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A day without laughter is a day wasted? The relationship between different types of humor and different educational outcomes

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A DAY WITHOUT LAUGHTER IS A DAY WASTED? THE RELATIONSHIP BETWEEN DIFFERENT TYPES OF HUMOR AND DIFFERENT EDUCATIONAL OUTCOMES

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ABSTRACT

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Additional research is needed to explore the relationship between different types of instructional humor and different educational outcomes. Limited empirical evidence existed for specific types of humor as related to educational outcomes. This relationship was considered by exploring different types of humor and its association with specific educational outcomes such as relatedness, interest, affect, perceived learning, and actual learning. The current study adds to a body of research that is small in scope. Conducting this type of research while taking into account different variables such as student gender enhances research seeking a clearer understanding of humor in the classroom. The current author recognizes that the use of humor by instructors is something that is encouraged among educators (Lundberg & Thurston, 2002, Strean, 2011) and exercised by them (Wanzer, Frymier., Wojtaszczyk, & Smith, 2006). However, although the use of humor is common, understanding various aspects of its use remain unclear. The present research has applicable value with regard to the association of various types of humor with educational outcomes.

Specifically, the current study examined the use of humor in the classroom and different educational outcomes. In addition the current study also examined the relationship of some of those outcomes with perceived learning, and actual learning. Different educational outcomes were examined using quantitative methods of research.

Participants were asked to fill out measures on demographics, perceived relatedness (verbal and nonverbal), affect, interest, perceived learning, and instructor sense of humor. Participant's final grade in the course was also obtained. The study consisted of 195 undergraduate students (n=117, 60% female; 78, 40% male). The age of these participants ranged from 18 to 25 with a mean of 18.91 years (SD=1.29).

A factor analysis identified two distinct types of humor (relevant/appropriate and non-relevant). The study found that relevant/appropriate humor predicted the educational outcomes of: perceived verbal relatedness, perceived non-verbal relatedness, interest, affect, and perceived learning. But the relationship between relevant/appropriate humor and perceived learning was mediated by the different educational outcomes mentioned. Non-relevant humor predicted the educational outcomes of interest and affect. In addition, no relationship was found between the different types of humor and actual learning, and there were no differences in the interaction between different types of humor and gender and its relationship with different educational outcomes.

The study is of value in understanding instructor humor and its relationship with different educational outcomes. More specifically, current findings shed light on how various forms of humor predict educational outcomes.

Keywords: *instructional humor, interest, relatedness, affect, perceived learning, actual learning, student gender*

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CHAPTER I

INTRODUCTION

Statement of the Problem

"A day without laughter is a day wasted."— (attributed to Grigori Alexandrov and Charlie Chaplin, among others)

Is this saying also true when it comes to classroom settings? Does the use of certain types of humor has a positive relationship with different educational outcomes? And can the use of different types of humor positively predict levels of educational outcomes? Or perhaps the opposite is true and the use of certain types of humor in the classroom has a negative association with different educational outcomes? And can the use of humor negatively predict levels of educational outcomes? Or perhaps there is no relationship between those variables?

The research on the role of humor in the educational system spans several decades (Kaplan & Pascoe, 1977; Matarazzo, Durik, & Delaney, 2010). During this time frame a number of different topics related to the role of humor in education have been investigated (Banas, Dunbar, Rodriguez, & Liu, 2011). While the body of research is significant, there are several issues of concern. The first issue is that not all of the significant educational outcomes were addressed thoroughly in the research (such as interest and affect). For example, Bergin (1999) suggested that the use of humor within the classroom will result in more interest in the topic, but after examining the literature, it was found that very few researchers have given much attention to humor in the classroom

when conducting studies in the area of interest. Also, there is a framework about the potential influence of humor on students' emotions (Horan, Martin, & Weber, 2012), but these researchers state that their theory needs to be examined by other researchers. A second concern involves complex findings within the area of relatedness. Researchers (Gorham & Christophel, 1990) found that relatedness and humor were related; the more students rated their instructor as having a sense of humor, the more they felt close to that instructor. However, other researchers (Banas et al., 2011) report that the methods used in the research on humor and relatedness are not sufficient enough to determine whether humor influences relatedness or the other way around. The third issue is that some areas were studied in distinct ways from one another. In the area of learning most studies were limited to short interventions, while only few lasted an entire semester. For example, the last researcher to conduct an extensive study about humor and learning was Ziv (1988). Additional investigation is warranted. A fourth area of concern is that a significant amount of humor resources available on websites and in books is not based on empirical evidence. Rather, these resources are often based on anecdotal evidence by instructors resulting from individual humor experiences in the classroom subsequently used as an instructional technique (Lundberg & Thurston, 2002, Strean, 2011). The lack of comprehensive research does not prevent scholars from advocating the use of humor in the classroom. Friedman, Friedman, and Amoo (2002) suggest that the use of humor in the classroom can bring great benefits such as: the creation of a positive environment, the reduction of stress, and improvement of communication. A fifth issue concerns the different variables that play a role in the relationship between humor and different educational outcomes. For example, in studies that were conducted in previous decades,

the gender of the instructor using humor in the classroom was a factor in how humor was perceived by the average student and the impact of humor use; humor by male instructors was associated with positive effect (Bryant Comisky, Crane, & Zillmann, 1980). However, more recent research has demonstrated that humor by female instructors is more impactful in the classroom (Van Giffen, 1990). The gender of the instructor and the gender of the students, were considered in this study.

These findings suggest that more research is needed to explore the relationship of humor with different educational outcomes. The current study was concerned with exploring different types of humor and examining the relationship of those types of humor with educational outcomes such as relatedness, interest, affect, perceived learning, and actual learning. The current study added to a body of research that is small in scope and/or in some areas even missing or incomplete. Conducting this type of research while taking into account different variables such as gender (of the student, and the instructor) added to the overall understanding of this topic. The author recognizes that the use of humor by instructors is something that is strongly encouraged (Lundberg & Thurston, 2002) and exercised (Wanzer, Frymier, Wojtaszczyk, & Smith, 2006). However, this research has applicable value with regard to the type of humor that has positive relationship with different educational outcomes, and the nature of this relationship.

Purpose of Study

The study examined the use of different type's humor in the classroom, and its relationship with several educational outcomes. Different educational outcomes were examined using quantitative methods of research. As well, participants answered survey questions rating individual perceptions about different educational outcomes in the course

(i.e., relatedness, affect, interest, and perceived learning). As well, participants rated the type of humor to which they were exposed. In addition, student's final grade in the course was obtained.

In this study, the independent variables were: humor type and gender. The dependent variables were: relatedness (using a perceived teacher relatedness measure), affect (by using a measure based on the Emotional Response Theory), situational interest (using a situational interest measure), perceived learning (using a scale) and actual learning (using student final grade).

The study examined the relationship between variables (using Spearman *rho* correlation) and prediction of normally distributed dependent variables considering interval and ratio-scaled independent variables (multiple regression).

Research Questions

The central research question for this study was: what is the relationship of different categories of instructional humor with several educational outcomes, and how those outcomes predict perceived learning, and actual learning.

Specific research questions:

Q1 Which type of humor (relevant, non-relevant, appropriate, and inappropriate) would have a positive type of relationships with the educational outcomes of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning?

Q2 Does type of humor predicts perceived and/or actual learning? If so, are these relationships moderated by perceptions of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, affect and interest.

Q3 Would gender moderate the relationship of the types of humor with the different educational outcomes (perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning)?

Definitions and Terms

The following definitions are provided to ensure that the terms used are universal and understood by all who read the current research. These definitions were used throughout the investigation. Whenever a definition has been developed by another researcher(s) a citation is provided to identify the source of the definition.

Actual learning - Student final grades.

Affect- the conscious subjective aspect of an emotion considered apart from bodily changes (Hacker, 2011).

Appropriate humor- humor students view as suitable to be used by the instructor.

Humor- There are different types of humor articulated in the literature such as jokes, spontaneous conversational humor, and unintentional humor (Martin, 2007). Jokes consist of short and amusing stories ending in a punch line. Spontaneous conversational humor is laughter that occurs spontaneously from social interactions, either in response to a funny comment or an amusing anecdote. Unintentional humor happens when an action not meant to be funny ends up being humorous.

Inappropriate humor- humor students view as not suitable to be used by the instructor.

Perceived Learning – The student's evaluation of how much they learned in the course.

Perceived Relatedness/ immediacy - In the field of psychology, the concept of relatedness is used to describe the same ideas that the field of communication employs to

describe the concept of immediacy. Those behaviors can be nonverbal and verbal such as: smiling, vocal expressiveness, movement about the classroom, relaxed body position, verbal behaviors are evident in the kind of language the instructor uses: approach – avoidance, verb tense, order of occurrence of references, inclusivity, mutability, implied voluntarism, probability, conditionality, and responsibility (Gorham, 1988).

Situational Interest - Is a focused attention and affective reaction that is triggered in the moment by an environmental stimulus, which may or may not last over time. Situational interest can be divided into two subcategories; triggered and maintained (Hidi & Baird, 1986; Hidi & Renninger, 2006). The triggered stage focuses on the psychological state of interest that results from short-term changes in affective and cognitive processing. Maintained situational interest is a psychological state of interest subsequent to a triggered state and involves focused attention and persistence over an extended episode of time (Hidi, 1990; Hidi & Baird, 1986; Hidi & Renninger, 2006).

Relevant humor – Humor that is tied to course knowledge and promotes understanding of information presented in the course. This term may sometimes be referred to as topic relevant humor.

Non-relevant humor – Humor that is not tied to course knowledge or the understanding of information presented during lectures. Non-relevant humor may sometimes be referred to as topic non-relevant humor.

Theoretical Perspective

Several theoretical viewpoints will serve a hypothetical role for the proposed research. Those theoretical perspectives will include the Emotional Response Theory

(ERT) (Mottet, Frymier, Bebee, & Cunningham, 2007), and the Instructional Humor Processing Theory (IHPT) (Wanzer, Frymier, & Irwin, 2010).

Emotional Response Theory

When it comes to humor as an instructional technique and its influence on affect, one framework that has been proposed for the investigation of this relationship is the ERT) (Mottet, Frymier, Bebee, & Cunningham, 2007). This theory speculates that emotions trigger approach or avoidance actions. Emotions that are positive such as mirth/laughter will positively effect the manner in which students relate to the classroom, and negative emotions will promote avoidance behaviors. Humor can promote positive emotions and as a result of the use of humor, students report a positive attitude toward the classroom experience.

In their review of the theory, Horan, Martin and Weber (2012) provide a description of how the theory came about. The search for a theory about instruction in the classroom is a search that started decades ago. A review conducted by Wheeless and Lashbrook (1987), about learning theory and instructor communication, reports that the available information should not be considered a theory. A few years later a group of researchers (Daly & Korinek, 1980) called for a theory of classroom instruction to emerge (Waldeck, Kearney, & Plax, 2001). However, Nussbaum and Friedrich (2005) claimed that those who were taking part in developing the theory of classroom instruction were researchers not specialized in investigating instructional techniques.

Mottet took to the challenge and developed three instructional communication theories: the rhetorical and relational goals theory, the relational power and influence theory, and the ERT (for purposes of the current study the theory that will be described

and referred to is the ERT). This theory views emotions as a very important component in the classroom, and it puts in the center the emotions of students. This theory has three main aspects: instructor communication behavior, student emotional responses, and student approach–avoidance behaviors. The student approach – avoidance behaviors and the relationship of those behaviors with the behavior of the instructor are facilitated by the emotional response of the students to the messages conveyed by the instructor. These ideas are not new and were previously introduced by Russell and Mehrabian (1977), and by Vinson and Biggers (1993). However, ERT offers a more comprehensive approach that includes different ways in which students react to how the instructor communicates with them. Those ways of communication are categorized as pleasure–displeasure, arousal–non-arousal, dominance–submissiveness, and fall at some point on a continuum. Pleasure is described as being in a state of comfortable as opposed to uncomfortable, feeling happy as opposed to unhappy, and feeling joyful as opposed to miserable. Arousal is described as an energy level that moves between stimulated and relaxed, excited and calm, and frenzied and sluggish. Dominance is described as moving on a continuum of submissive to dominant, decisive to indecisive, and bold to meek (Horan et al., 2012).

These authors go on to state that emotions are important to classify and understand because they have an effect on whether students exhibit approach or avoidance behaviors. For example, if an instructor conveys a message that contributes to an emotion of pleasure, arousal, and dominance, the students will behave in an approach manner. However, if the instructor conveys a message that lowers feelings of pleasure, then students will act to avoid (Horan et al., 2012).

Humor can be incorporated into this theory because humor has the potential to create feelings of pleasure and arousal, and as such promote approach behaviors (assuming that the students feel comfortable with the humor that is being used). However, humor can also lead to negative feelings and as such promote avoidance behaviors by students. If emotions create approach behavior this desire to approach should positively effect academic achievement (Horan et al., 2012). In the current paper, this theory was examined by asking questions about the different dimensions of this model.

Instructional Humor Processing Theory

The instructional humor processing theory (IHPT) is a theory that draws on three different perspectives: incongruity-resolution theory, disposition theory, and the elaboration likelihood model (ELM) of persuasion. IHPT seeks to explain why certain types of humor used by the instructor have an end result of increased student learning, while other types of humor do not result in an increase (Wanzer, Frymier, & Irwin, 2010).

In their description of their theory the authors (Wanzer, Frymier, & Irwin, 2010) describe several ideas. This theory draws on three different perspectives. One of those perspectives is the incongruity-resolution theory (LaFave, Haddad, & Maesen, 1996), which is a theory that explains the workings of humor. According to this theory, humor is a two-phase process in which an inconsistency or an incongruity is recognized and needs to be interpreted correctly. It is at this point that the joke or humorous content can be considered funny. When incongruity or inconsistency exists, individuals enter social situations with certain exceptions of what is relevant or non-relevant. In order for a joke

or humorous content to be judged as such, it needs to be inconsistent with what the individual expects to occur in a certain situation. However, if the inconsistency is too multifaceted or illogical for the receiver of the content, then that individual might not understand the joke, or recognize an attempt at a joke was even made (LaFave et al., 1996).

This incongruity-resolution perspective of the instructional humor processing theory relates to the classroom because when a teacher uses humor, there can be three possible outcomes: (1) Incongruity is not recognized, and as a result, students do not identify any humor. (2) The incongruity is recognized but not resolved, in this case the students might be confused because they recognized an attempt at humor but the students were not able to comprehend that humor. (3) The humorous material is resolved, and the students recognize the content as funny/humorous (LaFave et al., 1996).

The second perspective of the instructional humor processing theory, the disposition theory (Zillmann & Cantor, 1996) relates to the importance of the affective aspect of a humorous message. The target of the joke is important for individuals in order for them to consider the joke funny and appropriate or not funny and inappropriate. For example, how one feels toward the target of the joke is of significance in the reaction to that joke. If the target of the joke is an individual that is disliked or an individual that is not considered as a part of a referent group, then a joke that targets that individual will be considered funny. However if the target of the joke is an individual that we like, and might be a part of our referent group, then we will be less likely to find content directed at that individual as funny.

These two perspectives relate to the classroom (Frymier, Wanzer, & Wojtaszczyk, 2008) in that if the humor makes sense to the students (the incongruity is comprehended and resolved), and if the target of the humor is liked or apart of the referent group (disposition theory) then students will deem attempts at humor as appropriate if attempts are related to course materials, and understood within the setting of the classroom. These components support incongruity resolution theory. As well, the preference (among students) for related humor can be understood from the framework of the disposition theory. If this type of humor does not target individuals that are liked and from the same referent group then the humor does not create negative feelings in students (Frymier et al., 2008).

