had not had a chance to meet face to face. Students formed opinions about their instructor by his emails, feedback and discussion postings, but even with these limitations, students had very clear thoughts about their instructor.

Students felt that their instructor was a young, friendly, and caring person. This result showed that EMFEM made students think that their instructor was young because of his usage of emotional content strategies; friendly because of feeling a closer relationship; a caring person because of his support. Students had some thoughts on the instructor's personal characteristics even though they hadn't seen the instructor in real life. It might be interpreted that EMFEM gave some indicators about the instructor's personality.

Students started to think that other instructors should teach the same way. The instructor in an online class has limitations, such as lack of seeing students, knowing

students' feelings, and understanding their needs. It seemed that students liked the instructor's style of teaching; however, this added another responsibility to the instructor: giving EMFEM. It might be very important for online instructors to know what kind of instructor that students would like to see in an online course.

As the course instructor, I noted that the course required more work than before, because of writing individual EMFEM, understanding students' needs, trying to solve individual problems, and being an active communicator during the fourteen weeks. During the course, because emails might come any time of day, students might expect to get their response any time rapidly. There were also many emails that students were sending late at night, especially close to deadlines of their assignments. I was aware of this email traffic, and as the instructor of the course, I responded to emails rapidly. It seemed that students liked the quick response any time of the day, and that was why they mentioned that their instructor was so responsive. Being a responsive instructor is another role that online instructors should take.

The other important point was students' motivational factors for online learning environments. At the beginning of the course, the instructor was one of the less important motivational factors; however, by the end of the course, the instructor became one of the most important factors of the course. This change might be because of the instructor's teaching strategies. EMFEM might also be another reason for that change, because feedback was one of the very important motivational factors by the end of the course. These results show that the instructor was a strong motivator during the course. Because it was a text-based online learning environment, it might be interpreted that EMFEM

worked for this study, although it added other responsibilities to the online instructor such as being a motivator, using EMFEM, and having good communication skills.

It was very important to see how students felt a closer relationship to me as their instructor. This might be because of my performance, which was related to teaching presence in an online learning environment. Anderson, Liam, Garrison, and Archer (2001) define teaching presence "as the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (p. 5). This definition identifies important roles of an instructor, such as being an instructional designer, coach, and facilitator. However, something that might be missing in this definition is emotion. Students and instructors might interact emotionally in both online and face-to-face learning environments. However, asynchronous text based learning environments have unique challenges to create and develop teacher presence effectively (Garrison, Anderson & Archer, 1999). Garrison (2007) also mentioned that the combination of teaching presence and social presence constitutes "setting climate." Setting the climate is a very essential part of online learning environments. In this study, I, as the instructor of the course, used some strategies to set the learning environment's climate. First, I let my students feel free to discuss whatever they wanted to discuss. I was not judgmental for any discussion postings. I did not block students' willingness to write freely. Secondly, I tried to have strong communication with my students. I responded to all the emails in a short time. Thirdly, I tried to understand my students' needs better. I gave many examples during the course about how they might use the knowledge that they learned during the course and in their professional lives. These strategies might help to create teaching presence and

also social presence together. However, it might be important to mention here that I noticed that emotions were very important to create social and teaching presence together. Emotions should be used for not only setting the climate but also setting the effective learning practice in online learning. Cleveland-Innes and Campbell (2012) also highlight that emotional presence exists in cognitive, social, and teaching presence. My study also showed that EMFEM might be a good strategy for online learning to develop emotional presence because it provided a closer relationship with the instructor, created a positive learning experience, and enriched an effective learning design for teaching. On the other hand, it is very clear that instructors should be aware of students' and also their own emotions. This gives another role for instructors to manage the emotions because emotion might be distractive if not managed very well in online learning environments (Cleveland-Innes and Campbell, 2012).

Creating EMFEM Strategies

   EMFEM was an effective way to encourage students during this study. It is also important to know how to create efficient EMFEM. The process of creating EMFEM is explained below step by step:

    (i) Decision: The first step of EMFEM is to decide what kinds of feedback messages should be written. The decision part is related to students' coursework because feedback might be negative or positive, but both of them should be motivational. Negative feedback does not mean writing negative words. Negative feedback is to encourage students to do their course work better by using positive and motivational words in explaining that they have not done high quality work. Positive feedback is to encourage students and maintain the motivation for doing the same or

higher quality course work by using positive and motivational words. The decision part is also related to getting to know students better. That way, instructors know which words and which emotional content strategies might help to give EMFEM efficiently.

