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Connecting Through Comics: Expanding Opportunities for Teaching and Learning

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When students are faced with learning abstract contents, creating meaningful teaching and learning opportunities is a challenge for many educators. Concerns for how to get students to connect theoretical constructs and apply them to the "real world" is especially critical for those students studying to be teachers. This descriptive study illustrates how comics can facilitate students' learning of overarching concepts, such as cognitive development, motivation and information processing.

Keywords: innovative pedagogy, teaching strategies, humor, comics, educational psychology

Comic Intention

When perusing a textbook, you will often find comic strips in the margins of the chapters. After reviewing a number of education text books, it becomes apparent that comics are a popular method of textbooks that authors use for illustrating theoretical concepts, providing levity and increasing student interest in the written text. However, would this approach also affect students' learning in the context of lecture-oriented teacher education course? Often, in pre-service teacher education courses, students with limited experiences are confronted with trying to makes sense of abstract theoretical contents. Concerns for how to get students to connect theory with reality and then to the "real world" are especially critical for those who are studying to be teachers (see Figure 1). How instructors bridge the theory with reality is an age-old problem in higher education. Can illustrating psychological and developmental concepts connect students with abstract theoretical constructs illustrated in the comic?

Figure 1. Rose Is Rose. Source: Brady (1996).

The word "comic" comes from the Greek word "kōmōidía" or "comedy". Comics use pictures with words that are often combined with humor and can be found in a variety of contexts, such as newspapers. Though similar types of artistic approaches could include cartoons which usually involve drafts or animation, or graphic

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novels and a much more detailed story of episode, this paper will focus on the short and stand-alone comic strips. The research on using comics as a pedagogical tool for teaching and learning dates back to the 1940s and mostly focused on emerging literacy (Hutchinson, 1949; Sones, 1944). Incorporating texts with visual representations while teaching young children to read contributed to increasing children's attention due to novelty and incongruity, more elaborate retrieval strategies and positive emotions are associated with learning (Jacobs, 2007; McVicker, 2007; Schmidt, 1994; as cited in Martin, 2007). McVicker (2007) stated that, "Cartoons can be used to enhance and support the learning that goes on in any classroom in versatile and creative ways" (p. 87).

Although there are few experimental research designs in education, Ziv (1988), Schmidt and Williams (2001) and Schmidt (2002) had documented positive student learning gains when humor is used effectively in the course of instruction. Nagata (1999) found that using manga (Japanese comics and cartoons) helped students in biochemistry "use additional information and provide cognitive-psychological and pedagogical-technical effects: They give students clues to remember what they have learnt and make biochemistry lectures exciting" (p. 203). Martin (2007) stated that, "Humor serves as a sort of mnemonic technique or memory aid, causing greater elaboration of information and therefore enhancing its transfer and storage in long-term memory" (p. 104). Through humor and pictures, comics can illustrate key points and "lighten" the classroom setting. This type of dual processing, emotional (humor) and visual (pictures/text), can help level the playing field for students trying to accommodate abstract content. Ziv (1988) and Martin (2007) noted that humor should be directly related to the content and student learning, not just merely for entertainment. Selectivity of the stimuli is important with attention devoted to novelty, incongruity and surprise, while refraining from sarcasm and crassness (Ziv, 1988).

Comic Extension

Typical content covered in an introduction to educational psychology course includes an overview of developmental theory and individual differences with emphasis on Piaget's stages of cognitive development and basic tendencies of thought, Vygotsky's socio-historical theory, Erikson's stages of individual development, Bandura's social learning theory, brain research, intelligence and diversity. Other core concepts covered include theories of learning and motivation, instructional planning and strategies, classroom environments and assessment. By analyzing comics, many of these concepts can be connected. For example, in the comic strips *For Better or Worse* (Johnson, 2004) (see Figure 2), Liz freaks out while studying and wishes that she can organize her mind, while surrounded by the reflective untidiness of her bedroom. The comic is used in the course as a humorous example of information processing and meta-cognitive approaches. The resulting discussion connected information processing, network and schema theories, Bruner's constructivist theories and concept mapping.

Figure 2. For Better or Worse. Source: Johnston (2004).