The third perspective of the IHPT, the elaboration likelihood model of persuasion (Cacioppo & Petty, 1984; Petty & Cacioppo, 1981, 1986), is a framework that explains how individuals process messages meant to be persuasive. There are two ways in which a message can be persuasive: central or peripheral. Peripheral processing means that messages are being processed by paying attention to cues, heuristics, and axioms, instead of paying attention to the message arguments. Because of this type of cognitive processing configurations typically remain unchanged. Central processing involves messages being processed when individuals pay attention to message arguments, and to information that is related to the message arguments (this is the elaboration aspect of this theory). It is thought that central processing results in cognitive change that can influence behaviors.

Level of processing (central versus peripheral) relates to the classroom because it is believed that in order for students to elaborate on the content of a course, they need to

be motivated and also be able to process the messages delivered by their instructor (Wanzer et al., 2010). If a message or a topic is being perceived by students as relevant, then they would have higher levels of motivation to process the information that is related to the topic or the message. This will translate to greater comprehension and retention of the material being taught (Frymier & Shulman, 1995). The motivation to elaborate a message was found to relate to information that contained incongruity (Maheswaran & Chaiken, 1991). This might be because incongruity can lead to the incentive to process and to recall information (which are indicators of increased learning). The nature of humor leads to incongruity, so when instructors use humor in the classroom, students will be more attentive to the message being delivered. However, not every humorous message will lead to motivation to process and recall information (Gorham & Christophel, 1990). This is due to the fact that some humorous messages can be distracting and result in difficulties with processing information.

As mentioned earlier, IHPT (Wanzer et al., 2010) builds on three perspectives: the incongruity-resolution theory, the disposition theory, and the elaboration likelihood model of persuasion. IHPT suggests that some types of instructional humor will influence students' learning in a positive manner, while other types of humor will influence students' learning in a negative manner. This theory also seeks to explain the differences in the manner in which students perceive whether instructor humor is appropriate or inappropriate. IHPT specifies that certain types of instructional humor will contribute to students learning while other types of humor will not.

According to this theory (Wanzer et al., 2010), there are several steps that are dependent on one another when it comes to the question of how humor (this includes

more than one type of humor) might affect learning. The first step involves the humorous message that is used by the instructor. If incongruity in the message is not recognized then the humor will not be perceived and the process will end at that stage. If the incongruity is recognized, then two things might happen: the incongruity is not resolved or the incongruity is resolved. If the incongruity is not resolved then this will lead to distraction or to confusion. But if the incongruity is resolved the message is perceived as humorous. If the message it perceived as humorous then two things might occur. First, there is a positive affect (humor that is used is perceived as appropriate) or second, there is a negative affect (humor that is used is perceived as inappropriate). If there is a positive affect the message might enhance the ability to process information with learning and retention occurring. A positive affect might also lead to a situation in which humor does not enhance the ability to process, lending humor to have a negative impact or no impact at all on learning. If there is a negative affect then it might enhance the ability to process, but this will result in negative or no impact on learning. A negative impact might also not enhance the ability to process resulting in negative or no impact on learning.

Researchers (Wanzer et al., 2010) conceptualized this theory to predict that instructors who use related humor during a course influence learning in a positive manner. The rationale being that related humor contributes to student ability to process information. Unrelated humor also has the potential to increase student motivation to solve an incongruity. However it is not known whether humor that is unrelated will contribute to the ability of students to process information, because it is not related to the material being taught. These researchers (Wanzer et al., 2010) report that the use of inappropriate humor in the classroom (such as offensive or disparaging type of humor)

has a negative association with learning, will reduce motivation, and perhaps also reduce the ability to process information. Disparaging and offensive humor will probably create a negative affect toward the instructor and toward the course material reducing the motivation to process information. Accordingly, the same researchers promote the following: (1) There will be a significant positive relationship between student perceptions for instructor use of related humor and student learning. (2) There will be a significant negative relationship between student perceptions for instructor use of inappropriate humor and student learning.

One method of examining these concepts is to ask students about the type of humor used by an instructor, along with subsequent data about their levels of affect, interest, perceived learning, and to find out their actual learning in the course (by obtaining their final grade in the course).

Philosophical Framework

The current research draws on some elements from the post positivist perspective. This perspective searches for the testing of theories (Plano-Clark & Creswell, 2011). According to this perspective (Trochim & Donnelly, 2006) scientists follow procedures that are specific assuring observations are verifiable, precise and steady. The post positivist approach promotes the importance of examining elements multiple times, because there might be errors in measurement. This component of the post positivist approach is called critical realism. Another aspect of post positivism is that of triangulation, which means that two or more methods are needed in order to examine research questions. Post – positivism (Trochim & Donnelly, 2006) also advocates constructivism, which means that individuals base their view about the world according

to their perceptions of the world. The post-positivist indicates it is not possible to completely avoid the impact of individual perceptions. However, by testing questions in different ways using different individuals, we can move closer to understanding the truth for a situation.

Several elements of this approach (the elements were mentioned in the previous paragraph) were chosen because the researcher recognizes that it is difficult to view the world in an entirely objective fashion. Accordingly, it was important to use several methods to examine the questions that were asked in this paper, and to conclude results are open for further research by different scholars.

Delimitations

The delineations in the study were:

1. The participants in this study were students from the same university. This was done because of the relatively ease of access to potential participants.
2. The study was not based on real time information, rather, built on the recollections of students about the modes of instruction provided by a specific instructor.
3. The study employed surveys as opposed to interviews because of time constraints.

Significance of Study

The study is of significance because it sheds light on a teaching technique that is exercised often in the classroom, but is not given much focus when it comes to researching its relationship with different educational outcomes. The use of humor in the classroom is quite prevalent, however not much is known about the relationship between different types of instructional humor, and different educational outcomes. In addition, it

was of interest to examine how those outcomes predict perceived and actual learning (while taking into account the role of humor in this relationship).

The study investigated different types of instructional humor: relevant, non-relevant, appropriate, and inappropriate (the frequency of those was examined) and the relationship of those different types of humor with several educational outcomes (perceived verbal and non-verbal relatedness, interest, affect, perceived learning, and actual learning). In addition, the relationship of the different types of humor with different educational outcomes with the gender of the student as a co-variable was also examined.

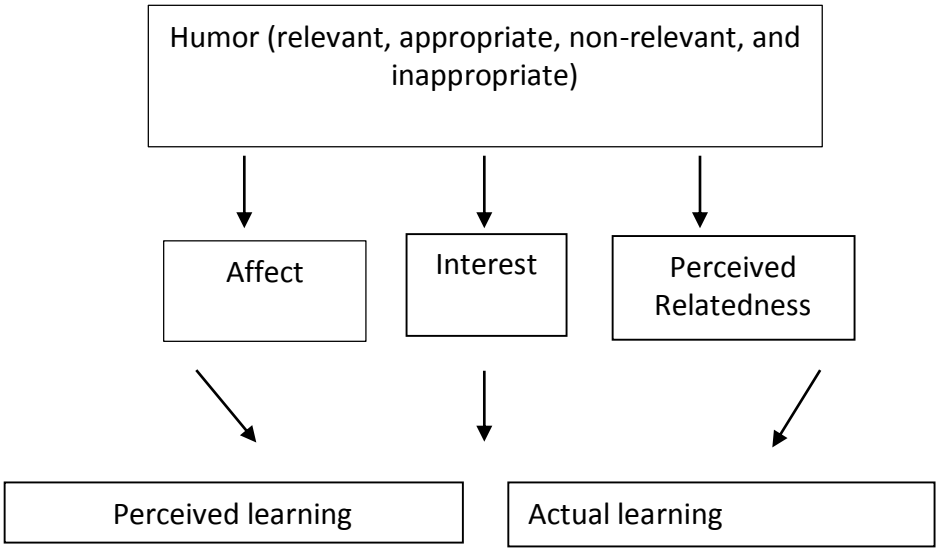

Figure 1. Diagram of Study

CHAPTER II

REVIEW OF LITERATURE

Understanding the relationship of humor with several educational outcomes is an important issue because as this review will demonstrate use of humor as an instructional technique is quite common. The following literature review puts emphasis on the types of humor used in education, the role of humor in education, and on research that has been done with regard to several educational outcomes and their relationship with humor. The outcomes presented are: relatedness, interest, affect, and learning. This literature review includes a description of other variables of interest (e.g., gender).

Humor

The Characteristics and Functions of Humor

There are several aspects that characterize humor: social context, cognitive perceptual process, emotional aspects, and laughter as an expression of the emotion. Social context centers on the idea that laughing and joking happens with other people. This context is a way for people to interact in a playful manner. It is worth noting, context of humor can be virtual as well (i.e., one can be by him/herself and laugh from watching a video clip). The cognitive-perceptual process means that for the production of humor, an individual needs to process the information from the environment or from one's memory. After that stage, the individual needs to think about ideas, words or actions in a creative manner and then generate a product that others consider funny. A

similar process also applies to the recipient of humor. An individual processes the meaning of that information and judges it to be or not be humorous. The emotional aspect of humor focuses on the affective arousal and pleasant emotional response. Exposure to a humorous stimulus may produce an increase in positive affect and mood. Laughter can be thought of as the outward expression of the emotion. Also, laughter may serve as an important biosocial function coupling together the positive emotions of members of a group and thereby coordinating their activities (Martin, 2007).

Humor also has several important psychological functions such as: the cognitive and social functions of the positive emotion of mirth, social communication and influence, and tension relief and coping with adversity (Martin, 2007). By cognitive and social functions the meaning is that humor can serve as a tool that promotes positive emotions and as a result, individuals will act according to those positive emotions. When individuals have positive emotions, as opposed to negative emotions humor can broaden the attention of an individual thereby contributing to more creativity in solving problems and providing more options toward a behavioral response. The positive emotion resulting from humor can contribute to physical, social, and intellectual resources that assist in dealing with different challenges in life. Social communication and influence means that humor can serve as a tool to convey messages that are implicit and to influence individuals in various ways. Tension relief and coping with adversity suggests that the feelings that result from humor replace feelings such as anger, anxiety and depression. A situation can become less stressful and be perceived as a manageable situation if humor is used to induce positive emotions (Martin, 2007).

Types of Humor Used in Educational Settings

In order to have a comprehensive understanding of the relationship that humor might have with different educational factors, it is important to understand the kinds of humor that are used in educational systems. A comprehensive study found several appropriate and inappropriate uses of humor by teachers in the classroom (Wazner et al., 2006). Participants were undergraduate students given open-ended questions and asked to describe an example of teachers' use of appropriate and inappropriate humor in the classroom. Several categories of appropriate humor emerged as a result of student responses. The categories included: (1) related humor strategies or behaviors linked to course material, (2) unrelated humor strategies or behaviors or acts not associated with course materials, (3) self-disparaging humor directed at oneself, and (4) unintentional humor which consisted of examples of teacher humor that were spontaneous and unplanned. The inappropriate uses of humor that emerged were: (1) disparaging humor (e.g., targeting students by making fun of them in the class), (2) disparaging humor-targeting others (e.g., making fun of a celebrity), (3) offensive humor (e.g., sexual jokes), and 4) self-disparaging humor used in a way to laugh about oneself (Wazner et al., 2006).

The research in this paper examined the relationship of the main types of humor that were recognized by the students (relevant, non-relevant, appropriate, and inappropriate) with different educational outcomes. In addition, gender as a co-variable was examined.

The Use of Humor in Educational Settings

The topic of humor in educational settings has been investigated for the past several decades (Banas et al., 2011). As part of this investigation different components of

humor in the classroom have been investigated. One area investigated is the difference in the use of humor in the classroom with factors such as: instructor experience (Downs, Javidi, & Nussbaum, 1988), and humor orientation (Frymier et al., 2008). A third issue examined is the different influences instructional humor can have in educational settings. Some of the factors that have been investigated include: the effect of humor on instructor evaluation (Wanzer & Frymier, 1999), the effect of humor on classroom environment (Torok, McMorris, & Lin,, 2004), and the effect of humor on learning (Ziv, 1988).

Several researchers claimed that humor has many benefits in the classroom. Lei, Cohen, and Russler (2010) claimed that humor is an essential element for student learning if it is being used in an appropriate manner. This is because the use of humor has the capacity to elevate stress, depression, tension and increase self-esteem. Humor also has the capacity to elevate students' interest, motivation, attention and understanding of course material. Wagner and Urios-Aparisi, (2011) summarized that humor used in the classroom can achieve more than one outcome. It can be used for classroom management, mediation, social management, commitment (ensuring that students follow through with their commitment to engage in the educational process), functionalization (ensuring that students function as productive students in the classroom), motivation, and cultural transmission (Wagner & Urios-Aparisi , 2011). Humor can be used for all of these outcomes due to the finding that humor creates higher levels of perceived relatedness (specific behaviors exhibited by the instructor that show physical or psychological closeness between the teacher and the students) (Wagner & Urios-Aparisi, 2011). Accordingly, the teacher can use this type of perceived relatedness to better manage the class and to encourage higher levels of commitment from students.

Romal (2008) identified elements making humor a successful instructional technique. Those elements reported included the following: (1) Humor that is relevant to the material is presented, (2) Humor is relevant to student lives, (3) Humor is understandable to students, (4) Humor is complementary to the personal style of the professor, and (5). Humor is sparingly employed. In addition to those elements, Romal (2008) recognized several definitions and examples of constructive humor. These definitions with examples include: (1) Apparel: any item of clothing that increases humor. Hats, pins, tee shirts are some of the possibilities. (2) Anecdotes: short account of an interesting or amusing event. (3) Funny stories: constructed humorous narratives or tales. (4) Humorous comments: repartee, wry remarks, one liners, or questions, which can be developed from non–humorous sentences and ideas. (5) Jokes: relatively short prose buildups followed by a punch line. Romal (2008) indicated that a repertoire of good jokes will eventually lead to spontaneous telling at appropriate times.

From the research described above it is evident that several issues that relate to instructional humor and its role in the educational system have been examined. The previous research suggests that the use of humor as an instructional technique could be beneficial (Wagner & Urios-Aparisi, 2011) if done in the right manner (Romal, 2008). However, not all of the educational outcomes that are a part of the educational process have been examined as thoroughly with specific emphasis on perceived verbal and non-verbal relatedness, interest, affect, perceived learning, and actual learning. As well, there is less research about the relationship of different types of humor with those outcomes. In addition, an examination of possible co-variables that mediate this relationship should be considered.

Relationship between Humor and Different Educational Outcomes

While previous topics should still be investigated, it was also of importance to add to the mix new topics that had not been examined or were not examined in-depth. Since educational outcomes are interrelated, and may occur in the classroom simultaneously, no one factor is more important than another factor. However, testing all of the possible educational outcomes is a task that was too broad for this study. But the hope is that this study will assist in providing a fuller picture of the specific relationship that different types of humor might have with the different educational outcomes. Educational outcomes were chosen for several reasons. The first one is that some of those outcomes do not have a sufficient amount of research on their relationship with humor. A second reason is that those educational outcomes differ from one another, but may interconnect. Therefore, consideration of a broader number of educational outcomes may allow for more comprehensive research. For example, affect and situational interest are different educational outcomes, but may interact with one other.

In the following section different educational outcomes will be discussed with identification of possible relationships. With scarce amounts of research about educational outcomes and different types of humor, the current author took the approach of describing research on the interaction of educational outcomes with other outcomes.

Humor and Learning

Humor has been suggested as a factor that might influence learning. Most of the initial research about humor and its relationship with learning was done using short-term interventions that examined mostly retention and recall. One group of researchers (Hauck & Thomas, 1972) looked at incidental and intentional associative learning. These

researchers, using elementary school children, discovered humor influences retention when learning was incidental. Kaplan and Pascoe (1977) examined the use of humor in a lecture by using three types of humor: humorous examples related to the concepts in the lecture (concept humor), unrelated to the concepts (nonconcept humor), or a combination of concept and nonconcept examples (mixed humor). The study examined retention and comprehension of material immediately after the lecture and 6 weeks later. The researchers found that immediate comprehension was not influenced by the use of humor. However, retention of concept humor material significantly improved after 6 weeks. To investigate the influence of humor on a specific type of learning, Clabby (1979) had participants select nouns and non-nouns. When participants were selecting nouns their choice was followed with cartoons that were humorous. When participants were selecting non-nouns, non-humorous cartoons followed this selection. It was found that humor did influence learning, especially for participants that were low in creativity.