(ii) Applying the strategies: There are two main strategies while creating EMFEM: the emotional content strategy and the motivational message strategy.

    a. Emotional Content Strategies: One of the strategies of creating EMFEM is to design emotional content strategies. This strategy might help instructors to create strong communication with students. There are limited techniques for designing emotional content in text based online learning environments. These three techniques below might be used all together or one at a time in an EMFEM.

        i. Emoticon: Emoticons are one of the most popular tools in text-based environments for making emotional content. Using a smiley face after a good note might make students feel positive.

        ii. Semantic Value of Words: Some words are more powerful than others, such as using "Wonderful" instead of "Good" or "improve" instead of "not good enough." These small but important changes might help instructors encourage their students.

        iii.   Editing the text (font effects): Writing some important words in all caps, italic, bold, underlined and/or color might affect students' feelings, such as writing "GREAT" instead of "great".

b. Motivational Strategies: This strategy basically designs the structure of the EMFEM. The ARCS model as used in this study gives a very efficient structure to create a motivational message. The ARCS model has four steps: Attention, Relevance, Confidence and Satisfaction.

        i.   Attention: While writing EMFEM, starting with students' names helps to arouse students' attention. Giving some specific information about them might help to get students' attention. In order to do this, instructors may need to know students better.

        ii.   Relevance: While writing EFMEM, mentioning what they learned, why they learned, and how they will use it in the future might help create relevance. Also, giving examples or questions might help them use the knowledge further.

        iii.   Confidence: Students should know how to start positive expectancies for success by explaining how they can be successful by using the knowledge that they learned. While writing EMFEM, students should trust themselves to achieve the goals; basically, they should feel confident about the new knowledge in order to use it. If students have already achieved their goal, they should still be encouraged to believe themselves to be able to reach further goals.

iv. Satisfaction: It is generally the final part of EMFEM.

Satisfaction is to get students a reward from their success. It is

basically finishing the EMFEM by congratulating students for

their success and writing their grades in the feedback. Even if

students' assignments need to be improved, the instructor

might still mention good points and how these good points

might be better by giving small examples.

These steps might give a clear structure for instructors to create their own

EMFEM; however, the instructors might change the structure of EMFEM by considering

their online class setting, students' needs, etc.

Online instructors who would like to use EMFEM should

- know their students' needs,

- take some notes about their students to know them better

- consider that EMFEM might take more time than writing normal feedback,

- know that students might initially find EMFEM unprofessional,

- find their own paths to create personalized EMFEM by using their teaching
  experiences,

- be aware that students' expectations might increase, so instructors might get
  ready to receive more emails

Limitations of Study

This study has some limitations, such as the number of participants, inexperienced online students, the length of research, and the fact that for some students this was a required course.

First, this online class had 20 students; however, only 15 of them gave consent to participate this study. The data of other students who did not sign the consent form was not used for study, although they were active students and had a strong interaction with classmates and the instructor. This study was exploratory, and the low number of participants in the case study provide information on possibilities of EMFEM more than definitive generalizations about its use.

Second, many students had not had any experiences in online learning environments, therefore, these students might engage in focusing on the learning management system more than the instructor. Additionally, the learning management system recently changed and the new learning management system has a different graphical user interface, menus, as well as different and additional functionalities. Adopting a new learning management system was difficult for the instructor and may have been for the students as well.

Third, the length of the research was limited to 14 weeks. Generally, this length is good enough to know students; however, EMFEM might need longer to be used efficiently because knowing students better, creating a closer relationship, and helping them to be comfortable while communicating with the instructor took extra time during this research. A longer period of research might provide more information to help determine the effectiveness of EMFEM.

Fourth, the majority of students took this course because of the requirements of their department. Students also were mainly from different fields of study; therefore, the first priority in taking this course might be completing their required courses. It might cause students to focus on finishing the course with a good grade instead of learning deeper and further.

Fifth, one of the other limitations of this study was my not knowing what happened behind the scenes with the students. They had different and various classes; these might have affected students' motivation and attitude. I also could not control the interactions they might have had outside of the class. Students' daily life changes might also affect students.

Sixth, another limitation of this study was that I did not know about the cultural backgrounds of students. This might affect some of the results of the study, such as the use of colored text. Color might not reflect the same meaning for different cultures.

Future Directions

The results and limitations of this study might provide several directions for future research.

First, this study was aimed at determining the effectiveness of EMFEM, which was a new kind of feedback message. Therefore, the effectiveness of the EMFEM should be researched more and the results should be compared with previous studies. Researchers also might focus on different aspects of EMFEM and different efficiency factors in future studies.

Second, although this study was longer than many studies, it was only 14 weeks. It would be better to have a longer time to determine the effectiveness of EMFEM.

Longer studies might help researchers to see the different perspectives of students on EMFEM, and also it might help students to get used to making or receiving EMFEM.

Third, writing EMFEM takes time and sometimes it might be longer than normal. Although in this study I, as instructor, created a guideline for writing EMFEM, it still took additional time to manage it. New studies might help instructors create faster, shorter and more efficient EMFEM. Researchers could also investigate ways of creating more effective designs of EMFEM.