Comics can exemplify educational and psychological constructs and extend students' learning. In many educational psychology textbooks, comics are often used to make a point or illustrate a concept. For example, in Ormrod's (2011) *Educational Psychology: Development Learners* (7th ed.), she included 11 comics that include *Calvin and Hobbes*, *Doonesbury*, *The Far Side* and *In the Bleachers*. In Santrock's (2009) *Educational Psychology*, he used 28 comics including *Peanuts* and *Frank and Earnest*, or from cartoon collections, such as *The New Yorker* or *Phi Delta Kappan*. Likewise, other educational psychology authors including Woolfolk (2010) and Slavin (2012) used comics in their texts in order to increase students' interest and illustrate educational concepts in a humorous ways.

Linking concepts with pictures, such as comics, enables students to construct knowledge in more than one modality. Not only are they using visual cues, they are also engaging higher level language modalities. It is hypothesized that this strategy can be an effective method for teaching educational psychology. Typically, in textbooks or lectures, comics can provide a needed emotional release to an intense subject area. In this course, students were encouraged to use comics as a method of extending their learning when challenged to contribute comics that illustrate the concepts being taught.

Methods

The study was a part of a large project that investigated alternative instructional strategies (Bolton-Gary, 2011) and took place in a small southeastern university. The school was historically a commuter campus that catered to the small local community and comprised mostly of military and non-traditional students. Recently, the university has expanded, and as a result, has attracted a more traditional student body with newly constructed student housing and activities center. Introduction to educational psychology is a pre-professional course required for all education majors prior to the professional level methods courses.

The descriptive format is from both the researcher's/instructor's and student's point of view of teaching and learning with comics, not merely the measurement of the effects of the strategy. Class notes, lesson plans and verbal feedback from students were analyzed and coded. The goal was to examine pedagogical methods in the course, the way these methods developed over the course of time and the corresponding experience of the students in order to enable students (pre-service teachers) to better construct theoretical knowledge and make connections to pedagogical contexts.

Students who enrolled in the course were a mix of traditional (younger than 25) and non-traditional (usually degree completers or career changers) early childhood education majors. The majority of the students are white females, with approximately 15% males and 15% African Americans. The study included 92 pre-professional students majoring in early childhood education. Fifty-seven percent of the students submitted the optional open-ended written qualitative responses of the course evaluations.

Course evaluations were used as a primary measurement. Typical prompts on the evaluation included:

(1) What was effective in this course?

(2) What could be improved in this course?

(3) How did this course reflect a constructivist approach?

A systematic analysis of the qualitative responses was thematically categorized and coded. The initial coding resulted in 12 categories that incorporated 92% of the responses. After reviewing the categories with a colleague, these were then grouped into three common themes that incorporated: innovative methods (i.e., children's literature, comics, microteaching and process drama), course enjoyment and promoting application

to future teaching. Ninety-seven percent of the originally categorized responses were included three common themes. One example of a theme incorporating categories was when it became apparent that students kept referring to "good examples" as effective instructional methods used by the instructor (47% of students responding). In order to clarify what students meant by "good examples", the researcher directly asked respondents to list what they referred to as a "good example" that was used in the course.

A review of teaching notes and lesson plans revealed a general approach to use comics in class. Generally, comics were interspersed throughout the course in order to further illustrate the concepts being taught. The instructor sparingly used comics as recommended by Ziv (1988), so as not to distract students from the content. Nor are they used in every class, thereby setting up an intermittent schedule of stimuli. Ziv (1988) recommended no more than three or four jokes/comics per lecture. However, there are some concepts that are more prone to the use of comics than others. During the course of the study, the range of comics used was from a minimum of none (six classes) to a maximum of 10, with an average of two comics per class. At times, comics were used to introduce concepts to the class as a type of "anticipatory set". This comic illustrated how artists could "hook" a person's attention to motivate them with images. It also exemplified the importance of increasing students' interest by planning advanced organizers or an anticipatory set (Ausubel, 1961; Hunter, 1993; Sansone, Weir, Harpster, & Morgan, 1992). These illustrations could then prompt adult students to engage in the theory of how teachers motivate students' interest and focus their attention in order to increase learning.