There were also those who claimed that humor might not directly influence learning but that humor might influence other factors (such as attention and interest) in the classroom that in turn will influence learning (a mediating effect) (Powell & Andresen, 1985). Humor can create a pleasant atmosphere in the classroom, and the more students feel that pleasantness, the more they will be inclined to engage in activities that relate to the instructor and to the classroom.

The first comprehensive study that was not a short-term intervention about the influence of humor on learning, and examined overall academic achievement (student's final grade in a course) was done by Ziv (1988). This author found that students who studied with an instructor who used humor received higher grades than students who

studied with an instructor not using humor. In the study, instructors went through a seminar about the use of humor in the classroom, and at the end of the seminar those instructors who were judged to have the "best" type of humor were chosen to teach a statistics class. The instructors taught one class throughout a semester using three pre-determined jokes in each and every class period. Instructors taught another section in the exact way but without the use of humor. At the end of the semester all students took a multiple-choice exam on the material studied throughout the semester. Those students who studied in the humorous section achieved higher grades on the test than students in the non-humorous section. This study was later replicated (using an introduction to psychology class) with similar robust findings (Ziv, 1988).

But some of the research following Ziv continued to put attention on short interventions. Dixon, Willingham, Strand, and Chandler (1989) examined variations in attention during intentional and incidental learning. The authors used both humorous and non-humorous materials. They found participants who reported having a high sense of humor, paid attention significantly more to incidental humorous material than participants who reported a lower sense of humor. They also discovered that participants who reported a high sense of humor recalled significantly better learning materials (of the incidental kind) that were humorous than participants with a low reported sense of humor. Snetsinger and Grabowski (1994) examined the effect of humorous and also of non-humorous learning. These authors considered two types of learning in the context of a computer-based instructional (CBI) lesson on tick identification (those are the ticks that can cause the Lyme disease). They found that there were no differences between the two groups (humor and non-humor) when it came to learning, retention, or enjoyment. The

authors indicated a difference when it came to being worried about ticks. The humorous group was more worried about ticks than the group that was learning in a non-humorous manner. Schmidt (1994) looked at memory for humorous and non-humorous versions of sentences. He found sentences that had humor in them were remembered better than non-humorous sentences. This was true with both free- and cued-recall, and also with measures of word and sentence recall (participants were tested on all of those). Humorous sentences included sayings such as: "the only way to keep your good health is to eat what you don't want, drink what you don't like, and do what you'd rather not". While the non-humorous sentences included sayings such as: "the only way to keep your good health is to eat good food, drink healthy drinks, and do healthy activities".

There was also research that suggests humor can also assist students in overcoming academic frustration, because the use of humor by an instructor can inspire students to take academic risks, and be more involved with the process of learning (Pollak & Freda, 1997).However, some other research indicates no positive relationship between humor and learning and in fact there might even be a negative relationship between the two (Fisher, 1997). This author examined the influence of humor in specific settings. One group of participants was exposed to a humorous lecture about astronomy, while the second group of participants was exposed to a non-humorous version of the same lecture. Humor was inserted every 90 seconds in the middle of the concept being explained. The humorous group scored worst on the learning measure that examined short-term retention of information (Fisher, 1997).

Several researchers took a different approach and examined how students perceive instructors' use of humor and its influence on their learning. According to Kher,

Neelam, Molstad and Donahue (1999), humor can be a part of the classroom because humor creates an atmosphere of respect between the students and the teachers. When the students feel safe, they revel in the learning process. Conkell, Imwold, and Ratliffe (1999) examined the effects of humor in learning fitness concepts and students' perceptions of a teacher who used relevant humor while teaching. They had Students view either a humorous or non-humorous lecture on body composition and weight control via videotape. Later the researchers asked the students about the content and delivery of the lecture. They discovered that with regard to content examination, there was little difference between the humorous and non-humorous groups. But students were more accepting of the instructor that incorporated humor into the lecture. In addition, students in the humors group commented that they were more motivated to increase their fitness levels. Ulloth (2002) examined the influence of humor on learning in nursing education. The researchers used a multiple case study that included observations, interviews, and surveys. The researcher found a robust association between humor and learning. Both the students and teachers believed they personally benefitted from the use of humor. Torok et al. (2004) discovered, that according to students, instructors often used humor in the classroom, and the students supported this use of humor by their instructor. They also discovered that students preferred instructors use the type of humor that is positive even though a significant part of the students also approved of when the instructors used a sarcastic type of humor. When it comes to learning, students believed that when the instructor uses humor, student attention becomes more focused and humor helps them in understanding the material. Aboudan (2009) investigated the use of humor in second

language classes. It was discovered that students reported more enjoyment with the learning process when humor was used by their instructors.

In the past decade the diverse approach to studying humor continued**.** Hovelynck, and Peeters (2003) believed that humor has the potential to be a successful strategy in the classroom, but humor also has the potential to be a destructive element in the classroom. This will depend on how humor functions in the classroom. Humor should promote a relational safety that characterizes an atmosphere favorable to learning. Humor can also create a practical distance to delicate learning issues. Humor may offer new viewpoints, which contribute to reviewing familiar but limiting positions, and humor may exemplify the 'paradox of functionality' in interactive processes. Garner (2006) examined the impact of curriculum-specific humor on retention and recall. He found a positive impact on content retention. Bullough (2012) examined such issues as teaching, schooling, and light and dark humor. He points out that humor is related to creativity and problem management. In addition, he writes that humor is important not only in creating educator well-being but humor is also important for student learning and school renewal. Vu and Vu (2012) believe that humor in adult English as Second Language (ESL) classrooms can create a pleasant learning environment. Hackathorn Garczynski, Blankmeyer, Tennial, and Solomon (2012) examined whether using humor in a classroom setting would enhance learning on the first three levels of Bloom's taxonomy (i.e. knowledge, comprehension, and application). They discovered that the use of humor significantly increased students' overall performance on exams, predominantly on knowledge and comprehension quiz items, but not on application items. Learning a construct through the use of humor was effective for understanding level quiz items.

Özdoğru and McMorris (2013) investigated the influence of humors cartoons on students' perceptions and learning of psychological concepts with sense of humor as a moderator. Students studied one-page concept presentations, three with and three without content-related cartoons. After that students were given multiple-choice test items on given concepts. No apparent effect for humorous cartoons on students' learning of the concepts was identified. Hoad, Deed, and Lugg (2013) investigated the relevance of humor to student engagement in outdoor education. They used a sociocultural framework based on a view of learning as constructed, cognitive, embodied, and affective. These authors suggest that humor is likely to influence student–student, student–teacher, and individual–context learning-related interactions. Chua (2014) examined the appropriateness of using humor cartoons in writing a research book. The author discovered that humor cartoons in books significantly increased reading comprehension and reading motivation of the participants. The author believes that humor that is used in the right place, will enhance reading, offset and balance the highly academic pattern of writing, and provide a way to link the gap between the reader and author. Several Researchers (Goodboy, Booth-Butterfield, Bolkan, & Griffin, 2015) used the instructional humor processing theory to test how instructors' humor enhanced students' learning outcomes of cognitive learning extra effort. Goodboy et al. (2015) controlled for the students' educational orientations of learning orientation and grade orientation. They discovered that instructor humor was a positive predictor of students' cognitive learning, extra effort, participation, and out-of-class communication.

It seems that more research is needed to examine the relationship between instructional humor and learning and what characterizes this relationship. This is due to

the fact that most research about this topic is from previous decades when perceptions of humor may have been different than contemporary aspects of humor in the classroom. Fluctuations with regard to the perceptions of humor provides for only one possible component of the changing educational system. It is of particular interest to examine what educational outcomes moderate the relationship of instructional humor and learning (such as interest, perceived relatedness, and affect). In addition, few studies investigated perceived and actual learning in the same study, and how different types of humor relate to those outcomes.

Since learning can be defined in different ways, for the purpose of this paper, two aspects of learning were examined. The first one is the perceived learning of students (how much they felt that they learned from the instructor) and the second aspect was the cumulative learning of students (actual learning) as measured by their final grade in the course. The current study was designed to investigate the relationship of humor with different educational outcomes and the relationship of those outcomes with perceived learning and actual learning among college students. It will add to the scholarly knowledge of the relationship between humor and learning (perceived and actual) of college students because it investigated different types of instructional humor. In addition, the main reason for choosing college students was because at this age humor is more developed compared to childhood (McGhee, 1983). Thus, when looking at humor at this age, different types of humor are more understandable and can have a stronger relationship compared to earlier years where sense of humor is less developed. Childhood humor might demonstrate a lower familiarity with various types of humor and no formal preference for different types of humor.

Humor and Perceived Relatedness

Some researchers examine the relationship between relatedness and different educational outcomes. For example, Hess and Smythe (2001) designed a study in which they had three hypotheses. The first was that student perceptions of relatedness are associated with student perceptions of cognitive learning. The second hypothesis was that student perceptions of relatedness are associated with student affect for the instructor. And the third hypothesis was student' perceptions of cognitive learning is associated with student affect for the instructor. The authors used several measures. The learning aspect was tested with 50-item multiple-choice examination covering the assigned reading materials in the classroom. The researchers collected data three times during the semester. The first time students answered measures of trait and state motivation (this was also used to examine emotions, since it had items covering emotions). They also had a pretest in order to examine their level of knowledge at the beginning of class. The second time data was collected was before the midterm exam. Students answered a self-report measure that was used in the research of immediacy: a 20 item verbal, and a 14 item nonverbal immediacy measures. Participants also answered a two items measure of perceived cognitive learning and learning loss. In addition, they answered the same state motivation scale used in the first data collection, and demographics. The final time in which data was collected was during the midterm exam and it included the exam itself. Hess and Smythe (2001) state perceived teacher relatedness was related to perceived cognitive learning. They report perceived teacher relatedness as being positively related to liking of the instructor with a strong relationship between perceived cognitive learning and affect toward the instructor**.** Hess and Smythe (2001) also suggest no association

between perceived learning and exam performance. The authors did not indicate a relationship between students' perceptions of teacher relatedness and exam performance. They found that students were motivated more by self-interest than by teacher behavior.

Other Researchers examined the relationship between humor and relatedness finding when students record the total number of humor incidents with a specific teacher and rate the teacher's relatedness behaviors, these humor incidents correlate positively with the frequency of the teacher's use of other verbal and nonverbal relatedness behaviors (Gorham & Christophel, 1990). A study by Wanzer and Frymier (1999) found that there was a significant relationship between student's perception of their instructor's humor orientation and relatedness. Humor orientation means that there are individuals that can produce humor on a regular basis, and in different situations. The more the students appreciated the instructor's humor (when the instructor exhibited humor orientation) the higher the relatedness levels that the students felt toward the instructor. Wanzer and Frymier (1999) suggest the use of humor could serve as a relatedness strategy: it can create closeness and reduce distance between the instructor and students.

Christensen and Menzel (1998) took another approach and examined the relationship between teacher relatedness and student learning. They claim that humor can be used together with relatedness and enhance it in order to promote student learning. In their study the authors found that moderate levels of relatedness influenced students learning more than high levels of relatedness. They speculated that high levels of relatedness and moderate levels of relatedness both serve various purposes in certain situations. When it comes to student learning, moderate levels of relatedness are preferable.

According to Arbaugh (2001), humor is an important aspect of relatedness and can play a role in promoting relatedness. However, relatedness needs to interact with other factors in order to influence educational outcomes such as learning and student satisfaction with educational material. In Arbaugh's research additional factors included: student's attitudes toward the content of the course, the length of the course, and prior experience of the students with the content of the course. It has also been demonstrated that instructors who use more humor might be perceived as more open for communication thereby creating a more comfortable environment in the classroom. For example, in a study completed in a Chinese school setting, researchers discovered that there is a relationship between the humor orientation of the instructor and the student's appreciation of the communicative atmosphere in the classroom (Zhang, 2005).

At the same time, researchers claim that the results described above are not an indication that humor leads to relatedness between the instructor and the students, rather that humor is one aspect of relatedness and that relatedness leads to humor and not the other way around (Banas et al., 2011).

It appears that the use of humor is correlated with relatedness. And those instructors who scored high on relatedness were using more humor in the classroom. The current study took a different approach and examined different types of humor as possible moderators of the relationship between relatedness and perceived and actual learning.

Situational Interest in Educational Settings

Several factors have been recognized to influence situational interest in the educational environment. Mitchell (1993) suggested several different aspects that might

influence triggered and maintained factors (catch and hold respectively) of situational interest. For example, catch factors included things such as: group work (working with others on an assignment), computers (using something new to work on an assignment), and puzzles (doing a challenging task while solving a problem). While hold factors included meaningfulness and the active involvement of students in the learning process (Mitchell, 1993). Cognitive demands can also play a critical role in generating situational interest. Those cognitive demands include: a challenging task, demanding high attention and encouraging exploration (Chen & Darst, 2001). It was also found that some of the factors that might influence situational interest in reading a text include authors that produce well organized, easy to follow text passages containing vivid and coherent information (Schraw & Lehman, 2001). Offering stimulating tasks relating to a particular text being read influences situational interest. For example, students who read about owls, also dissected an actual owl, this in turn, increased their arousal and commanded their attention (Guthrie et al., 2006). Additional factors like live animals, "Ah-ha!" experiences, and social involvement have been shown to influence situational interest (Dohn, Madsen, & Hans, 2009). Live animals provided students an interaction with "real science" (seeing how those behave in real life and not only reading about them in the text book), the "Ah-ha" experiences were a realization of suddenly understanding connections between different aspects of a problem, while social involvement was characterized by working with other students on the same problem and provided a source of relatedness to peers (Dohn et al., 2009). Another study found similar themes (i.e., surprise, novelty, and knowledge acquisition) when situational interest was studied in an aquarium (Bonderup, 2011). Surprise meant that students' knowledge-based interest resulted from the

unexpectedness, such as an unforeseen understanding or appreciation of something. Novelty meant that interest was aroused by something new and unfamiliar. Knowledge acquisition meant knowledge-based interest that is generated by acquisition of relevant knowledge (Bonderup, 2011).

There are different factors that influence situational interest among students with an emergent pattern among these factors. Situational interest can benefit from activities that are novel, activities that are being done in a group, and activities that are related to the material being taught. Humor can be a part of this formula because humor that is used and presented in the classroom may be novel. The uniqueness of humor may depend on the amount and frequency of humor individuals are exposed to and how it is used in their educational experience. As stated above, humor can serve as a way to bring individuals together, and humor (if chosen) can be relevant to the material being taught. So humor has the potential to be a factor that influences situational interest.

However, the amount of research about humor and situational interest is small in scope, accordingly, in the next section the author will present the research that examined humor and interest in general.

Humor and Interest

The relationship between humor and interest has also been explored cursorily. It has been suggested that humor might contribute to interest in the classroom because humor grabs the attention of students, especially the responsiveness of students that are not attentive. This higher level of awareness might occur long enough to stimulate learning (Bergin, 1999). It was also found, with regard to the effects of humorous instructional materials on interest on a math task, that if humor is incorporated into

learning materials it will lead to specific effects on task interest for learners with dissimilar levels of individual interest in math (Matarazzo, Durik, & Delaney, 2010). Those participants who demonstrated low interest in math reported greater task interest when their learning program was humorous as opposed to being non-humorous. Participants with high individual interest did not benefit from the addition of humor thereby pointing toward a ceiling effect.

It seems that humor has a positive relationship with interest of students in a task, and it seems that relevant humor has significant positive relationship with this interest. However, there is not enough research to draw conclusions about the relationship between different types of humor and situational interest. The current research examined both the relationship of different types of humor with situational interest and also the role of humor as a possible moderator of the relationship between situational interest and perceived and actual learning.