Fourth, EMFEM was used in an online learning environment in this study. It would be interesting to see the result of effectiveness of EMFEM in traditional face-to-face and/or blended learning environments. Future researchers also might consider other learning environments, different fields of study, and a variety of different contents of the course.

Conclusion

This study focused on determining the effectiveness of EMFEM. Results showed that (i) students' motivation was increased; (ii) students' positive attitudes toward IT increased; (iii) students liked the EMFEM and the way of the instructor's teaching; (iv) students had a closer and friendlier relationship with the instructor; (v) by the end of the course, students were satisfied with the course; (vi) students started to use more emotional content; (vii) students enjoyed having personalized EMFEM and requested to have EMFEM; and (ix) students had positive experiences by the end of the course.

My personality and my teaching style might have strongly affected the results of this study. As I mentioned before, instructors' personalities might affect their teaching strategies; therefore, online instructors should know their personality and their teaching styles because it might affect not only students' attitudes but also their emotions.

Additionally, online instructors should be aware of their students' needs, perhaps by answering a couple of questions such as: what, when and how they would like to learn. The other important question is to ask what kind of instructor students want. This question is also important for online instructors. They should ask themselves "what kind of instructor am I?" In this study, I chose to be an instructor who was friendly, social, and responsive. All the results of this study should be considered on this path. Students' responses, their interaction with the instructor and their feelings toward the instructor were related to my teaching skills, personality and educational philosophy. I, as well as my technique of feedback massages, was the key of this study; however, the same students in the same online environment and teaching the same content with a different instructor might give different results. In future studies, researchers should be aware of the relatedness of online instructors' decisions about their teaching roles in online learning environments.

This study, despite its limitations, provided an assessment of a new kind of feedback messages for online learning environments. EMFEM was supported by emotional content and motivational strategies for encouraging students during the course. Further research might clarify how EMFEM works in online learning environments.

REFERENCES

Ackerman, D. S., & Gross, B. L. (2010). Instructor feedback: How much do students really want? *Journal of Marketing Education, 32(2),* 172-181.

Ally, M. (2008). *Theory and practice of online learning*. Anderson, T. (Ed.). Athabasca University Press.

Anderson, G. R. (2009). *Achieving teaching excellence : a step-by-step guide*. Charleston, SC: CreateSpace?

Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conference context. *Journal of Asynchronous Learning Networks, 5*

Askew, S. (2000). *Feedback for learning*. London ; New York: Routledge/Falmer.

Barkley, E. (2010). *Student engagement techniques : a handbook for college faculty*. San Francisco: Jossey-Bass.

Bassey, M. (1999). *Case study research in educational settings*. Philadelphia: Open University Press.

Black, P. J., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2003). *Assessment for learning putting it into practice*. Maidenhead: Open University Press. Retrieved from http://site.ebrary.com/id/10161348

Bogdan, R., & Biklen, S. K. (2003). *Qualitative research for education : an introduction to theory and methods* (4th ed.). Boston: Allyn and Bacon.

Borham-Puyal, M., & Olmos-Migueláñez, S. (2011). Improving the use of feedback in an online teaching-learning environment: An experience supported by moodle. *US-China Foreign Language, 9(6), 371-382.*

Brockbank, A., & McGill, I. (2007). *Facilitating reflective learning in higher education*. Maidenhead, England; New York: McGraw Hill/Society for Research into Higher Education and Open University Press.

Brookhart, S. M. (2008). *How to give effective feedback to your students*. Alexandria, Va.: Association for Supervision and Curriculum Development.

Brookhart, S. M. (2012). Teacher Feedback in Formative Classroom Assessment. In C. F. Webber & J. L. Lupart (Eds.), *Leading Student Assessment*. Dordrecht: Springer Science+Business Media B.V.

Brophy, J. E. (2010). *Motivating students to learn*. New York: Routledge.

Burke, D. M., & Pieterick, J. A. (2010). *Giving students effective written feedback*. Maidenhead: Open University Press. Retrieved from

Butler, A. C., Karpicke, J. D., & Roediger, H. L. (2007). The Effect of Type and Timing of Feedback on Learning from Multiple-Choice Tests. *Journal of Experimental Psychology: Applied*, *13*(4), 273–281.

ChanLin, L.-J. (2009). Applying motivational analysis in a Web-based course. *Innovations in Education & Teaching International*, *46*(1), 91–103.

Cheng, Y.-C., & Yeh, H.-T. (2009). From concepts of motivation to its application in instructional design: Reconsidering motivation from an instructional design perspective. *British Journal of Educational Technology*, *40*, 597–605. doi:10.1111/j.1467-8535.2008.00857.x

Churches, R. (2010). *Effective classroom communication pocketbook*. Alresford: Teachers' Pocketbooks.

Chyung, S. Y. (2008). *Foundations of instructional and performance technology*. Amherst, Mass.: HRD Press.