For example, during the study of Piaget's stages of development, there seems to be a plethora of comics that focus on the preoperational child (see Figure 3). Perhaps, because children at this stage of cognitive development see the world so differently through lenses of naivety and imagination, comic strip artists are drawn to that perspective. *Rose Is Rose* (Brady, 1996) is an excellent example of how comics often include theoretical concepts. Little Pascal is the quintessential preoperational child who is energetic, imaginative, intuitive, literal and egocentric. Other areas of educational psychology that comic strip artists often relay include information processing (retrieval failure or working memory limitations), assessment (test anxiety and meaningful learning), development (infants, toddlers and adolescence) and psychological theories (psychoanalytic, ecological and motivation).

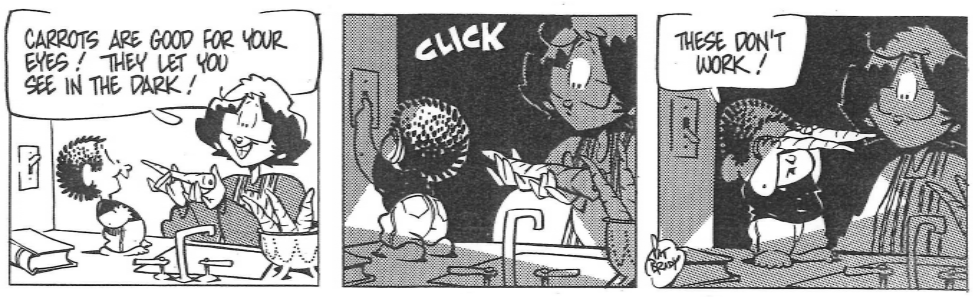

Figure 3. Rose Is Rose. Source: Brady (1996).

After the study of cognitive development, students were offered the opportunities to submit comics that symbolize, in some way, a concept covered in class. Students were encouraged to continue to look for ways to connect new knowledge in divergent ways by offering "extra credit" (with a maximum of 5 extension points, 1 point per strip report). Submissions included the comic strips and provided an annotated synopsis of how the comic was linked with the theoretical constructs. Submitted comics were often presented at the beginning of class as an anticipatory set or at the conclusion as a closure (based on time available), thus,

modeling instructional practices being learned.

Results

Results from the end of course evaluations revealed that the comics made an impact on how students perceived the course. Students reported that all the innovative methods were a highlight of the course. Students reported a perceived overall enjoyment and motivation to learn and apply concepts in the course to both quantitative prompts (average of 3.87 out of 4.0 over five semesters) and qualitative open-ended responses indicated 24% specifically written qualitative responses regarding their sense of enjoyment in learning in the course.

When asked what was effective in the course, students listed methods such as the use of children's literature, dramatization and comics. Though ranked third in methods used, the validating evidence is that comics did make an impact on each time coming a new comic that is submitted through email or dropped off with a chuckle on how "It brought back memories" of the class, or that "The kids in my class are so typical of the situations in the comics. I could probably write a comic strip now!". Typical excerpts from course evaluation include:

> LOL, I loved the comics! They helped me stay focused.
>
> The instructor illustrated all the information in fun ways. Comic strips helped me understand Piaget's concepts like centration and transductive thinking.
>
> The instruction was fun, and the funnies were instructional.
>
> Reading comics were something I loved as a kid, never dreamed I could learn about psychology that way. Those comic writers are SMART!

Results of the comic extension activity revealed the range of students' participation was from 35% (Fall, 2008) to 67% (Spring, 2009) (see Figure 4). A surprising result was that former students continued to drop off cartoons or email them to the author after graduation, usually with a full description of how they related to various educational concepts learned in educational psychology or other areas of their educational preparation or pedagogical perspective.