Humor and Affect

The connection between humor and emotions has been examined as far back as Charles Darwin. Darwin believed that laughter is an expression of emotions because it allows an individual to signal to others that the individual is expressing a certain emotion. More contemporary scholars' report that the specific emotion typically related to humor would be joy. However, researchers still debate exactly what emotion results from the use of humor. Some call this emotion: amusement while some call it exhilaration and others call it mirth (Martin, 2007). In addition, some researchers believe that there are certain mechanisms that accompany this emotion. Those mechanism are: physiological, experiential, and behavioral with humor being accompanied by vocalizations, facial

expressions, and bodily actions, changes in the endocrine system, the autonomic nervous system, and the subjective feelings of cheerfulness, pleasure and amusement (Martin, 2007).

Research about the influence of humor on affect in the educational system is small in scope. However, there is a significant amount of research about the role of affect in the educational system. The question that should be asked is: what types of teacher communication predict positive emotions in students and result in better learning? Research points to a communication style described as supportive may promote positive emotions as compared to a type of communication that is not positive in nature (Skinner, Furrer, Marchand, & Kindermann, 2008). Another type of communication that might lead to positive emotions is when instructors recognize and respond to difficulties that are exhibited by students in the classroom (Gläser-Zikuda, & Fuß, 2008).

Värlander (2008) believes that emotions should not be considered as something that hinders learning. Emotions should be viewed as a natural part of learning. This is of particular importance because some research has shown that the emotions student feel might influence the manner in which they store and retrieve information (Grossberg, 2009). Emotions can also influence and be influenced by other factors. Nummenma and Nummenmaa (2008) investigated how emotions experienced while using a web-based learning environment are related to interest towards the course topic and interest toward web-based learning and how this is related to collaborative visible and non-collaborative invisible activities. They discovered that students that did not actively participate in the collaborative activities had more negative emotional experiences than other students. Another group of researchers (Ahmed, Werf, Minnaert, & Kuyper, 2010) investigated

within-student variability in emotional experiences and how competence and value appraisals are associated with emotions. They found that within-student variability in emotions and appraisals demonstrates the adaptability of students with respect to situational affordances and constraints in their classroom experience.

It is important to stress that teachers that did not show relatedness and either exhibited the type of communication that was not clear or was poor, created negative emotions among students (Mazer, McKenna-Buchannan, Quinlan, & Titsworth, 2014). Becker, Goetz, Morger, and Ranellucci (2014) had students rate their teachers' emotions (joy, anger, anxiety) and also their own emotions (the students). They found that perceived teachers' emotions and instructional behavior significantly predicted students' emotion. This suggests, according to the authors, that teacher' emotions influence student' emotions.

Goetz, Lüdtke, Nett, Keller, and Lipnevich (2013) examined the relations between eight characteristics of teaching and students' academic emotions (enjoyment, pride, anxiety, anger, helplessness and boredom) across four academic domains (mathematics, physics, German, and English). They found significant relations between characteristics of teaching and students' discrete emotions in four different academic domains. In addition, the strength of relations between characteristics of teaching and academic emotions was similar across academic domains**.** Xu, Du, and Fan (2013) examined empirical models of students' emotion management in online collaborative group work. Their data suggest that emotion management in-group work was positively related to feedback, learning-oriented reasons, arranging the environment, monitoring motivation, and help seeking. These authors report that compared with part-time students, full-time

students were more likely to take initiative in managing their emotion while doing online group work. Mega, Ronconi, and De Beni (2014) presented a model linking emotions, self-regulated learning, and motivation to academic achievement. They found that positive emotions foster academic achievement but this happens only when mediated by self-regulated learning and motivation. Mega et al. (2014) also indicate that students' emotions influence their self-regulated learning and their motivation, and these, in turn, effect academic achievement. Winberg, Hellgren, and Palm (2014) also sought to examine the importance of several variables for predicting students' positive-activating emotions with mathematics learning. They found that two most important constructs were students' type of motivation and perceived degree of learning.

As is evident from reviewing the research about the role of affect in the educational system, there is a significant body of research. This body of research considers some of the factors that might be related to student feelings toward the instructor, and how this might be associated with several learning outcomes. However, research that directly examines the relationship of humor as an instructional technique and its relationship with student emotions in the classroom is still scarce. One of the goals of the current research was to gain a greater understanding about the relationship between humor and affect in educational settings.

Additional Factors

In the following section the author of this paper elaborated about the specific variables that were examined in this paper, and their relationship with humor. An effort was made to describe these variables and their relationship with humor as it pertains to the educational system. When available research is scarce, an effort was made to describe

the relationship between humor and study variables in a general manner (outside of the educational system).

The two variables that were picked are the gender of the students and the gender of the instructors. First, a review will be presented about the differences between the genders when it comes to perception and appreciation of humor. Next, a review will be presented about the differences between the genders as it comes to the classroom setting.

Gender and Humor

When it comes to gender and humor, some researchers found differences between the genders in the perception of humor. The research about the differences between the males and females, as it comes to humor, is research that has been conducted for several decades and several discoveries were found in the process. Some of those discoveries (Martin, 2007) are described in the next couple of paragraphs. Losco and Epstein (1975) examined male and female undergraduates' preferences for cartoons in which hostility was directed at males and females. They discovered that both males and females preferred cartoons in which the butt of the joke was a female. They also discovered that males failed to see humor in cartoons, which depicted an officious male receiving his comeuppance from a female but rated a similar cartoon as very funny in which the sexes were reversed, but females showed no such prejudice. Wilson and Molleston (1981) examined humor appreciation of cartoons with female and male undergraduates. They used four broad types of humor: sexual-exploitative, sexual-nonexploitative, nonsexual-hostile, and nonsexual-nonhostile. Compared to males, females gave greater ratings of hostility to the cartoons and rated them less positively. Females also were not as affected as males by variations in sexuality, exploitation, and hostility. In addition, for males,

greater ratings of sexuality were associated with greater funniness ratings. However, not all researchers found differences between the genders, as it comes to humor. Henkin and Fish (1986) developed a humor instrument that consisted of two identical sets of sexist sexual cartoons, two identical sets of sexist aggressive cartoons (with only the genders of cartoon aggressors/victors and objects reversed), and a single set of absurd cartoons. They discovered no difference in humor appreciation was found between men and women. Also, the authors indicate no difference between men and women's appreciation of male- and female-oriented humor.

Jackson and Jackson (1997) had male and female participant's rate jokes with either a male initiator/female joke or vice versa. They found that the gender of the joke target made no difference for the male participants. But, jokes with male targets had a significantly higher rating than jokes with female targets, when the participants who rated those were female.

This research continued in the following decades with additional findings (Martin, 2007) that are highlighted in the current paragraph. For example, Martin and Kuiper (1999) looked at what caused individuals to laugh on a daily basis. The investigation had participants complete daily reports about the different experiences that made them laugh. The experiences included: remembering humorous experiences from the past, social situations that were spontaneous, the media, and canned jokes. The researchers discovered that there were no differences between females and males in the frequencies of reported laughter. There was a difference, though, between females and males when it came to social situations that were spontaneous (Martin & Kuiper, 1999). Females reported that they laughed significantly more from social situations. Futch and Edwards

(1999) looked at the effects of sense of humor, defensiveness, and gender on the interpretation of ambiguous messages directed toward the self. They discovered that males interpret ambiguous messages directed at the self, less humorously and more defensively than do females. Comments from males are interpreted more humorously. They also discovered that Males interpreted messages concerning mental and physical errors more defensively and less humorously than did females. Duchaj (1999) looked at three variables of responses by sex: perceived funniness, cleverness, and offensiveness. They found no statistically significant difference between males and females in regard to perceived funniness and cleverness of the jokes, but a significant difference for offensiveness. They also found a statistically significant inverse relationship between perceived funniness and offensiveness for the jokes tested for females. Hay (2000) examined the role of humor in discourse. She suggests women were more likely to share funny personal stories to create solidarity, while men used other strategies to achieve the same goal. Decker and Rotondo (2001) investigated the relationship between workplace humor, manager gender, and leadership outcomes. They found that male managers were reported to use more positive and negative humor than female managers, but there was a magnifier effect for females in how humor affected the leadership variables. Female managers used positive humor at work were rated higher than males in leader outcomes while females that used negative humor were rated lower than males in those outcomes.

In a study that was conducted in Singapore, among undergraduate students, it was found that compared to Americans, participants in Singapore, had jokes that had more aggressive content, but less sexual content. They report few gender differences with regard to the content of jokes, and most participants believed that men demonstrate a

better sense of humor (Nevo, Nevo, & Yin, 2001). In a study that examined sexual jokes, the researchers found men high in benevolent sexism found the jokes significantly more amusing and less offensive than either women in the same group or men low in both hostile and benevolent sexism (Greenwood & Isbell, 2002). Diaconu-Muresan and White- Stewart (2010) examined Romanian college students' reactions to sexist humor. They report women participants that considered themselves as having a feminist identity and also felt a sense of identification with the target of the joke did not view the jokes in a favorable manner. In addition, a significant number of participants viewed sexual jokes as having misogynist messages, and they also viewed the jokes as negatively influencing women's social status. One investigation found females judged cartons that were not defined as having dark humor, to have less of an incongruity, and to be surprising than cartoons that were defined as having dark humor. Females also found the non-dark humors carton to be funnier and more understandable than the dark humor cartons (Aillaud & Piolat, 2012). The differences between genders may appear at the school age. For example, one researcher found minor misfortunes of self, peers, family members, and pets were more humorous for boys, while for girls, what made them laugh more was the tickling by others (Dowling, 2014).

It seems there are some differences in the manner in which both genders will evaluate and relate to humor. The study conducted, examined if there would be differences between the genders when it comes to the prediction of the different educational outcomes by the different types of humor. This is of interest because the literature showed in some instances there were gender differences in regard to the

perception and appreciation of humor, while in other instances there might be no such differences.

When it comes to the classroom, previous research has shown that male teachers used humor significantly more often than female teachers, with women in small classes being especially unlikely to use humor (Crawford & MacLeod, 1990). Previous research about instructor gender and humor in the classroom also suggested differences between the perceptions of humor for males and females. If the instructor was a male using humor, humor positively related to appeal, delivery, and teaching effectiveness, while if the instructor was a female, only the use of hostile humor was associated with enhanced appeal. Usage of some non-hostile forms of humor was associated with loss of appeal (Bryant et al., 1980). Darling and Civikly (1987) found that a male teacher using nontendentious humor and a female teacher using tendentious humor are perceived as more self-protective than helpful. They also discovered that a male teacher using no humor is perceived as more forthright and truthful than the same teacher using either tendentious or nontendentious humor.

However, recent research (Van Giffen, 1990) suggests a certain change in that area. Ratings by students of their instructor's sense of humor was a better predictor of how the student would rate the instructor on course evaluations, if the instructor was a female rather than a male.

It seems that the gender of the instructor is a factor worth additional consideration. Prior research is not conclusive for whether a difference exists if the instructor or student is female or male, when it comes to humor as an instructional technique and its relationship with different educational outcomes. Previous research

suggested a difference between students' perception of humor used by the instructor based on if the instructor was a male, however, in more recent times it seems that this perception has changed. In fact, in some instances female instructors are viewed more favorable, when using humor. Accordingly, the current study provides a contemporary study of this issue.

The Role of Humor as an Instructional Technique

While some research about the relationship of humor with various educational outcomes exists, the relationship between of humor and the educational outcomes of situational interest, perceived relatedness, and affect is small in scope or contradicting, and the relationship of those outcomes with perceived and actual learning (and the role of humor in this relationship) is also small in scope. Since instructors are encouraged to use humor in their instruction, it is important to investigate the relationship of humor with different educational outcomes, and the relationship of those outcomes with perceived and actual learning. It is also of interest to investigate different types of humor since there are different types of humor used by instructors. As well, different types of humor might have different types of relationship with educational outcomes (e.g., predict interest, or distract, predict stronger or weaker sense of perceived relatedness, predict positive or negative affect, and predict lower or higher perceived and actual learning). Therefore, the study considered several educational outcomes in an attempt to contribute to the existing research about humor and its relationship with those outcomes, and the relationship of those outcomes with different types of learning.

I was also interested in examining what kinds of variable moderated the relationship of humor with different educational outcomes. I choose the variable of

student gender and instructor gender. This variable should receive further investigation because student and instructor gender might play a role in humor as illustrated by prior research.

The study sought to investigate these issues by examining the relationship of different types of humor (relevant and non-relevant, appropriate and inappropriate) with different educational outcomes (perceived relatedness, perceived learning, interest, and affect), and the relationship of those outcomes with perceived learning and actual learning while taking into account the role of humor in this relationship. In addition, gender was considered as a moderating factor in those relationships. Therefore, this dissertation adds to the current body of research with regard to the relationship of different types of instructional humor with different educational outcomes. A goal of this research was to identify different uses of humor within the classroom.

The next section describes the hypotheses and research questions for the study. These questions/hypotheses, in addition to testing the relationship of humor and different educational outcomes, attempted to identify applicable theories that were presented in earlier sections of this paper. The questions that pertain to student learning tested IHPT. Specifically, the answers given to these questions illustrate whether various types of humor have a certain relationship with learning outcomes. The questions that pertain to affect focus on the ERT attempting to illustrate whether the use of humor predicted positive feelings. Questions that pertain to relatedness connect prior research to the current study.

Hypotheses

I expected relevant and appropriate humor to have a positive relationship with all of the educational outcomes that were examined. This expectation is in accordance with the research about humor and interest (Matarazzo, Durik, & Delaney, 2010), humor and relatedness (Wanzer & Frymier, 1999), humor and affect (Horan et al., 2012), humor and perceived learning (Ulloth, 2002), and humor and actual learning (Ziv, 1988). With regard to non-relevant humor, I expected non-relevant humor to have a positive relationship with affect (Horan et al., 2012) and relatedness (Wanzer & Frymier, 1999).

The current study advocates the view that different types of humor will have certain types of relationships with educational outcomes, a rationale supported by IHPT (Wanzer et al., 2010). In summary, the research questions and hypotheses are as follows:

Q1 Which type of humor (relevant, non-relevant, appropriate, and inappropriate) would have a positive type of relationships with the educational outcomes of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning?

H1 The use of relevant/appropriate humor will have a positive relationship with perceived relatedness (Gorham & Christophel, 1990), interest (Matarazzo et al., 2010), affect (Mottet et al., 2007), perceived learning (Ulloth, 2002) and actual learning (Ziv, 1988). This question was examined with each educational outcome and the different types of humor separately.

H2 The use of non-relevant humor will have a positive relationship with perceived relatedness (Gorham & Christophel, 1990) and affect (Horan et. al., 2012), but not in higher levels of interest (Matarazzo et al., 2010), and actual learning (Ziv, 1988).

Q2 Does type of humor predicts perceived and/or actual learning? If so, are these relationships moderated by perceptions of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, affect and interest.

H3 Humor will mediate the relationship of all of those outcomes with actual and perceived learning.

Q3 Would gender moderate the relationship of the types of humor with the different educational outcomes (perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning)?

H4 There will be a difference between genders in regard to the relationship of different types of humor with different educational outcomes (Bryant et al., 1980; Van Giffen, 1990).

CHAPTER III

METHODS

The current researcher chose to conduct a study that is quantitative in nature and employed correlational research designs. University of Northern Colorado's (UNC) institutional review board (IRB) reviewed and approved this study prior to data collection. Participants received surveys and were asked to complete several Likert style questions.

Participants

Participants were students that enrolled in an introductory psychology class and were required to either participate in studies to receive credits or write a paper instead. Based on a power analysis conducted with G*Power 3.1 software (Faul, Erdfelder, Buchner, & Lang, 2009), a sample size of 92 participants was required for this study with an effect size of 0.15, error probability of 0.05, power of 0.8, and 4 predictors. Table 1 provides descriptive characteristics of participants.