Cleveland-Innes, M, & Campbell, P. (2012). Emotional presence, learning, and the online learning environment. *International Review of Research in Open and Distance Learning, 13(4)*, 269-292.

Connellan, T. K. (2002). *Bringing out the best in others! : 3 keys for business leaders, educators, and parents*. Austin, TX: Bard Press.

Creswell, J. W. (2005). *Educational research : planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, N.J.: Merrill.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Los Angeles: SAGE Publications.

Deci,E.L.(1971).Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology,* 18, 105–115.

Dempsey, J. V., Driscoll, M. P., & Swindell, L. K. (1993). Text-Based Feedback. In John V. Dempsey & G. C. Sales (Eds.), *Interactive instruction and feedback*. Englewood Cliffs, N.J: Educational Technology Publications.

Dirksen, J. (2012). *Design for how people learn*. Berkeley, CA: New Riders.

Dörnyei, Z. (2007). Creating a motivation classroom environment. In J. Cummins & C. Davison (Eds.), *International handbook of English language teaching*. New York: Springer. Retrieved from http://dx.doi.org/10.1007/978-0-387-46301-8

Dweck, C.S., Mangels, J., & Good, C. (2004). *Motivational effects on attention, cognition, and performance*. In D.Y. Dai & R.J. Sternberg (Eds.), Motivation,

emotion, and cognition: Integrated perspectives on intellectual functioning. Mahwah, NJ: Erlbaum.

Ekman, P. (2003). *Emotions revealed: recognizing faces and feelings to improve communication and emotional life* (1st ed.). New York: Times Books.

Farrell, M. (2012). The Effective Teacher's Guide to Autism and Communication Difficulties Practical Strategies. Hoboken: Taylor & Francis.

Firestone, W. A. (1993). Alternative arguments for generalizing from data as applied to qualitative research. *Educational researcher*, 16-23.

Gagné, R. (1985). *The Conditions of Learning and the Theory of Instruction*, (4th ed.), New York: Holt, Rinehart, and Winston.

Gallien, T., & Oomen-Early, J. (2008). Personalized versus collective instructor feedback in the online courseroom: does type of feedback affect student satisfaction, academic performance and perceived connectedness with the instructor?. *International Journal on E-Learning, 7(3)*, 463-476.

Garrison, A., Remley, D., Thomas, P., & Wierszewski, E. (2011). Conventional Faces: Emoticons in Instant Messaging Discourse. *Computers and Composition*, *28*(2), 112–125. doi:10.1016/j.compcom.2011.04.001

Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The internet and higher education, 2(2),* 87-105.

Garrison, D. R. (2007). Online Community of Inquiry Review: Social, Cognitive, and Teaching Presence Issues. *Journal of Asynchronous Learning Networks, 11(1),* 61-72.

Graesser, A. C. & D'Mello, S. K. (2012). *Emotions during the learning of difficult material*. In B. Ross (Ed.), Psychology of Learning and Motivation (Vol. 57): Elsevier.

Goddard, C. (2011). *Semantic analysis: a practical introduction* (2nd ed.). Oxford ; New York: Oxford University Press.

Gollwitzer, P. M. (1999). Implementation intentions. Strong effects of simple plans. *American Psychologist, 54, 7,* 493–503.

Halloun, I. A. (2006). *Modeling theory in science education*. Dordrecht: Springer.

Hannula, M. S. (2006). Motivation in Mathematics: Goals Reflected in Emotions. *Educational Studies in Mathematics*, *63*(2), 165–178. doi:10.1007/s10649-005-9019-8

Hatziapostolou, T., & Paraskakis, I. (2010). Enhancing the impact of formative feedback on student learning through an online feedback system. *Electronic Journal of e-Learning*, *8*(2), 111–122.

Irons, A. (2008). *Enhancing learning through formative assessment and feedback*. London; New York: Routledge.

Jarzebowski, A.-M., Palermo, J., & van de Berg, R. (2012). When feedback is not enough: The impact of regulatory fit on motivation after positive feedback. *International Coaching Psychology Review*, *7*(1), 14–32.

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher, 33(7),* 14-26.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a Definition of

    Mixed Methods Research. *Journal of Mixed Methods Research*, *1*(2), 112–133.

    doi:10.1177/1558689806298224

Jonassen, D. H. (1991). Objectivism versus constructivism: Do we need a new

    philosophical paradigm? *Educational technology research and development*,

    39(3), 5–14.

Jonassen, D. H., & Land, S. M. (2000). *Theoretical foundations of learning environments*.

    Mahwah, N.J: L. Erlbaum Associates.

Kalra, A., & Karahalios, K. (2005). TextTone: expressing emotion through text. *Human-*

    Computer Interaction-INTERACT 2005, 966-969.