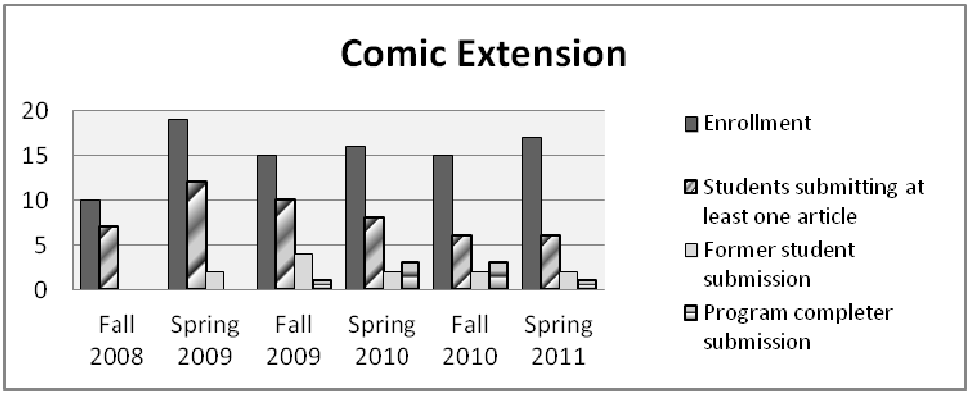

Figure 4. Comics submitted as extended learning.

Since spring of 2009, there has been a general decline in the number of students' participation. Follow-up questioning revealed that fewer and fewer traditional aged students had access to papers with comic sections with the exception of student newspapers where the comics were generally local and political interest. Traditionally, aged students reported that they no longer "read the paper" or had no access to the "funnies" any

longer. Those who did participate often searched online for the comics through sites they found on their own or recommended in class. Non-traditional students who participated tended to still cut out comics from the papers.

Results indicate that students were aware of the innovative methods used during the course as reflected in open responses on end-of-course evaluations. According to the course evaluations, students reported an overall enjoyment of the strategies and objectives of the course and an appreciation for modeling constructivist approaches and innovative methods. Extension activities motivated students to continue to link to concepts of being taught regardless of "extra credit". Former students and graduates continued to submit their comics that contain theoretical metaphors or illustrate concepts found in educational psychology.

Discussion

Comics can be used to establish a positive affective context and interest in the theories of teaching and learning, and encourage students to continue to reflect and think critically on the best practices for learning and engagement. A heightened sense of enjoyment in the class and the appreciation for teachers who use humors in the classroom have been found in experimental studies (Nagata, 1999; Ziv, 1988). Ziv, Eli, and Moris (1986) also reported that students had a different appreciation for professors who used humors. According to Martin (2007), research on using appropriate humors in the classroom suggests that "Teachers in the classroom are associated with more positive teacher evaluation, greater enjoyment of the course and greater perceived learning by students" (p. 359). Though this research generally supports previously found outcomes, more research will have to be conducted in order to investigate whether the use of other methods, including the use of children's literature, have similar effects.

To create and evaluate innovative methods that guide understanding and insight in the theoretical nature of educational psychology, researches must constantly synthesize the data by describing, comparing and demonstrating in an attempt to develop the larger picture, portraying the scene with a loyal representation (Noblit & Engel, 1991). Future research needs to tease out exactly how these methods promote and extend student learning, as well as validate the use of innovative methods. For example, one idea is to investigate the use of blogs rather than discussion boards in extending discussions regarding theory and comics. Email is a powerful tool, but students' emails change after graduation. Unless the students in the course form their own listserv, it is difficult to continue to connect with the group when one student submits a comic to share with others after the end of the term. The other idea is to use a blog specifically set up for submitting comics that illustrate educational theory and research can extend the learning without limits to the context of time (semester) or space (university). Participants can have access to the blog as long as they continue to find an interest in the theoretical applications involved. Furthermore, statistical analyses need to determine the relationship between innovative methodologies and student work samples in order to investigate the impact on students' learning.

This paper highlights how to use comics to illustrate educational psychological concepts and promote student learning. Because humorous illustrations and situations are often associated with positive emotions, educators have acknowledged the beneficial effects of such devices (Martin, 2007). Using alternative methods, such as humors or comics to guide students in constructing knowledge, creates a richer understanding of concepts that can be applied into actual learning settings. It can also enhance attention and help with retrieval strategies. By encouraging innovative methods in teaching, educators can move theory from an intellectual exercise to a pedagogical tool for critical thinking and instructional decision making.

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