

By Design: Using Comics to Teach Ecological Systems Theory

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ABSTRACT. Thorough understanding of the theoretical basis of family science is essential for practitioners. However, the teaching and study of family science theories is challenging because theory is often presented in abstract ways. This paper examines the use of comics, cartoons and sequential art as an innovative way to teach family science theory. Review of a lesson on Bronfenbrenner's ecological systems theory as applied to child kinship care demonstrates the pedagogical usefulness of comics to teach theory in family science.

Keywords: comics, pedagogy, ecological systems theory, kinship foster care, family science

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Background

Effective family science practitioners require a thorough understanding of the theoretical basis of the discipline (NCFR, 2014). Yet the teaching and study of family science theories has proven to be challenging given the abstract way in which theory is often presented and discussed. As family science educators we are always seeking innovative ways to engage students in the study of family science theories. It has been repeatedly demonstrated that comics, cartoons and sequential art are invaluable in engaging students both within and outside of the classroom across a variety of disciplines and content areas (Stafford, 2011; Syma & Weiner, 2013). Thus, comics may facilitate the teaching of family science theory since this format allows for the illustration and discussion of real world issues in an engaging and nonthreatening manner. This paper focuses on the pedagogical strategy of using comics to teach Bronfenbrenner's ecological systems theory as it relates to child kinship care.

Recognition of the educational value of comics, cartoons, and sequential art has a long history. Comics are useful in various ways to tell stories and to present ideas about particular concepts, contexts, or times (Syma & Weiner, 2013). Already recognized as a legitimate storytelling format within language arts instruction, comics, sequential art and cartoons are finding increasing use to instruct students across several disciplines including business, education, and medicine (Cap & Black, 2012; Gerde & Foster, 2008; Green, 2015). Use of comics leads to increases in retention of material and stronger connection to information presented, offering a unique way of communicating about topics (Cap & Black, 2012). As such, comics emerge as innovative resources for instructing in the field of family science theory. Bronfenbrenner's ecological systems theory is especially useful with comics.

By combining written and visual literacies, comics, cartoons, and sequential art allow instructors to recognize students' multiple intelligences (Gardner, 1993). Gardner's theory of multiple intelligences proposes that everyone possesses (to varying degrees) seven distinct types of expertise: (a) linguistic intelligence, (b) logical-mathematical intelligence, (c) spatial intelligence, (d) bodily-kinesthetic intelligence, (e) musical intelligence, (f) interpersonal intelligence, and (g) naturalist intelligence. Students completing the class activity outlined in this paper have a chance to enhance spatial intelligence through visual and written representations of Bronfenbrenner's ecological systems theory and child kinship care issues. Students may also expand naturalistic intelligence as they conceptualize Bronfenbrenner's ecological systems theory and child kinship care individually. Providing and receiving feedback about the activity reinforces interpersonal intelligence through interaction with peers. Finally, small and large group discussion of Bronfenbrenner's ecological systems theory and child kinship reinforces the linguistic intelligence skill set.

Objectives

Using comics, cartoons, and sequential art to teach Bronfenbrenner's ecological systems theory with particular reference to child kinship care, students will

1. demonstrate individual understanding of ecological systems theory and child kinship care through creating comics,
2. develop personal connections to ecological systems theory and child kinship care through creating comics,
3. engage in small and large group discussion and exchange ideas about ecological systems theory and child kinship care,
4. connect ecological systems theory to other aspects of everyday life beyond child kinship care,
5. increase participation in and frequency of student-student and student-instructor interaction.

Using comics to teach ecological systems theory also affords instructors opportunities to determine whether students understand ecological systems theory (EST), especially EST as applied to child kinship care.

Rationale for Activity

It is often difficult to present and discuss family science theory due to the abstract nature of theory. The very mention of the word *theory* frequently elicits a range of responses ranging from groans to apprehension. The authors' experience suggests students stereotypically consider family science theories to be boring and dry. Comics, cartoons, and sequential art provide a way to present and discuss theory in ways that have potential to be engaging. Rather than simply listening to instructors or reading about theory in textbooks, students have chances to personalize theory and to depict it in their own ways via words and pictures.

Procedure

This exercise uses comics to facilitate understanding of Urie Bronfenbrenner's ecological systems theory. In his seminal work, Bronfenbrenner proposed that human development is inextricably linked to, and therefore influenced by, environmental systems. By phase two of his three developmental phases, Bronfenbrenner had identified five environmental systems that have impacts on human development. The first phase is often depicted as a series of concentric circles radiating out from the individual, with the interrelated environmental systems referred to as

microsystem, *mesosystem*, *exosystem*, *macrosystem*, and *chronosystem* (Bronfenbrenner, 1986). The *microsystem* is the most proximal setting or environment in which the individual lives and is the context for the most direct contact with social agents, including interactions with family, friends, and peers. The *mesosystem* represents interactions between microsystems with such encounters having influence and impact across systems. For example, there are intersections and implications between family experiences and work experiences or between school experiences and church experiences. The *exosystem* constitutes links between an individual and her or his immediate environment without the individual actively participating. The individual is influenced by the environment and may influence it, but the individual does not have a direct role. For example, a child's experience at home or school may be influenced by a parent's experience at work in terms of the amount of time the parent can spend with the child in light of their job requirements. The *macrosystem* constitutes the culture, subculture, belief, or ideology within society influencing an individual's developmental lifespan. Finally, Bronfenbrenner's addition of time or the *chronosystem* in phase two of his research represents the environmental contexts and transitions experienced over an individual's lifetime, which alter the relationship between the individual and her or his environments (Bronfenbrenner, 1986; Rosa & Tudge, 2013).