Kappas, A., & Krämer, N. C. (2011). *Face-to-Face Communication over the Internet*

    Emotions in a Web of Culture, Language, and Technology. Leiden: Cambridge

    University Press. Retrieved from

    http://public.eblib.com/EBLPublic/PublicView.do?ptiID=713035

Keller, J. M. (1987). Development and use of the ARCS model of motivational design.

    J*ournal of Instructional Development, 10, 3,* 2–10.

Keller, J.M. (2007). *Trends and issues in instructional design and technology*. Upper

    Saddle River N.J.: Pearson/Merrill Prentice Hall.

Keller, J.M. (2010). *Motivational Design for Learning and Performance*. Boston, MA:

    Springer US. Retrieved from http://www.springerlink.com/index/10.1007/978-1-

    4419-1250-3

Keller, John M. (2010a). Five fundamental requirements for motivation and volition in technology-assisted distributed learning environments. *Revista Inter. Ação*, *35*. doi:10.5216/ia.v35i2.12668

Kidman, L., & Hanrahan, S. J. (2011). *The coaching process: a practical guide to becoming an effective sports coach* (3rd ed.). London ; New York: Routledge.

Kim, C., & Keller, J. M. (2008). Effects of Motivational and Volitional Email Messages (MVEM) with Personal Messages on Undergraduate Students' Motivation, Study Habits and Achievement. *British Journal of Educational Technology*, *39*(1), 36–51.

Kim, C., & Keller, J. M. (2010). Towards technology integration: the impact of motivational and volitional email messages. *Educational Technology Research and Development*, *59*(1), 91–111. doi:10.1007/s11423-010-9174-1

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119(2),* 254-284.

Krefting, L. (1991). Rigor in qualitative research: The assessment of trustworthiness. *The American journal of occupational therapy*, *45*(3), 214-222.

Kuhl, J. (1987). Action control: the maintenance of motivational states. In F. Halisch & J. Kuhl (Eds), Motivation, intention and volition (pp. 279–291). Berlin, Germany: Springer.

Kulhavy, R. W., & Wager, W. (1993). Feedback in Programmed Instruction: Historical Content and Implications for Practice. In John V. Dempsey & G. C. Sales (Eds.),

Interactive instruction and feedback. Englewood Cliffs, N.J: Educational

Technology Publications.

Kumar, R. (2011). *Research methodology: a step-by-step guide for beginners* (3rd ed.).

Los Angeles: SAGE.

Lincoln, Y. S, & Guba, E. A. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage

Marinetti, C., Moore, P., Lucas, P., & Parkinson, B. (2011). Emotions in Social

Interactions: Unfolding Emotional Experience. In P. Petta, C. Pelachaud, & R.

Cowie (Eds.), *Emotion-oriented systems the humaine handbook*. Berlin;

Heidelberg; New York: Springer.

McGrath, A. L., Taylor, A., & Pychyl, T. A. (2011). Writing Helpful Feedback: The

Influence of Feedback Type on Students' Perceptions and Writing Performance.

Canadian Journal for the Scholarship of Teaching and Learning, *2*(2).

Merriam, S. B. (1998). *Qualitative research and case study applications in education*.

San Francisco: Jossey-Bass.

Merriam, S. B. (2009). *Qualitative research: a guide to design and implementation*. San

Francisco: Jossey-Bass.

Meyer, D. K., & Turner, J. C. (2006). Re-conceptualizing Emotion and Motivation to

Learn in Classroom Contexts. *Educational Psychology Review*, *18*(4), 377–390.

doi:10.1007/s10648-006-9032-1

Meyer, D. K., & Turner, J. C. (2007). Scaffolding Emotions in Classrooms. In P. A.

Schutz & R. Pekrun (Eds.), *Emotion in education*. Amsterdam; Boston: Elsevier

Academic Press.

Mishra, R. C. (2009). *Exploring educational research*. New Delhi, India: A.P.H.
Publishing Corporation.

Mory, E. H. (2004). Feedback research revisited. *Handbook of research on educational communications and technology*, 745–783.

Mumm, J., & Mutlu, B. (2011). Designing motivational agents: The role of praise, social comparison, and embodiment in computer feedback. *Computers In Human Behavior*, *27*(5), 1643-1650. doi:10.1016/j.chb.2011.02.002

Ngwenya, J. (2010). Moving towards interactive formative assessment. In D. Francis, S. Mahlomaholo, & M. Nkoane (Eds.), *Praxis towards sustainable empowering learning environments in South Africa*. Bloemfontein [South Africa]: SUN PRESS.

Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. S*tudies in higher education, 31(2),* 199-218.

Palloff, R., & Pratt, K. (2007). *Building online learning communities effective strategies for the virtual classroom*. San Francisco, CA :: Jossey-Bass,.

Patton,M.Q., (1990). *Qualitative Evaluations and Research Methods.* Sage, Newbury, CA

Pekrun, R. (2009). Emotions at School. In K. R. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school*. New York ; London: Routledge.

Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: theory, research, and applications* (2nd ed.). Upper Saddle River, N.J: Merrill.

Pollock, J. E. (2012). *Feedback: the hinge that joins teaching and learning*. Thousand Oaks, Calif: Corwin.

Powers, B., & Rothwell, W. J. (2007). *Instructor excellence: mastering the delivery of training* (2nd ed.). San Francisco: Wiley/Pfeiffer.

Reevy, M. G. (2010). Intoduction: History of Emotion. In M. G. Reevy, Y. M. Ozer, & Y. Ito (Eds.), *Encyclopedia of emotion*. Santa Barbara, Calif.: Greenwood.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology, 25(1),* 54-67.

Sampasivam, L., & Wang, X. (2012). *Emotional and Motivational Effects of Feedback on High/Low Anxiety Groups.* Washington, District of Columbia, US: American Psychological Association (APA). Retrieved from http://ezproxy.gsu.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=pxh&AN=638852012-001&site=ehost-live

Sandford, D. W. (2013). "Construction of Professional Identity in Novice Library Media Specialists". *Middle-Secondary Education and Instructional Technology Dissertation. Georgia State University*. http://digitalarchive.gsu.edu/msit_diss/109

Sarsar F. (2008). *Effects of online collaborative learning environments on social skills of pre-service teachers*, Ege University, Applied Science Institute, Master Thesis, Izmir, Turkey.

Sarsar, F. & Kisla, T. (2013). Students' Emotional Transfers in Online Environment t. In R. McBride & M. Searson (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2013* (pp. 2401-2406). Chesapeake, VA: AACE.

Sarsar, F. & Harmon, S. (2013). Motivational Factors of Online vs. Face-to-Face Learning Environments. In R. McBride & M. Searson (Eds.), *Proceedings of*

Society for Information Technology & Teacher Education International Conference 2013 (pp. 1004-1009). Chesapeake, VA: AACE

Scholz, R. W., & Tietje, O. (2002). *Embedded case study methods: integrating quantitative and qualitative knowledge*. Thousand Oaks, Calif: Sage Publications.

Schramm, W. (1955). The process and effects of mass communication. Urbana: University of Illinois Press.

Schreier, M. (2012). *Qualitative content analysis in practice*. London; Thousand Oaks, Calif.: Sage Publications.

Schutz, P. A., & Pekrun, R. (2007). *Emotion in education*. Amsterdam; Boston: Elsevier Academic Press.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, *22*(2), 63-75.

Smits, M. H. S. B., Boon, J., Sluijsmans, D. M. A., & van Gog, T. (2008). Content and Timing of Feedback in a Web-Based Learning Environment: Effects on Learning as a Function of Prior Knowledge. *Interactive Learning Environments*, *16*(2), 183–193.

Spanoudis, G., & Kyza, E. A. (2009). Integrating Knowledge of Cognitive System and E-Learning Applications. In C. Mourlas, N. Tsianos, & P. Germanakos (Eds.), *Cognitive and Emotional Processes in Web-Based Education: Integrating Human Factors and Personalization*. IGI Global. Retrieved from http://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/978-1-60566-392-0

Sprenger, M. (2005). *How to teach so students remember*. Alexandria, Va.: Association for Supervision and Curriculum Development. Retrieved from http://site.ebrary.com/id/10081763

Steinberg, S. (1994). *Introduction to communication. Course book 1, Course book 1,*. Cape Town: Juta.

Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D. (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. *Computers & Education, 50(4),* 1183-1202.

Sullo, R. A. (2009). *The motivated student: unlocking the enthusiasm for learning*. Alexandria, Va: Association for Supervision and Curriculum Development.

Terzis, V., Moridis, C. N., & Economides, A. A. (2012). The Effect of Emotional Feedback on Behavioral Intention to Use Computer Based Assessment. *Computers & Education*, *59*(2), 710–721.

Tossell, C. C., Kortum, P., Shepard, C., Barg-Walkow, L. H., Rahmati, A., & Zhong, L. (2012). A longitudinal study of emoticon use in text messaging from smartphones. *Computers in Human Behavior*, *28*(2), 659–663.

Ulrike, P. (2010). Online Support Communities. In P. Zaphiris & C. S. Ang (Eds.), *Social computing and virtual communities*. Boca Raton: Chapman & Hall/CRC Press.

Van den Bossche, P., Segers, M., & Jansen, N. (2010). Transfer of training: the role of feedback in supportive social networks. *International Journal of Training and Development, 14(2)*, 81-94.

Visser, J. & Keller, J. M. (1990) The clinical use of motivational messages—an inquiry into the validity of the Arcs model of motivational design. *Instructional Science, 19(6),* 467-500.

White, J., & Gardner, J. (2012). *The classroom X-Factor : the power of body language and nonverbal communication in teaching*. London; New York, NY: Routledge.