Procedures

After the consent process (Appendix A) and agreeing to participate in the study, participants were asked to fill out the measures about: demographics, perceived relatedness (verbal and nonverbal), affect, interest, perceived learning, and their instructor's sense of humor. Verbal instructions along with a copy of the informed consent were provided. The order of survey completion was: demographics, interest,

affect, perceived relatedness, perceived learning and instructor's sense of humor. Completion of the surveys took approximately 30 minutes and occurred at psychology department to where students were invited to participate in the study. Student's final grades were obtained after the semester was over.

Instrumentation

Demographic measure. Using a self-report questionnaire, demographic information was collected to describe the sample characteristics of the groups (Appendix B). The instrument included questions about participant age, gender, ethnicity, major, minor, year in school, cumulative grade point average, and course specifics (e.g., course title, instructor's name).

Perceived relatedness measure. This measure (Cronbach's α =.86) was adapted and revised from Gorham (1988) (Appendix C). The measure was originally used in a study to investigate instructor relatedness behaviors and student's satisfaction and learning. The measure included 34 statements. For the current study the statement about humor was eliminated. One verbal statement (no. 7) and two nonverbal statements (no. 2 and no.5) are reverse coded. The measure includes statements such as: "uses personal examples or talks about experiences he/she had outside of class", "is addressed by his/her first name by students", "looks at the class while talking", and "moves around the class while teaching". The measure was chosen because it is a measure that has been used in a significant number of studies about teacher - student relatedness. The scoring for this measure was as follows: a Likert scale of 0 through 4 (0 being never and 4 being very often) then all of the scores on each statement were added to one single score: one for verbal relatedness and one for nonverbal relatedness.

Affect measure. The affect measure (Appendix D) used the different dimensions of the emotional response theory: pleasure vs. no pleasure, arousal vs. non-arousal, and dominant vs. submissive, and students indicated how they felt in each dimension.

Interest measure. The measure was adapted from two measures, Phillips (2007) and Linnenbrink-Garcia et al. (2010) (Appendix E). The measure for this study was a Likert scale ranging from one to six (from strongly disagree to strongly agree) with Cronbach's $\alpha = .91$. The adapted measure had eight statements such as: "The topic the instructor is teaching fascinates me", and "I'm excited about the topic taught by my instructor". All ratings were combined to a single score.

Humor measure. In order to examine humor use by the instructor, a questionnaire was developed (Appendix F). Participants were asked of how frequently their instructor used relevant humor, non-relevant humor, appropriate humor, and inappropriate humor. The questions about relevant and non-relevant humor were asked three times and in different wording to examine reliability.

Perceived learning measure. This measure (Appendix G) asked students to reflect on how much they believed they learned in the course. A Likert type scale was used to measure this perception.

Actual learning measure. The student's final grade, which was reported by the instructor to the researcher of this study, served as the actual learning measure for the study. Participants signed a consent form releasing this information.

Debriefing procedures. Participants were provided with a debriefing document (Appendix H) explaining the study. Supplemental oral information addressing any questions that might have arose after partaking in the study was provided.

Analysis

Data analysis was conducted using SPSS version 22. Factor analysis was conducted to determine the number of humor types that were loading together. In addition, a reliability analysis was conducted to examine the types of humor that factored together. Descriptive statistics included means, standard deviations, and minimum and maximum scores for each variable obtained.

A regression analysis was conducted with the humor types, and gender as predictors, and the different educational outcomes as the outcome. In addition an interaction between gender and the types of humor as predictors was also examined in this regression.

An additional regression analysis was used to look at differences between the different humor types in regard to the different educational outcomes. Correlations examined how the humor types were each associated with different educational factors. A hierarchical multiple-regression was used to analyze data. Perceived learning was the outcome variable. The variables that were entered as predictors: perceived verbal relatedness, perceived non-verbal relatedness, affect, interest, and the humor types.

CHAPTER IV

RESULTS

Descriptive and Correlational Statistics

Table 1 provides a breakdown of participant characteristics. In short, the study consisted of 195 undergraduate students, there were 205 participants who filled out surveys but ten were eliminated since they had missing data, (n=117, 60% female and n=78, 40% male). The age of these participants ranged from 18 to 25, with a mean of 18.91 years (SD=1.29). 146 (74.9%) of the participants were first year students, 24 (12.3%) were second year students, 19 (9.7%) were third year students, and 6 (3.1%) indicated being in at least their fourth year of undergraduate education. The most reported academic majors were business (n=33, 16.9%), psychology (n=27, 13.8%), undeclared (n=16, 8.2%), athletic administration (n=13, 6.6%), and other (n=89, 54.3%). The current study included 121 (62.1%) Caucasian, 26 (13.3%) biracial, 22 (11.3%) Hispanic, 18 (9.2%) African American, 7 (3.6%) Asian, and 1 (0.5%) Pacific Islander or Native Hawaiian. 85.6% of the participants received a course grade of C- or better. Table 2 provides averages for humor types, as well as correlational statistics between humor types and educational outcomes.

Table 1. *Descriptive Statistics for Total (N =* 195*) Participants*

Variable	Level	Frequency	Percent
Gender	Female	117	60.00
	Male	78	40.00
Class Status	First year	146	74.9
	Sophomore	24	12.3
	Junior	19	9.7
	Senior	6	3.1
Final Grade	A	42	21.5
	A-	18	9.2
	B+	12	6.2
	B	34	17.4
	B-	18	9.2
	C+	13	6.7
	C	21	10.8
	C-	9	4.6
	D+	6	3.1
	D	14	7.2
	D-	4	2.1
	F	4	2.1
Ethnicity	Asian	7	3.6
	Biracial	22	11.3
	African American	18	9.2
	Caucasian	121	62.1
	Hispanic	18	9.2
	Pacific Islander	1	0.5
	Other	8	4.1
Major	Athletic Admin.	13	6.6
	Business	33	16.9
	Psychology	27	13.8
	Undeclared	16	8.2
	Other	106	54.3

Table 2

Correlational statistics between the different humor types and the educational outcomes.

Descriptive Statistics

Predictors	N	*M*	*Mini*	*Max*	*SD*	Correlations						
						1	2	3	4	5	6	7
1. Relevant Appropriate humor	195	7.90	.00	12	2.95							
2. Non-relevant Humor	195	1.45	.00	7	1.37	.221**						
3. Verbal relatedness	195	33.86	6	57	9.69	.646**	.056					
4. Nonverbal relatedness	195	35.21	17	48	6.62	.392**	-.050	.390**				
5. Affect	195	11.15	.00	18	4.00	.434**	-.042	.513**	.383**	.		
6. Interest	195	37.85	13	48	7.33	.326**	-.172*	.326**	.263**	.492**		
7. Perceived Learning	195	3.37	1	4	.75	.483**	-.009	.501**	.440**	.554**	.549**	
8. Actual learning	195	7.27	0	11	3.10	-.089	.037	-.087	.054	.110	-.010	.068

Notes: ** $p < .01$ level (2-tailed)
* $p < .05$ level (2-tailed)

Reliability and Factor Analysis

On the verbal perceived relatedness measure reliability for the fifteen items was .84. The four items that were required to be reversed scored were dropped from the analysis, because these items correlated negatively with other survey items. For non-verbal perceived relatedness the reliability was .74 for these twelve items. The eight items measuring interest had a reliability of .90. For the affect measure reliability was .70 on nine items.

An Exploratory Factor Analysis (EFA) using the Maximum Likelihood extraction methods with a varimax (oblique) rotation method for the different questions about humor types was conducted on data gathered from the same 195 participants. The analysis initially yielded four factors. Factor 1 included the three items that asked about relevant humor in three different ways (using the words: relevant, promotes understanding, and related) and two additional items that asked about spontaneous humor and appropriate humor. Factor 2 included the three items that asked about non relevant humor (using the words: not relevant, doesn't promote understanding, and not -related). Factor 3 included one item that asked about self-disparaging humor, and one item that asked about disparaging others (students). Those items had a low factor loading. Factor four included one item that asked about relevant humor, one item that asked about appropriate humor, and one item that asked about offensive humor. Two of those items (relevant humor and appropriate humor) also crossloaded with the first factor loading, but with a weaker value.

The spontaneous humor item had a low loading on the first factor loading and was dropped. With this item dropped, all of the relevant humor items loaded with one another.

Appropriate humor also loaded with the three questions that asked about relevant humor. All of the non-relevant humor items also loaded together. This resulted in a two-factor solution: related/appropriate humor and non-related humor. Reliability for the four items measuring related/appropriate humor was .90 and reliability for the three items measuring non-relative humor was .78. Table 3 displays the results of the oblique rotation. Due to those results two humor types were considered in the paper from this point on (relevant/appropriate and non-relevant).

Table 3

Summary of Exploratory Factor Analysis Results for the Two Humor Types Using Maximum Likelihood Estimation with varimax (N=195)

Rotated Factor Matrix		
	Factor	
	1	2
Relevant	**0.91**	.01
Promotes understanding	**0.90**	0.11
Related	**0.89**	0.05
Appropriate humor	**0.80**	0.16
Not relevant	0.05	**0.87**
Doesn't promote understanding	- 0.01	**0.82**
Not related	0.22	**0.78**

Primary Analyses

Subsequent analyses examined the different research questions. For each research question several regression analysis were conducted to examine those questions, with different independent and dependent variables and different moderating variables.

Research Questions One and Three

The first question asked**:** Which type of humor (relevant/ appropriate non-relevant) would have a positive type of relationships with the educational outcomes of

perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning? And the third research question asked: Would gender moderate the relationship of the types of humor with the different educational outcomes (perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning)?

A linear regression was conducted. In step one gender was entered, in step two the humor types of relevant/appropriate and non-revenant were entered, and in step three the interactions of each humor type with gender were entered. Interactions were entered separately for each of the educational outcomes after variables were centered.

Perceived verbal relatedness. In step one with just gender as a predictor, the model explained 0% of the variance: F (1,193) = .01, $p < .91$. Gender did not significantly predict perceived verbal relatedness (see Table 5). In step two with the two humor types entered, the model explained 42.6 % of the variance. There was a statistically significant change in r^2: F (2,191) = 70.98, $p < .00$ Relevant/appropriate humor significantly predicted perceived verbal relatedness (β= .66, $p < .00$) but non-relevant humor was not a significant predictor (β= -.09, $p = .08$). In step three, the gender by humor type interactions were entered. There was not a statistically significant change in r^2 ($p = .83$) and none of the interactions significantly predicted perceived verbal relatedness.

Perceived non-verbal relatedness. In step one with just gender as a predictor, the model explained 3.2 % of the variance: F (1,193) =6.31, $p < .01$. Gender significantly predicted nonverbal perceived relatedness (β= .17, $p < .01$) (see Table 6). In step two with the two humor types entered the model explained 19.4 % of the variance. There was

a statistically significant change in $r^{2:}$ F (2,191) = 19.24, p< .00. Relevant/appropriate humor significantly predicted perceived non-verbal relatedness (β= .41, p < .00) but non-relevant humor was not a significant predictor (β= -.11, p = .09). In step three, the gender by humor type interactions were entered. There was not a statistically significant change in r^2 (p = .25) and none of the interactions predicted perceived non-verbal relatedness.

Affect. In step one with just gender as a predictor the model explained 0% of the variance: F (1,193) =.09. Gender didn't significantly predict affect (see table 7). In step two with the two humor types entered, the model explained 20.9 % of the variance. There was significantly change in r^2: F (2,191) = 25.18, p < .00. Relevant/appropriate humor significantly predicted affect (β= .46, p < .00). Non-relevant humor significantly predicted affect (β= -.14, p < .02as well In step three, the gender by humor type interactions were entered. There was not a statistically significant change in r^2 (p = .43) and none of the interactions predicted affect.

Interest. In step one with just gender as a predictor, the model explained 4.7 % of the variance: F (1,193) =9.54. Gender significantly predicted interest (β= .21, p < .00) (see table 8). In step two with the two humor types entered the model explained 19.6 % of the variance. There was a statistically significant change in r^2: F (2,191) =17.73, p <.00. Relevant/appropriate humor significantly predicted interest (β= .37, p < .00). Non-relevant humor significantly predicted interest (β= -.22, p < .00) as well. In step three, the gender by humor type interactions were entered. There was not a statistically significant change in r^2 (p = .07) and none of the interactions predicted interest.

Perceived learning. In step one with just gender as a predictor, the model explained 1.2 % of the variance: F (1,193) = 2.27, p <.13. Gender did not significantly

predict perceived learning (see table 9). In step two with the two humor types entered the model explained 25.4 % of the variance. There was statistically significant change in r^2: F (2, 191) = 30.94, p < .00. Relevant/appropriate humor significantly predicted perceived learning (β= .50, p < .00), but non-relevant humor was not a significant predictor (β= -.10, p = .10). In step three, the gender by humor type interactions were entered. There was not a statistically significant change in r^2 (p = .79) and none of the interactions predicted perceived learning.

Actual learning. In step one with just gender as a predictor, the model with gender explained 2.2 % of the variance: F (1,193) =4.33, p < .03. Gender significantly predicted academic achievement (β= .14, p < .00) (see table 10). In step two with the two humor types entered the model explained 3.8 % of the variance. There was no significant change in $r^{2:}$ F (2,191) =2.54, p= .19. Relevant/appropriate did not predict actual learning (β=

-.11, p = .12), and neither did non - relevant humor (β= .09, p =.21). In step three, the gender by humor type interactions were entered. There was not a statistically significant change in r^2 (p = .33) and none of the interactions predicted actual learning.

Table 4

Verbal perceived relatedness by using gender and the two humor types.

Predictor	B	SE b	β	R2	f^2
Step 1				.00	
Gender	-.15	1.421	-.00		
Step 2				.42**	.72
Gender	-.78	1.10	-.40		
Relevant/appropriate humor	2.19	.18	.66**		
Non relevant humor	-.69	.40	-.09		
Step 3				.42	.72
Gender	-.78	1.10	-.04		
Relevant/appropriate humor	2.12	.30	.64**		
Non relevant humor	-.73	.55	-.10		
Gender * Relevant/appropriate humor	.11	.38	.02		
Gender * Non relevant humor	.09	.81	.00		

Note: *p < .05, **p < .01.

Table 5

Non Verbal perceived relatedness by using gender and the two humor types.

Predictor	B	SE b	β	R2	f^2
Step 1				.03*	0.03
Gender	2.40	.95	.17*		
Step 2				.19**	0.23
Gender	2.00	.89	.14		
Relevant/appropriate humor	.92	.15	.41**		
Non relevant humor	-.54	.32	-.11		
Step 3				.20	0.25
Gender	2.04	.89	.15		
Relevant/appropriate humor	.79	.24	.35		
Non relevant humor	-.04	.44	-.00		
Gender * Relevant/appropriate humor	.24	.31	.08		
Gender * Non relevant humor	-1.08	.65	-.15		

Note (*p < .05, **p < .01).

Table 6

Affect by using gender and the two humor types.

Predictor	B	SE b	*β*	R2	f^2
Step 1				.00	
Gender	.18	.58	.02		
Step 2				.20**	0.25
Gender	-.12	.53	-.01		
Relevant/appropriate humor	.63	.09	.46**		
Non relevant humor	-.43	.19	-.14*		
Step 3				.21	0.26
Gender	-.11	.53	-.01		
Relevant/appropriate humor	.54	.14	.40		
Non relevant humor	-.33	.26	-.11		
Gender * Relevant/appropriate humor	.14	.18	.08		
Gender * Non relevant humor	-.20	.39	-.04		

Note (*p < .05, **p < .01).

Table 7

Interest by using gender and the two humor types.