Wong S. L. (2002).*Development and validation of an Information Technology based instrument to measure teachers' IT preparedness*, unpublished doctoral thesis, Universiti Putra Malaysia. Serdang,, Selangor,Malaysia.

Wood, J. T. (2009). *Communication in our lives* (4th ed.). Belmont, CA: Thomson-Wadsworth

Yin, R. K. (2009). *Case study research: design and methods* (4th ed.). Los Angeles, Calif: Sage Publications.

Yunus, M. M., Osman, W. S. W., & Ishak, N. M. (2011). Teacher-student relationship factor affecting motivation and academic achievement in ESL classroom. Procedia-Social and Behavioral Sciences, 15, 2637-2641. Cognitive neuroscience of emotion. Oxford University Press, USA.

APPENDIXES

APPENDIX A

Text for Welcome Messages

Hi NAME,

Welcome to the IT2010!

I hope we will have a great semester while learning together lots of new and exciting things. This class is about you and your knowledge of technology and ways to use efficiently in your everyday life. The course syllabus was uploaded to desire2learn and also attached in this email. Please let me know if you have any question.

This course is a new opportunity to engage with me and your classmates in learning, to confront and challenge new ideas about the use technology in your field of *Participant's Field!* You can use technology to create your own website, your blog and promote your knowledge and experiences by using them.

A few practicalities so that you can prepare yourself for the course.

Timing: it is very important to send your homework in a timely manner, since the upload system will be closed after each deadline.

Email: I enjoy writing emails. Don't hesitate to email me with anything you may want to ask or share. I would also like to see the responses to my emails. You will receive my feedback or some extra information about the class via desire2learn. If you email me back, it will help me to see that you get the email and its content.

Expectations: My expectation is to see how you learn. The grading is to show how much you have learned, but what I really care about is to see how you apply new knowledge in your daily life.

Feedback: I will strive to provide authentic and just in time feedback, helping you to understand how did you do on your assignments and what counts as "good work". Incorporating my feedback will enable you to do better in class and to have a better perspective on a given subject. Your feedback on my feedback is welcomed and encouraged; please send all your thoughts and questions to my inbox☺

NAME, I am really looking forward to see you actively involved in the class and I am sure that you will achieve not only course goals but also your own personal goals.

Good Luck. ☺

Instructor INAME

APPENDIX B

Open-Ended Questionnaire (Pre)

Question 1

What is the main reason you are taking this course?

Question 2

What motivates you in online learning environments?

Question 3

What do you think about instructor's use of emoticons (e.g. :) , :(   ) or capital words (e.g. it is VERY good) in feedback messages?

Question 4

Do you think that the emotional feedback messages may improve your communication with the instructor? Please briefly explain.

Question 5

"I feel comfortable using emoticons in my correspondence with the instructor if he/she also uses them." Does this sentence reflect your feelings? Why?

Question 6

Would you expect to receive friendly and personalized feedback from your instructor?

Question 7

Do you think Emotional Feedback Messages can help you maintain motivation for learning? Please explain briefly.

Question 8

Do you think that you can express your feelings/emotions in online learning environment? How?

Question 9

Do you expect that your instructor needs to know your current feelings/emotions in online learning environment? Why?

Question 10

If you were an online instructor, what would you do to understand your students' feelings/emotions better?

APPENDIX C

Open-Ended Questionnaire (Post)

Question 1

      Do you think that this course met your expectations?

Question 2

      What motivates you in online learning environments?

Question 3

      What do you think about instructor's use of emoticons (e.g. :) , :(   ) or capital words (e.g. it is VERY good) in feedback messages?

Question 4

      Do you think that the emotional feedback messages may improve your communication with the instructor? Please briefly explain.

Question 5

"I feel comfortable using emoticons in my correspondence with the instructor if he/she also uses them." Does this sentence reflect your feelings? Why?

Question 6

Would you expect to receive friendly and personalized feedback from your instructor?

Question 7

Do you think Emotional Feedback Messages can help you maintain motivation for learning? Please explain briefly.

Question 8

Do you think that you can express your feelings/emotions in online learning environment? How?

Question 9

Do you expect that your instructor needs to know your current feelings/emotions in online learning environment? Why?

Question 10

If you were an online instructor, what would you do to understand your students' feelings/emotions better?

APPENDIX D

Warm-up Mini Questionnaires 1

Question 1

black   orange   pink   red   yellow

Please explain your feelings when you see these colors above.

a) black : (explain please)

Question 2

What is your favorite color? Why?

Question 3

a) Great

b) GREAT

c) GREAT

d) GREAT [Bold]

If one of the words of "GREAT" above affect you different than others, Please
explain how...

Question 4

a) Perfect

b) Perfect

<u>c) Perfect</u>

<u>d) Perfect</u>

If one of the words of "Perfect" above affect you different than others, please explain how...

Question 5

What do you feel when you see the <u>underlined</u>, bold and/or different color word in a text? Please briefly explain.