Predictor	B	SE b	β	R2	f^2
Step 1				.04*	0.04
Gender	3.24	1.05	.21*		
Step 2				.14**	0.23
Gender	2.51	.98	.16		
Relevant/appropriate humor	.92	.16	.37**		
Non relevant humor	-1.18	.36	-.22**		
Step 3				.02	0.26
Gender	2.46	.98	.16		
Relevant/appropriate humor	1.18	.27	.47		
Non relevant humor	-1.73	.49	-.32		
Gender * Relevant/appropriate humor	-.43	.34	-.14		
Gender * Non relevant humor	1.17	.72	.14		

Note (*p < .05, **p < .01).

Table 8

Perceived learning by using gender and the two humor types

Predictor	B	SE b	β	R2	f^2
Step 1				.012	0.01
Gender	.16	.11	.10		
Step 2				.25**	0.33
Gender	.12	.09	.07		
Relevant/appropriate humor	.13	.01	.50**		
Non relevant humor	-.05	.03	-.10		
Step 3	.25			.25	0.33
Gender	.11	.09	.07		
Relevant/appropriate humor	.13	.02	.51		
Non relevant humor	-.09	.04	-.16		
Gender * Relevant/appropriate humor	-.006	.03	-.01		
Gender * Non relevant humor	.06	.07	.08		

Note (*p < .05, **p < .01).

Table 9

Actual learning by using gender and the two humor types

Predictor	B	SE b	β	R2	f^2
Step 1				.02*	0.02
Gender	.93	.45	.14**		
Step 2				.03	0.03
Gender	1.05	.45	.16		
Relevant/appropriate humor	-.11	.07	-.11		
Non relevant humor	.20	.16	.09		
Step 3				.05	0.05
Gender	1.07	.45	.17		
Relevant/appropriate humor	-.15	.12	-.14		
Non relevant humor	.47	.22	.21		
Gender * Relevant/appropriate humor	.07	.15	.05		
Gender * Non relevant humor	-.58	.33	-.17		

Note (*p < .05, **p < .01).

Research question two

First, correlations were conducted between all of the variables. Since there were no correlations between actual learning and any of the other variables, actual learning was dropped from the analysis and an emphasis was put on perceived learning.

A linear regression was conducted in order to examine whether type of humor related to perceived learning. The analysis involved different types of humor (relevant/appropriate humor, non-relevant humor) as separate predictor variables in step one, and in step two potential mediator variables: verbal perceived relatedness, non-verbal perceived relatedness, interest, and affect. Perceived learning was entered as the dependent variable. Multicollinearity was also examined. Table 11 provides a breakdown of these findings.

In step one with relevant/appropriate humor and non-relevant humor as predictor the model explained 24.8% of the variance: F (2, 192) =31.60, $p < .00$. Relevant/appropriate humor significantly predicted perceived learning (β= .51, $p < .00$) but non-relevant humor was not a significant predictor (β= -.06, $p < .06$). In step two, the potential mediator variables were added. These variables contributed to statistically significant change in r^2 ($p < .00$) and the model explained 49.78% of the variance: F (4, 188) =30.9, $p < .00$. With the mediators added, relevant/appropriate humor was no longer a significant predictor (β= .12, $p < .09$). Nonverbal perceived relatedness (β= .17, $p < .00$), affect (β= .20, $p < .00$), and interest (β= .32, $p < .00$) all significantly predicted perceived learning. Verbal relatedness was not a significant predictor. In addition, multicollinearity wasn't found in this model. VIF was below 2.00 and Tolerance was below .49.

When taking into account (a) relevant/appropriate humor was a significant predictor in step one, (b) relevant/appropriate humor was no longer a significant predictor in step two, and (c) relevant/appropriate humor was significantly related to the variables entered in at step 2 (see Table 2), we can assume that the relationship between relevant/appreciate humor and perceived learning is fully mediated by the other variables.

Table 10

The two types of humor and the four educational outcomes as independent variables and perceived learning as dependent variable.

Predictor	B	SE b	β	R2	f^2
Step 1				.24**	0.31
Relevant/appropriate humor	.13	.01	.51**		
Non relevant humor	-.06	.03	-.12		
Step 2				.49**	0.96
Relevant/appropriate humor	.03	.01	.12		
Non relevant humor	.01	.03	.02		
Verbal relatedness	.01	.00	.14		
Nonverbal relatedness	.02	.00	.17**		
Affect	.03	.01	.20**		
Interest	.03	.00	.32**		

Note (**p < .01).

CHAPTER V
DISCUSSION

Summary

The relationship between different forms of humor and different educational outcomes is an important question. Humor is used within the classroom in various ways (Wazner et al., 2006) with some instructors using humor as an instructional technique (Lundberg & Thurston, 2002). Accordingly, it was of interest to examine the relationship of different types of humor with several educational outcomes. It was also of interest to examine possible mediating factors. Gender was chosen as a factor to be examined, due to the fact that in different decades of research, different conclusions were obtained (Bryant et al., 1980, Van Giffen, 1990). Since the educational system is divided into different levels (elementary, middle school, high school, college) university/college students were chosen as the focus of this investigation.

Purpose

Previous research on the relationship between instructor use of humor and different educational outcomes has typically been small in scope or has shown mixed or contradicting results. For example, when it comes to relatedness, research has shown that humor might influence relatedness of students toward the instructor directly (Wanzer & Frymier, 1999). However, other scholars claim the relationship might be the opposite with relatedness influences humor (Banas et al., 2011). With regard to learning, there are

also contradictory findings. A few early studies have shown a positive influence of humor on learning (Hauck & Thomas, 1972), while other studies indicated the opposite (Fisher, 1997). Studies were conducted in different ways with regard to humor and learning. One study used humor throughout an entire semester (Ziv, 1988), while another study used a short-term intervention (Schmidt, 1994). When it comes to humor and interest, humor was suggested as a way to increase student interest (Bergin, 1999). Although some research has examined this issue (Matarazzo et al., 2010), there is a limited amount of information about the relationship between humor use and student situational interest.

The relationship of humor and affect also has a small body of research, but some scholars suggests the use of humor by an instructor has the potential to influence student affect (Horan et al., 2012). However, these concepts have not been applied in a significant manner. It was of interest to examine not only the relationship of humor with these educational outcomes, but to examine the relationship of different types of instructor humor with different educational outcomes. The rationale rests on research showing instructors use different types of humor in the classroom (Wazner et al., 2006), such as, relevant, non-relevant, appropriate, and inappropriate humor.

One educational outcome that has been measured by educators, parents and students is perceived learning and actual learning. Since these educational outcomes are associated with other outcomes, the direction that was taken in the current paper was to examine the relationship of different types of humor with different educational outcomes, and to examine the relationship between different educational outcomes and actual and perceived learning (while taking into account humor also).

Another important aspect of the current study was to examine the relationship between different types of humor (relevant, non-relevant, appropriate, and inappropriate) and different educational outcomes (perceived verbal and nonverbal relatedness, affect, and interest). The study also examined whether there were differences between genders when it comes to different types of humor relationship with different educational outcomes. This area has shown mixed results in previous research (Bryant et al., 1980; Van Giffen, 1990).

Therefore, the central research question for the current study was: What is the relationship of different categories of instructional humor with several educational outcomes, and how those outcomes predict perceived learning, and actual learning? Specific research questions:

Q1 Which type of humor (relevant, non-relevant, appropriate, and inappropriate) would have a positive type of relationships with the educational outcomes of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning?

Q2 Does type of humor predicts perceived and/or actual learning? If so, are these relationships moderated by perceptions of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, affect and interest.

Q3 Would gender moderate the relationship of the types of humor with the different educational outcomes (perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning)?

Methodology

This study used different demographic questions, scales, a question about student perceived learning, and a report of the student's final grade, to examine the research questions. The scales selected for the current study evaluated: perceived verbal and nonverbal relatedness, and interest.

Conclusions

With regard to the four measures of humor (appropriate, inappropriate, relevant and non-relevant), factor analyses revealed appropriate and relevant humor loaded together, and the only reliable two types of humor were relevant/appropriate and non-relevant. Accordingly, only two types of instructor humor were evaluated.

The first question was: "Which type of humor (relevant/ appropriate non-relevant) would have a positive type of relationships with the educational outcomes of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning?" It was found that all of the educational outcomes except for actual learning, were correlated with relevant/appropriate humor. It was also found that non-relevant humor negatively related to interest and affect.

These findings assist in understanding several issues. With regard to relatedness, both perceived verbal relatedness and perceived nonverbal relatedness have a positive relationship with relevant/appropriate humor. This finding supports prior research about instructor's humor and relatedness (Gorham & Christophel, 1990; Wanzer & Frymier, 1999). Findings indicate interest has a positive relationship with relevant humor/appropriate humor, and a negative relationship with non-relevant humor. This adds to the small body of knowledge about the relationship between instructional humor and interest completed by Bergin (1999) and Matarazzo et al. (2010). With regard to

affect**,** a positive relationship was evident with relevant/appropriate humor, and a negative relationship with non-relevant humor. This supports the relevance of ERT to this area of study (Mottet et al., 2007). Relevant/appropriate humor had a positive relationship with perceived learning, thereby expanding the literature on instructor humor and its influence on perceived learning previously conducted by Ulloth (2002).

The second research question of this study was "Does type of humor predicts perceived and/or actual learning? If so, are these relationships moderated by perceptions of perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, affect and interest?"

Findings associated with this question suggest relevant/appropriate humor and non-relevant humor have no relationship with actual learning. However, there is a positive relationship between perceived learning and relevant/appropriate humor. But when taking into account all of the educational outcomes and relevant/appropriate humor together, relevant/appropriate humor is no longer a significant predictor. This means that there was full mediation. The relationship between relevant/appreciate humor and perceived learning is fully mediated by the other variables. Perceiving appropriate/relevant humor is positively associated with perceiving greater relatedness, interest, affect and these variables are in turn predictive of perceived learning. It seems that the relationship between relevant/appropriate humor and perceived learning is complex and involves other variables that interact with both relevant/appropriate humor and perceived learning and shape this relationship as opposed to a direct relationship without any other variables between relevant/appropriate humor and perceived learning.

These findings provide additional information toward understanding the relationship between different types of humor and perceived learning while taking into account the different educational outcomes as possible mediators.

The third question was “Would gender moderate the relationship of the types of humor with the different educational outcomes (perceived teacher verbal relatedness, perceived teacher nonverbal relatedness, interest, affect, perceived learning, and actual learning)?”.

There were significant differences between the genders when it came to perceived non-verbal relatedness, interest, and actual learning. Female participants had higher scores on all of these variables. However there was no significant interaction between gender and the types of humor with regard to predicting different educational outcomes. These findings add to the previous the research of Bryant et al. (1980) and Van Giffen (1990) about gender and humor in the classroom.

Interpretation of Results

This dissertation followed the post positivist perspective in promoting observations that are verifiable, precise and steady, and testing questions in different ways using different individuals (Trochim & Donnelly, 2006). As well, IHPT and ERT were tested.

The analysis suggests several themes with regard to the relationship between different types of instructional humor and different educational outcomes. Certain types of humor are positively related to certain educational outcomes. The analysis suggests the use of relevant/appropriate humor by an instructor predicted higher levels of all

educational outcomes except for actual learning, while non-relevant humor predicted lower levels of interest and affect.

Types of humor

Due to prior separate literature on appropriate and relevant humor the two will be treated as separate types of humor for the sake of connectivity to the literature. Relevant humor was associated positively with perceived verbal relatedness, perceived nonverbal relatedness, interest, affect, and perceived learning. As suggested by Gorham and Christophel (1990) humor interacts with relatedness. It was also found the more instructors used humor in the classroom the more the students felt they could relate to the instructor. Relevant humor was correlated with interest. This was expected because of the prior research of Matarazzo et al. (2010). For participants in the current study, the more instructors used relevant humor, the more interest students had in course material. This finding suggests relevant humor is related to increases in interest in the material being taught. Since this type of humor is relevant to the material, students have the opportunity to be exposed to the kind of humor that relates to the material and predicts increased situational interest in course material. A similar finding was evident for the relationship between humor and affect. This finding supports ERT (Mottet et al., 2007). ERT suggests humor would be related to the arousal of positive emotions in students. The more the instructor used relevant humor in the classroom, the more the students felt positive in the classroom (with regard to classroom associated emotions). As mentioned, relevant humor positively correlates with perceived learning. This affirms IHPT (Wanzer et al., 2010), which suggests instructors who use related humor during a course will lead to learning in a positive manner. In the current study, students report the more instructors used relevant

humor the more the student believed that they learned from the instructor in the course. Therefore, humor may relate to the perceived learning of students for that course.

Appropriate humor was found to be associated positively with all of the educational outcomes examined. When it comes to perceived verbal relatedness and perceived nonverbal relatedness this was to be expected and supports previous research about relatedness and instructor humor (Wanzer & Frymier, 1999). Since appropriate humor is humor students feel comfortable with, this type of humor predicts a sense of relatedness of the students toward the instructor. The more an instructor uses appropriate humor the more the student would feel closer toward that instructor.

Appropriate humor is considered acceptable to students possibly promoting a focused attention on material being taught. Appropriate humor is also related to affect in a positive manner. This was to be expected since ERT promotes the idea that instructors can convey messages contributing to an emotion of pleasure, arousal, and dominance. As a result students may behave in an approaching manner when these emotions are aroused as suggested by Mottet et al. (2007). Appropriate humor is the type of humor students feel comfortable with, and can predict positive emotions among students. With regard to perceived learning, appropriate humor was positively associated with that outcome. The current study found the more appropriate the humor used, the higher perceived learning reported by students. According to IHPT and Wanzer et al. (2010), if there is a positive affect, the message enhances student ability to process information with reports of learning and retention occurring. However, this is an issue that requires further investigation.

Non-relevant humor was negatively related to interest and affect. The more the instructor used non-relevant humor the less the students had interest in course materials, the same can be written about the relationship between non-relevant humor and affect. This finding illustrates principles of IHPT (Wanzer et al., 2010). According to the theory, it is not known whether humor that is unrelated will predict the ability of students to process information that is not related to the material being taught. According to the findings of the current study, non-relevant humor was correlated with lower levels of student interest and affect. Perhaps, humor actually distracts from the material and interferes with the process of thinking about the material since the humor is not relevant to the material. Students might think more about the humorous content as opposed to course content. And perhaps with further investigation non-relevant humor will be identified as predicting more anxiety among students because it is not related to the material they are trying to study and understand.

Perceived learning

The type of humor associated with perceived learning in a positive manner was relevant/appropriate humor. However, when looking at relevant/appropriate humor together with all of the educational outcomes, it was found that all of the educational outcomes (perceived verbal relatedness, nonverbal perceived relatedness , affect, and interest) mediated the relationship between relevant/appropriate. This means that relevant/appropriate humor has a mediated relationship with perceived learning. All of those variables are a part of the relationship between relevant/appropriate humor and perceived learning.

Gender and humor

The current findings suggest that there are no differences between the genders with regard to the different educational outcomes when different types of humor were considered as mediators. Male and female students experience humor similarly within the classroom.

Theories

Elements from both of the theories presented in this paper: ERT and IHPT are supported by the results. Appropriate humor was associated with higher levels of positive feelings (supporting ERT). In addition, relevant and appropriate humor did result in higher levels of perceived learning (supporting IHPT).

Recommendations

This study yields several ideas that should be considered when it comes to the issue of the role of humor in the educational system and how it might be related to different educational outcomes. The paragraphs that follow discuss these ideas.

Humor in the Classroom

Relevant/appropriate correlated with educational outcomes examined in this paper (perceived verbal and non-verbal relatedness, affect, interest, and perceived learning) in a positive manner. This means that specific types of humor used in the classroom are associated with higher levels of specific educational outcomes. While non-relevant humor correlated negatively with affect and interest, meaning specific types of humor used in the classroom are associated with lower levels of specific educational outcomes

Student Gender and Humor

There were no differences in the classroom between males and females in the manner in which different types of humor related to different educational outcomes. It may be that because of the similar experiences for both males and females, similar humor preferences will allow for similar impressions.