Question 6

If you were an online instructor, would you use bold, <u>italic</u> and colored text while giving feedback to your students? Please explain WHY.

Question 7

Do you think that the important words in a text should be the combination of colored, bold and *italic* or only one of them? Please briefly explain?

Question 8

What do you feel when you see Punctuation marks in a text? (Example "Yes!" , [ ], { }).

APPENDIX E

Warm-up Mini Questionnaires 2

Question 1

How often do you use Emoticons?

1. Very Often

2. Often

3. Sometimes

4. Rarely

5. Never

Question 2

Please complete the sentence below!

I use emoticons when I .....

Information

Question 3

Which emoticons (in the picture above) do you use very often? and Why?

Question 4

What do emoticons (in the picture above) mean to you? (please write for each one) (example: Emoticon a means.......)

Question 5

Do you feel more emotionally connected when using emoticons during class?

Question 6

Please write 3 keywords for defining the meaning of emoticon.

APPENDIX F

Warm-up Mini Questionnaires 3

Question 1

      A) wonderful

      B) great

      C) fabulous

      D) excellent

          Which words above affect you most positively? Please explain why.

Question 2

          You didn't do a good job on your assignment and you knew that your instructor gave you negative feedback.

          In these circumstances, which sentences below would you prefer to hear from your instructor? Please explain why you chose that one you did.

          This assignment is not good enough, but I believe that you could do better.

          This assignment should be improved, but I believe that you could do better.

          This assignment is bad, but I believe that you could do better.

Question 3

      Please write 5 POSITIVE WORDS which make you FEEL HAPPY when you hear them.

Question 4

Please write 5 NEGATIVE WORDS which make you FEEL UPSET when you hear them from somebody.

APPENDIX G

Course Interest Survey

1. The instructor knows how to make us feel enthusiastic about the subject matter of this course.
2. The things I am learning in this course will be useful to me.
3. I feel confident that I will do well in this course.
4. This class has very little in it that captures my attention.
5. The instructor makes the subject matter of this course seem important.
6. You have to be lucky to get good grades in this course.
7. I have to work too hard to succeed in this course.
8. I do NOT see how the content of this course relates to anything I already know.
9. Whether or not I succeed in this course is up to me.
10. The instructor creates suspense when building up to a point.
11. The subject matter of this course is just too difficult for me.
12. I feel that this course gives me a lot of satisfaction.
13. In this class, I try to set and achieve high standards of excellence.
14. I feel that the grades or other recognition I receive are fair compared to other students.
15. The students in this class seem curious about the subject matter.
16. I enjoy working for this course.
17. It is difficult to predict what grade the instructor will give my assignments.
18. I am pleased with the instructor's evaluations of my work compared to how well I think I have done.
19. I feel satisfied with what I am getting from this course.
20. The content of this course relates to my expectations and goals.
21. The instructor does unusual or surprising things that are interesting.
22. The students actively participate in this class.
23. To accomplish my goals, it is important that I do well in this course.
24. The instructor uses an interesting variety of teaching techniques.
25. I do NOT think I will benefit much from this course.
26. I often daydream while in this class.
27. As I am taking this class, I believe that I can succeed if I try hard enough.
28. The personal benefits of this course are clear to me.
29. My curiosity is often stimulated by the questions asked or the problems given on the subject matter in this class.
30. I find the challenge level in this course to be about right: neither too easy not too hard.
31. I feel rather disappointed with this course.
32. I feel that I get enough recognition of my work in this course by means of grades, comments, or other feedback.
33. The amount of work I have to do is appropriate for this type of course.
34. I get enough feedback to know how well I am doing.

APPENDIX H

IT Attitudes Survey

1. The use of electronic mail makes it easier to contact my friends.

2. The Internet is useful when searching for information.

3. Word processing software allows me to edit my work more frequently.

4. My writing is of quality when I use word processing software.

5. Database software makes it easier to manage information.

6. Database software allows me to keep information systematically.

7. My presentation is more effective when I use presentation software.

8. My presentation is more interesting when I use presentation software.

9. Spreadsheet software allows me to do calculations easily.

10. Spreadsheet software allows me to create various charts easily.

11. I feel that I will not master advance computer software skills.

12. I feel that using a computer is difficult for me.

13. The challenge of solving problems with computers does not appeal to me.

14. I am not skilful in using a computer.

15. I can get good grades in Information Technology courses.

16. I have great confidence when attending Information Technology courses.

17. I feel that I take a long time understanding some issues taught in Information Technology classes.

18. Only intelligent people can use Information Technology.

19. I will never take a job where I have to work with Information Technology.

20. The use of information technology prevents me from being creative.

21. Only people who are skilled should use Information Technology.

22. Learning about Information Technology is a waste of my time.

23. The time spent on learning Information Technology is better spent on learning something else.