Suggestions for Instructors

The findings from this study may assist instructors in understanding the relationship of using different types of humor with different educational outcomes. If instructors use humor in the classroom, it may be associated with higher levels in several educational outcomes: perceived verbal and nonverbal relatedness, interest, affect, and perceived learning. However, not all humor types correlate with positive educational outcomes, and some relate with lower levels of educational outcomes (non-relevant humor). The best strategy would be to use humor that is relevant to the students and humor that the students find appropriate.

Limitations

The study is of value in understanding the use of instructor humor within the classroom. However, there are several limitations to this study that will be described in the following paragraphs.

The first limitation of this study is that this was not a cause and effect study, and the author could not conclude the use of humor will result in higher and lower levels of different educational outcomes. Future studies will want to consider a cause and affect design.

The second limitation is the fact that all of the instructors were female. This

happened by chance. Instructors that taught the class in the prior semester included both males and females. As mentioned, the original intention of the study was to examine both the gender of the students and the teachers. However, since only female instructors were teaching the course at the time of data collection, it was only possible to look at student gender. It would have been of interest to examine the role of instructor gender and the interaction between instructor and student gender. Future research needs to examine additional gender related issues. Unfortunately, the current study had a limited time frame and the option of continuing the study in the next semester was not possible.

A third limitation of the study is the fact that participants were not asked additional questions about humor used by their instructors in the classroom. It would be of value to know what kind of humor is used most in the classroom and in what frequency. Conducting interviews with students in which they elaborate more on the humor used by instructors in the classroom would provide a more thorough understanding of the characteristics of the humor and students view of that humor.

Directions for Future Research

The limitations presented in the previous section provide a roadmap to how the study was conducted. Suggestions for possible improvement toward gaining a more thorough understanding of the relationship between different types of humor and specific educational outcomes are provided. The following paragraphs describe potential directions for future research.

First, an experimental design should be used so research can draw a cause and effect conclusions about the relationship between different types of humor with different educational outcomes. Specifically, Future research could test the suggested causal

relationship: relevant/appropriate humor increases perceived learning by increasing relatedness, interest, and affect.

Second, future research should continue to examine both female and male instructors and their use of humor in the classroom. This may shed light on whether there are additional differences in the manner in which humor is judged by students and its relationship with educational outcomes if the instructor is a male or a female. This kind of research will also make it possible to look at the relationship between gender of the student and gender of the instructor. Including both genders with equal male to female ratios would preferential.

Third, it is of interest to examine the perception of humor used by instructors in the classroom. This can be done by conducting interviews with the students about the type of humor used by the instructor in the classroom and their view about the use of such humor. The interviews should include some closed questions but should allow for open response segments. The only limitation would be the amount of interviews that would need to be conducted if one wanted to study a large number of participants. Another option is to conduct a pilot study and convert a scale to an appropriate size for a larger group of participants.

A fourth potential direction for future study would be to examine different academic areas. Psychology might lend itself to humor because it is the study of individuals and their interaction with the environment. Individual interactions may not be seen as important to all academic subjects. Could humor also be used when teaching all academic topics and have the same relationship with different educational outcomes? This is an issue that should be investigated with instructors teaching in different

disciplines.

Fifth, research should be conducted within different grade levels. Humor is perceived differently at different ages (McGhee, 1983). This finding raises the question of whether humor will also have the same kind of relationship with different educational outcomes at different ages. A similar study should be completed at the elementary, middle school, high school levels, among undergraduate students, and among graduate students.

Also, an international and multicultural approach with regard to humor in the classroom should be addressed. By collaborating with researchers from different cultures research could be conducted in different countries. This would allow identification of potential differences between cultures for the role of humor on educational outcomes.

Lastly, humor research could benefit from recording courses and using these recordings to identify the role of specific jokes. This would allow researchers to know exactly what types of jokes were used and subsequent impact.

References

Aboudan, R. (2009). Laugh and learn: Humor and learning a second language. *International Journal of Arts and Sciences*, *3*(3), 90-99.

Ahmed, W., Werf, G., Minnaert, A., & Kuyper, H. (2010). Students' daily emotions in the classroom: Intra-individual variability and appraisal correlates. *British Journal of Educational Psychology*, *80*(4), 583-597.

Aillaud, M., & Piolat, A. (2012). Influence of gender on judgment of dark and nondark humor. *Individual Differences Research*, *10*(4), 211-222.

Arbaugh, J. B. (2001). How instructor immediacy behaviors affect student satisfaction and learning in web-based courses. *Business Communication Quarterly*, *64*(4), 42-54.

Banas, A., Dunbar, N., Rodriguez, D., & Liu, S. (2011). A review of humor in educational settings: Four decades of research, *Communication Education*, *60*(1), 115-144.

Becker, E. S., Goetz, T., Morger, V., & Ranellucci, J. (2014). The importance of teachers' emotions and instructional behavior for their students' emotions–An experience sampling analysis. *Teaching and Teacher Education*, *43*, 15-26.

Bergin, D. A. (1999). Influences on classroom interest. *Educational Psychologist*, *34*(2), 87-98.

Bonderup, N. (2011). Situational interest of high school students who visit an aquarium. *Science Education, 95*(2), 337-357.

Bryant, J., Comisky, P. W., Crane, J. S., & Zillmann, D. (1980). Relationship between college teachers' use of human in the classroom and students' evaluations of their teachers. *Journal of Educational Psychology, 72*, 511-519.

Bullough Jr, R. V. (2012). Cultures of (Un) happiness: teaching, schooling, and light and dark humor. *Teachers and Teaching, 18*(3), 281-295.

Cacioppo, J. T., & Petty, R. E. (1984). The elaboration likelihood model of persuasion. *Advances in Consumer Research, 11,* 673- 675.

Chen, A., & Darst, P. W. (2001) Situational interest in physical education: A function of learning task design. *Research Quarterly for Exercise and Sport, 72*(2), 150-164.

Christensen, L. J., & Menzel, K. E. (1998). The linear relationship between student reports of teacher immediacy behaviors and perceptions of state motivation, and of cognitive, affective, and behavioral learning. *Communication Education, 47*(1), 82-90.

Chua, Y. P. (2014). The effects of humor cartoons in a series of bestselling academic books. *Humor,* 27(3), 499-520.

Clabby Jr, J. F. (1979). Humor as a preferred activity of the creative and humor as a facilitator of learning. *Psychology: A Quarterly Journal of Human Behavior, 16*(1), 5-12.

Conkell, C. S., Imwold, C., & Ratliffe, T. (1999). The effects of humor on communicating fitness concepts to high school students. *Physical Educator, 56*(1), 8.

Crawford, M., & MacLeod, M. (1990). Gender in the college classroom: An assessment of the "chilly climate" for women. *Sex Roles, 23*(3-4), 101-122.

Daly, J. A., & Korinek, J. T. (1980). Instructional communication theory and research: An overview of classroom interaction. *Communication yearbook, 4*, 515-532.

Darling, A. L., & Civikly, J. M. (1987). The effect of teacher humor on student perceptions of classroom communicative climate. *Journal of Classroom Interaction, 22*(1), 24-30.

Decker, W., & Rotondo, D. (2001). Relationships among gender, type of humor, and perceived leader effectiveness. *Journal of Managerial Issues, 13*(4), 450-465

Diaconu-Muresan, A., & White-Stewart, M. (2010). Romanian college students' reactions to sexist humor: description and predictors. *Journal of Gender Studies, 19*(3), 279-296.

Dixon, P. N., Willingham, W., Strand, D. A., & Chandler, C. K. (1989). Sense of humor as a mediator during incidental learning of humor-related material. *Psychological Reports, 64*(3), 851-855.

Dohn, N. B., Madsen, P. T., & Hans, M. (2009). The situational interest in undergraduates in zoo physiology. *Advances in Physiology Education, 33*(3), 196-201.

Dowling, J. S. (2014). School-age children talking about humor: Data from focus groups. *Humor: International Journal of Humor Research, 27*(1), 121-139.

Downs, V. C., Javidi, M. M., & Nussbaum, J. F. (1988). An analysis of teachers 'verbal Communication within the college classroom: Use of humor, self-disclosure, and narratives. *Communication Education, 37,* 127- 141.

Duchaj, K. A. (1999). Humor appreciation: using semantic scripts to explain gender differences. Women & Language, 22(2), 52.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149-1160. doi: 10.3758/BRM.41.4.1149

Fisher, M. S. (1997). The effect of humor on learning in a planetarium. *Science Education*, *81*(6), 703-713.

Friedman, H. H., Friedman, L. W., & Amoo, T. (2002). Using humor in the introductory statistics course. *Journal of Statistics Education, 10*(3), 234-248.

Futch, A., & Edwards, R. (1999). The effects of sense of humor, defensiveness, and gender on the interpretation of ambiguous messages. *Communication Quarterly, 47*(1), 80-97.

Frymier, A. B., Wanzer, M. B., & Wojtaszczyk, A. M. (2008). Assessing students' perceptions of inappropriate and appropriate instructor humor. *Communication Education*, *57*, 266– 288.

Garner, R. L. (2006). Humor in pedagogy: How ha-ha can lead to aha!. *College Teaching*, *54*(1), 177-180.

Gläser-Zikuda, M., & Fuß, S. (2008). Impact of teacher competencies on student emotions: A multi-method approach. *International Journal of Educational Research*, 47(2), 136-147.

Goetz, T., Lüdtke, O., Nett, U. E., Keller, M. M., & Lipnevich, A. A. (2013). Characteristics of teaching and students' emotions in the classroom: Investigating differences across domains. *Contemporary Educational Psychology, 38*(4), 383-394.

Goodboy, A. K., Booth-Butterfield, M., Bolkan, S., & Griffin, D. J. (2015). The Role of Instructor Humor and Students' Educational Orientations in Student Learning, Extra Effort, Participation, and Out-of-Class Communication. *Communication Quarterly, 63*(1), 44-61.

Gorham, J. (1988). The relationship between verbal teacher immediacy behaviors and student learning. *Communication Education, 37*(1), 40-53.

Gorham, J., & Christophel, D. M. (1990). The relationship of teachers' use of humor in the classroom to relatedness and student learning. *Communication Education, 39(*1), 46-62.

Greenwood, D., & Isbell, L. (2002). Ambivalent Sexism and the Dumb Blonde: Men's and Women's Reactions to Sexist Jokes. *Psychology Of Women Quarterly, 26*(4), 341-350.

Grossberg, S. (2009). Cortical and subcortical predictive dynamics and learning during perception, cognition, emotion and action. *Philosophical Transactions of the Royal Society B: Biological Sciences, 364*(1521), 1223-1234.

Guthrie, J. T., Wigfield, A., Humenick, N. M., Perencevich, K. C., Taboada, A., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *The* Journal *of Educational Research, 99*(4), 232-246.

Hackathorn, J., Garczynski, A. M., Blankmeyer, K., Tennial, R. D., & Solomon, E. D. (2012). All kidding aside: Humor increases learning at knowledge and comprehension levels. *Journal of the Scholarship of Teaching and Learning*, *11*(4), 116-123

Hacker. (2011). Affect. In Merriam-Webster.com. Retrieved May 8, 2011.

Hauck, W. E., & Thomas, J. W. (1972). The relationship of humor to intelligence, creativity, and intentional and incidental learning. *The Journal of Experimental Education*, *40*(4), 52-55.

Hay, J. (2000). Functions of humor in the conversations of men and women. *Journal of Pragmatics, 32*(6), 709-742.

Henkin, B., & Fish, J. (1986). Gender and personality differences in the appreciation of cartoon humor. *Journal Of Psychology: Interdisciplinary and Applied, 120*(2), 157-175.

Hess, J. A., & Smythe, M. J. (2001). Is teacher relatedness actually related to student cognitive learning? *Communication Studies*, *52*(3), 197-219.

Hidi, S., & Baird, W. (1986). Interestingness—A neglected variable in discourse processing. *Cognitive Science, 10,* 179–194.

Hidi, S. (1990). Interest and its contribution as a mental resource for learning. Review of *Educational Research, 60,* 549–571.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist, 41*(2), 111-127.

Hoad, C., Deed, C., & Lugg, A. (2013). The Potential of Humor as a Trigger for Emotional Engagement in Outdoor Education. *Journal of Experiential Education*, *36*(1), 37-50.

Horan, S. M., Martin, M. M., & Weber, K. (2012). Understanding emotional response theory: The role of instructor power and justice messages. *Communication Quarterly*, *60*(2), 210-233.

Hovelynck, J., & Peeters, L. (2003). Laughter, smiles and grins: The role of humor in learning and facilitating. *Journal of Adventure Education & Outdoor Learning*, *3*(2), 171-183.

Jackson, D. E., & Jackson, K. A. (1997). Gender, object, and humor. *Current Psychology*, *15*(4), 286-290.

Kaplan, R. M., & Pascoe, G. C. (1977). Humorous lectures and humorous examples: Some effects upon comprehension and retention. *Journal of Educational Psychology*, *69*(1), 61.

Kher, N., Molstad, S., & Donahue, R. (1999). Using Humor in the College Classroom to Enhance Teaching Effectiveness in" Dread Courses". *College Student Journal*, 33(3), 400.

LaFave, L., Haddad, J., & Maesen, W. A. (1996). Superiority, enhanced self-esteem, and perceived incongruity humor theory. In A. J. Chapman & H. C. Foot (Eds.), *Humor and laughter: Theory research and applications* (pp. 63-91). New Brunswick, NJ: Transaction.

Lei, S. A., Cohen, J. L., & Russler, K. M. (2010). Humor on learning in the college classroom: Evaluating benefits and drawbacks from instructors' perspectives. *Journal of Instructional Psychology*, *37*(4), 326.

Losco, J., & Epstein, S. (1975). Humor preference as a subtle measure of attitudes toward the same and the opposite sex. *Journal of Personality, 43*(2), 321-334

Lundberg, E., & Thurston, C. (2002). *If they're laughing, they just might be listening: Ideas for using humor effectively in the classroom - even if you're not funny yourself*. Fort Collins: Cottonwood press.

Martin, R. (2007). *The psychology of humor: An integrative approach*. Burlington, MA: Elsevier Academic Press.

Martin, R. A., & Kuiper, N. A. (1999). Daily occurrence of laughter: Relationships with age, gender, and Type A personality. *Humor*, 12, 355-384.

Maheswaran, D., & Chaiken, S. (1991). Promoting systematic processing in low-motivation settings: Effect of incongruent information on processing and judgment. *Journal of Personality and Social Psychology*, *61*, 13-25.

Matarazzo, K. L., Durik, A. M., & Delaney, M. L. (2010). The effect of humorous instructional materials on interest in a math task. *Motivation and Emotion*, *34*(3), 293-305.

Mazer, J. P., McKenna-Buchannan, T. P., Quinlan, M. M., & Titsworth, S. (2014). The dark side of emotion in the classroom: Emotional processes as mediators of teacher communication behaviors and student negative emotions. *Communication Education*, 1-20.

McGhee, P. E. (1983). Humor development: Toward a life span approach. In Handbook of humor research (pp. 109-134). Springer New York.

Mega, C., Ronconi, L., & De Beni, R. (2014). What makes a good student? How emotions, self-regulated learning, and motivation contribute to academic achievement. *Journal of Educational Psychology, 106*(1), 121.

Mitchell, M. (1993). Situational interest: Its multifaceted structure in the secondary school mathematics classroom. *Journal of Educational Psychology, 85,* 424-436.

Mottet, T. P., Parker-Raley, J., Beebe, S. A., & Cunningham, C. (2007). Instructors who resist college lite: The neutralizing effect of instructor relatedness on students' course workload violations and perceptions of instructor credibility and affective learning. *Communication Education, 56*(2), 145-167.

Nevo, O., Nevo, B., & Yin, J. L. S. (2001). Singaporean humor: A cross-cultural, cross-gender comparison. *The Journal of General Psychology, 128*(2), 143-156.

Nummenmaa, M., & Nummenmaa, L. (2008). University students' emotions, interest and activities in a web-based learning environment. *British Journal of Educational Psychology, 78*(1), 163-178.

Nussbaum, J. F., & Friedrich, G. (2005). Instructional/developmental communication: Current theory, research, and future trends. *Journal of Communication, 55*(3), 578-593.

Özdoğru, A. A., & McMorris, R. F. (2013). Humorous cartoons in college textbooks: Student perceptions and learning humor. *International Journal of Humor Research, 26*(1), 135-154.

Petty, R. E., & Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary Approaches*. Dubuque, IA: W. C. Brown.

Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.

Plano-Clark, V., & Creswell, J. (2011). *Designing and conducting mixed methods research*: Thousand Oaks (California): Sage Publications.

Pollak, J. P., & Freda, P. D. (1997). Humor, learning, and socialization in middle level classrooms. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas, 70*(4), 176-178.

Powell, J. P., & Andresen, L. W. (1985). Humour and teaching in higher education. *Studies in Higher Education, 10*(1), 79-90.

Romal, J. B. (2008). Use of humor as a pedagogical tool for accounting education. *The College of Brockport: State University of New York*.

Russell, J. A., & Mehrabian, A. (1977). Evidence for a three-factor theory of emotions. *Journal of Research in Personality, 11*(3), 273-294.

Schmidt, S. R. (1994). Effects of humor on sentence memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 20*(4), 953.

Schraw, G., & Lehman, S. (2001). Situational interest: A review of the literature and directions for future research. *Educational Psychology Review, 13*(1), 23-52.

Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic?. Journal of *Educational Psychology, 100*(4), 765.

Snetsinger, W., & Grabowski, B. (1994). The Use of Humor in a CBI Science Lesson to Enhance Retention. *Proceedings of Selected Research and Development Presentations at the National Convention of the Association for Educational Communications and Technology*.

Strean, W. B. (2011). Creating student engagement? HMM: Teaching and learning with humor, music, and movement. *Creative Education, 2*(03), 189.

Torok, S.E., McMorris, R. F., & Lin, W. (2004). Is humor an appreciated teaching tool? Perceptions of professors' teaching styles and use of humor. *College Teaching, 52*, 14-20.

Trochim, W. M., & Donnelly, J. P. (2006). *The research methods knowledge base*, Cengage Learning.

Ulloth, J. K. (2002). The benefits of humor in nursing education. *The Journal of Nursing Education*, *41*(11), 476-481.

Van Giffen, K. (1990). Influence of professor gender and perceived use of humor on course evaluations. *Humor: International Journal of Humor Research*, *3*(1), 65-73.

Värlander, S. (2008). The role of students' emotions in formal feedback situations. *Teaching in Higher Education, 13*(2), 145-156.

Vinson, L., & Biggers, J. T. (1993). Emotional response as a predictor of compliance-gaining message selection. *Southern Communication Journal*, *58*(3), 1993.

Vu, P., & Vu, L. (2012). Techniques to Bring Humor and Create a Pleasant Learning Environment in Adult ESL Classrooms. *Journal of Research and Practice for Adult Literacy, Secondary, and Basic Education, 1*(1), 44-47.

Wagner, M., & Urios-Aparisi, E. (2011). The use of humor in the foreign language classroom: Funny and effective? *Humor: International Journal of Humor Research*, *24*(4), 399-434.

Waldeck, J., Kearney, P., & Plax, T. (2001). Teacher e-mail message strategies and students' willingness to communicate online. *Journal of Applied Communication Research*, *29*(1), 54-70.

Wanzer, M. B., & Frymier, A. B. (1999). The relationship between student perceptions of instructor humor and students' reports of learning. *Communication Education*, *48*, 48–62.

Wanzer, M. B., Frymier, A. B., Wojtaszczyk, A. M., & Smith, T. (2006). Appropriate and inappropriate uses of humor by teachers. *Communication Education, 55*(2), 178-196.

Wanzer, M. B., Frymier, A. B., & Irwin, J. (2010). An explanation of the relationship between instructor humor and student learning: Instructional humor processing theory. *Communication Education*, *59*(1), 1-18.

Wheeless, V. E., & Lashbrook, W. B. (1987). Style. In J.C. McCroske y & J.A. Daly (Eds.), *Personality and interpersonal communication* (pp. 243-274). Newbury Park, CA: Sage.

Wilson, D., & Molleston, J. (1981). Effects of sex and type of humor on humor appreciation. *Journal of Personality Assessment*. *45*(1), 90-96.

Winberg, T. M., Hellgren, J. M., & Palm, T. (2014). Stimulating positive emotional experiences in mathematics learning: influence of situational and personal factors. *European Journal of Psychology of Education*, *29*(4), 673-691.

Xu, J., Du, J., & Fan, X. (2013). Finding our time: Predicting students' time management in online collaborative group work. *Computers & Education, 69*, 139-147.

Zhang, Q. (2005). Relatedness, humor, power distance, and classroom communication apprehension in Chinese college classrooms. *Communication Quarterly*, *53*, 109-124.

Zillmann, D., & Cantor, J. R. (1996). A disposition theory of humor and mirth. In A. J. Chapman & H. C. Foot (Eds.), *Humor and laughter: Theory, research and applications* (pp. 93- 115). New Brunswick, NJ: Transaction Publishers.

Ziv, A. (1988). Teaching and learning with humor: Experiment and replication. *The Journal of Experimental Educational*, *57*(1), 5-15.

APPENDIX A

CONSENT FORM

Consent Form for Human Participants in Research

University of Northern Colorado

Project Title: Students' Perceptions of the Academic Experience
Lead Researchers: Moshe Machlev, M.S., M.A., E-mail: Moshe.Machlev@unco.edu, School of Psychological Sciences, University of Northern Colorado, 413-426-2972
Supervising faculty: Nancy Karlin, Nancy.Karlin@unco.edu, School of Psychological Sciences, University of Northern Colorado, 970- 351-2717

You are being asked to take part in a research study. All research studies carried out at the University of Northern Colorado are covered by rules of the State and Federal government. Under these rules, the researcher will first explain the purpose of the study. He or she will explain how the study will be carried out and what you will be expected to do. The researcher will also explain the possible risks and possible benefits of being in the study. You should ask the researcher any questions you have about any of these things before you decide whether you wish to take part in the study. This process is called informed consent.

The purpose of this study is to investigate how different learning formats influence students' learning and affective responses. As a participant in this research, you will be asked to answer questions on several measures based on your psychology instructor (PSY 120 or alternative class), and their course. At no time will your instructor have access to your responses. If you are not part of a PSY 120 course you will be asked in reference to which psychology professor and course you are providing your responses. This question will be asked on a general information questionnaire to follow. The completion of the surveys will take approximately 40
minutes. If you agree to participate, you will be asked to complete the study by answering the different surveys that will be given to you. With your agreement to participate in this study you are giving your instructor permission to provide Moshe Machlev with your final grade for that specific class. Your responses to questions on the survey will be kept confidential. All data will be treated with strict confidence and your name will not be used in any reporting of the research findings. Your privacy will be protected to the maximum extent allowable by law. If you would want to know the results of the study (within these restrictions) you should notify one of the researchers listed above.

Potential risks in this project are minimal. There are minimal discomforts and risks associated with participating in this study. It is possible that some of the questions will be perceived as stressful. In addition, you will be taking time out of your daily life to participate in this study. For those who are participating as a member of a PSY 120 requirement, 1 hour of participation credit will be awarded. For those who are not participating as a member of a PSY 120 requirement, you will receive extra credit from your instructor.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled.

Having read the above and having had an opportunity to ask any questions please sign below if you would like to participate in this research. A copy of this form will be given to you to retain for future reference. If you have any concerns about your selection or treatment as a research participant, please contact please contact Sherry May, IRB Administrator, Office of Sponsored Programs, 25 Kepner Hall, University of Northern Colorado, 970-351-1910,

Participant's signature	**Date**
Researcher signature	**Date**

APPENDIX B

DEMOGRAPHIC MEASURE

Demographics

Age: _____

Gender: _____

Ethnicity: Please indicate your race/ethnicity? (Check all that apply)

Caucasian / White	Asian
African American	Pacific Islander / Native Hawaiian
Native American / Alaskan Native	Hispanic / Latino

Biracial (Please Specify):_____

What is your major at UNC? (If undecided, put undecided): _____

Minor (if applicable): _____

School Status (based on credit hours completed):

___ Freshmen 0-30 credit hours

___ Sophomore 31-60 credit hours

___ Junior 61-90 credit hours

___ Senior 90+ credit hours

Cumulative grade point average: (if you had at least one completed semester at a university) _____

Your responses are based on what course:

PSY (Number of course and section):_____

Time and day of course: _____

APPENDIX C

PERCEIVED RELATEDNESS MEASURE

On a scale of 0 to 4, write down how frequently your instructor exhibits the following behaviors.

0-Never

1-almost never

2-somtimes

3-often

4-very often

When you answer those questions think about your PSY 120 class.

Verbal items:

1. Uses personal examples or talks about experiences he/she had outside of class._____
2. Asks questions or encourages students to talk. _____
3. Gets into discussions based on something a student brings up even when it doesn't seem to be part of her/his lecture. _____
4. Addresses students by name. _____
5. Addresses me by name. ___
6. Gets into conversations with individual students before or after class. ___
7. Has initiated conversations with me before or after class. ____
8. Refers to class as "my" class or what "I" am doing. _____
9. Refers to class as "our" class or what "we" are doing. _____
10. Provides feedback on my individual work through comments on papers, oral discussions, etc._____
11. Calls on students to answer questions even if they have not indicated that they want to talk.___
12. Asks how students feel about an assignment, due date or discussion topic. ____
13. Invites students to meet with him/her outside of class if they have questions or want to discuss something. ____
14. Asks questions that have specific, correct answers___
15. Asks questions to solicit viewpoints or opinions. _____
16. Praises student's work, actions, or comments._____
17. Criticizes or points out faults in students work, actions or comments____
18. Will have discussions about things unrelated to class with individual students or with the class as a whole. ___
19. Is addressed by his/her first name by students. _____

Nonverbal items:

1. Seats behind the desk while teaching. ____

2. Gestures while talking to class. _____

3. Uses monotone/dull voice while talking to class. _____

4. Looks at the class while talking. _____

5. Smiles at the class as a whole, not just individual students. _____

6. Has a very tense body position while talking to class. _____

7. Moves around the class while teaching._____

8. Sits on a desk or in a chair while teaching. ____

9. Looks at the board or notes while talking to the class. ____

10. Stands behind podium or desk while teaching. ____

11. Has a very relaxed body position while talking to the class___

12. Uses a variety of vocal expressions while talking to the class. ____

APPENDIX D

AFFECT MEASURE

This scale consists of a number of opposite paired words that describe different feelings and emotions. Read each pair then circle the one that best describes your feelings in your course this semester. Please circle only one of the two word pairings for each of the nine choices.

1. Comfortable or Uncomfortable

2. Happy or Unhappy,

3. Joyful or Miserable

4. Stimulated or Relaxed

5. Excited or Calm

6. Frenzied or Sluggish

7. Submissive or Dominant

8. Decisive or Indecisive

9. Bold or Meek

APPENDIX E

INTEREST MEASURE

Instructions:

When you answer these questions, think about the time that you were in class with your instructor. Please read the questions carefully and write the number that corresponds to the degree to which you agree or disagree with the following statements. Use the following scale:

1– Strongly disagree

2- Moderately disagree

3- Somewhat disagree

4- Somewhat agree

5– Moderately agree

6- Strongly agree

1. I think that the subject area taught by my instructor is very interesting_____

2. The topic the instructor is teaching fascinates me_____

3. I'm excited about the topic that is being taught by my instructor_____

4. I think that what I learn from my instructor is important_____

5. I think that what I study from my instructor is useful for me to know_____

6. I think that the field that my instructor is teaching is an important discipline_____

7. To be honest, I just don't find the material that the instructor teaches interesting_____

8. I see how I can apply what I learned from my instructor to real life_____

APPENDIX F

HUMOR MEASURE

When you answer the questions think about your PSY 120 class.

1. Does your instructor use humor while lecturing?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period
2. How often does your instructor use humor that is **relevant** to the topic?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period
3. How often does your instructor use humor that **promotes understanding** of the topic?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period
4. How often does your instructor use humor that is **related** to the course content?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period
5. How often does your instructor use humor that is **NOT relevant** to the topic?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period
6. How often does your instructor use humor that does **NOT promote understanding** of the topic?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period

7. How often does your instructor use humor that is **NOT related** to the course content?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period
8. How often does your instructor uses **self-disparaging humor** used in a way to laugh about oneself?
   Never
   Less than once a class period
   Once or twice a class period
   More than once or twice and a class period

9. How often does your instructor use humor that is **spontaneous and unplanned?**

Never
Less than once a class period
Once or twice a class period
More than once or twice and a class period

10. How often does your instructor use **disparaging humor,** i.e., targeting students by making fun of them in the class?

Never
Less than once a class period
Once or twice a class period
More than once or twice and a class period

11. How often does the instructor use **disparaging humor-targeting others** (e.g., making fun of a celebrity)?

Never
Less than once a class period
Once or twice a class period
More than once or twice and a class period

12. How often does your instructor use **offensive humor** (e.g., sexual jokes)?

Never
Less than once a class period
Once or twice a class period
More than once or twice and a class period

13. How often does your instructor use humor that is **appropriate**? By appropriate we mean: you feel comfortable with the sense of humor being used.

Never
Less than once a class period
Once or twice a class period
More than once or twice and a class period

14. How often does your instructor **NOT** use humor that is **appropriate?**

Never
Less than once a class period
Once or twice a class period
More than once or twice and a class period

15. What is the gender of your instructor? **Female** **Male**

16. To the best of your knowledge what is the teaching experience of your instructor?

Limited experience
Taught this course more than once
Taught this course several times
Taught this course many times

APPENDIX G

PERCEIVED LEARNING

PERCEIVED LEARNING

When thinking about PSY 120, how much would you say that you learned from the instructor in your class?

1-I didn't learn at all

2- I learned a little bit

3- I learned something not too little, but not too much

4- I learned a lot

APPENDIX H

DEBRIEFING

UNIVERSITY of NORTHERN COLORADO

Debriefing

The purpose of this research was to examine the influence of humor on different educational factors such as: perceived learning, interest, affect, relatedness and academic achievement. The study that you participated in, did so, by asking you questions about the style of humor of your instructor and about different academic factors in your life as a student (those were mentioned above). Should you have any questions or concerns about the study feel free to contact Moshe Machlev at moshe.machlev@unco.edu or Nancy Karlin at nancy.karlin@unco.edu: (970) 351-2717. If you are interested in learning more about the study or to receive a copy of the final report, do not hesitate to contact the researcher at the above email address. Thank you for your help and participation in this study.

APPENDIX I

INSTITUTIONAL REVIEW BOARD APPROVAL

UNIVERSITY of
NORTHERN COLORADO

Institutional Review Board

DATE: November 3, 2014
TO: Moshe Machlev, MS
FROM: University of Northern Colorado (UNCO) IRB
PROJECT TITLE: [676365-2] Instructional humor as an influential aspect on different educational factors
SUBMISSION TYPE: Amendment/Modification
ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS
DECISION DATE: November 3, 2014
Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.
Hello Moshe,
Thank you for the updates and modifications. Please note that your Cover sheet indicates that you selected Level 3 Security which requires you to follow-up with Information Management and Technology. You are required to inform the IRB when you have received the appropriate security clearance.
You are approved to conduct your research and good luck.
Sincerely,
Nancy White, PhD, IRB Co-Chair
We will retain a copy of this correspondence within our records for a duration of 4 years.
If you have any questions, please contact Sherry May at 970-351-1910 or Sherry.May@unco.edu. Please include your project title and reference number in all correspondence with this committee.
This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.