In the United States and worldwide, more and more children are residing with relatives (kin) through formal placement by state welfare agencies or through informal arrangements between family members (Hill, 2010; Hong, Algood, Chiu, & Lee, 2011). Bronfenbrenner's ecological systems theory provides a framework for understanding the child kinship care phenomenon. Applying ecological systems theory, the microsystem would be the child's kinship family and the family of origin. The mesosystem would be the connection between the families that are the kinship family and the family of origin. The connection between any caregivers' extended family and friendship networks would also be part of the mesosystem. The exosystem would be social service agencies, the courts, or other institutions that may not be directly involved with the child but do influence the child's placement. The macrosystem would be laws and policies governing placement of children into kinship homes. Finally, the chronosystem would be changes that occur to the caregiver, the child, and the family over time (Hill, 2010).

Introduction of Ecological Systems Theory

Instructors and students may use comics to facilitate understanding of ecological systems theory in a single class session or in two separate class sessions. The authors' approach has been to introduce ecological systems theory early in their courses. They establish the theoretical basis for studying the family during a 75-minute class period. At the same time, the authors introduce the child kinship care phenomenon as a model to understand ecological systems theory. In a subsequent class, typically later in the semester when concepts are reviewed in preparation for final assessments (e.g., exams, papers), students engage in the three exercises this paper outlines in this paper to determine if they understand ecological systems theory as applied to child kinship care, and to identify what aspects of the theory resonate. This follow-up class takes place during a 75-minute class period in a large computer lab where each student has access to a computer.

Visual Thinking Exercise

The first task is a visual-thinking exercise. Each student receives a plain piece of 11 x 14” paper and access to colored and non-colored pencils. Next, students are told they have approximately 15 minutes to explain their understanding of Bronfenbrenner’s ecological systems theory as it relates to child kinship care using words and/or drawings. Students work individually on this exercise.

Word Cloud Generation

For the second task, the instructor assembles students into small groups with about three or four students per group. Next, the instructor asks each group member to discuss the product of their visual thinking exercise with other group members. Students are asked to note similarities or differences among group members in understanding ecological systems theory with respect to child kinship care based on the visual thinking exercise. Finally, the instructor asks each group to use a word cloud generator (e.g., www.worditout.com) to generate a word cloud using all the words from their individual visual thinking exercises. This particular word cloud generator is recommended because it is free and extremely user friendly, and because it allows students to save their word clouds for later access. Finally, each small group e-mails its word cloud to the course instructor, who then compiles word clouds into a single presentation to be shown in a subsequent class and e-mailed to each student enrolled in the class. Students have approximately 15 minutes to complete the exercise.

Comic Generation

For the third task, students remain in their previously formed small groups. Each group is then asked to use an online comic strip generator (e.g., www.makebeliefscomix.com) to make a two, three, or four pane comic illustrating ecological systems theory as it applies to child kinship care. This specific comic generator is used because it is free and intuitive -- that is, extremely easy to understand and use. The program provides figures and backgrounds so students are not required to draw from scratch. A limited number of figures and backgrounds are available for use; therefore, a vast number of options does not overwhelm students. Finally, the online comic generator allows students to save their work for future access. Students have approximately 30 min to complete this exercise. The comics that each small group generates are mailed to the course instructor, who then compiles the comics into a single presentation that is shown in a subsequent class and emailed to each student who is enrolled.

Large Group Discussion

At the end of the third exercise, during which each group generates a comic, the entire class reassembles as a large group. The word clouds and comics created in class become starting points for discussion about ecological systems theory and child kinship care. This process allows students to identify individual or group similarities or differences in their understanding of ecological systems theory. The activity also facilitates deep learning of the theory because of its presentations in visual and written media. Students use this opportunity to explain their

understandings of the concepts under review as they share the visual thinking exercises and discuss their word clouds and comics.

Evaluation and Reflection

Responses from students via personal communication indicated that while students initially found the idea of making comics daunting, they discovered that exercise was easier than they anticipated. Students reported finding the process more engaging and stimulating than the usual lecture format and felt they had a better understanding of ecological systems theory as applied to child kinship care. From the authors' perspectives as faculty members, students appeared to thoroughly enjoy participating in these exercises as evidenced by levels of excitement in the classroom and readiness with which students were willing to share and discuss their visual-thinking exercises, word clouds, and comics.

As the examples provided show, the comics that students generated had integral meaning to child kinship care. Comic 1.1 (Figure 1) is a visual representation of family transition that illustrates many families are transformed by kinship experience. The first cell shows a mother and child with the mother acknowledging her "baby." The next cell shows a grandmother caregiver going from being a mother and grandmother to suddenly being a mother of two generations, much like real-life kinship care situations in which a grandmother may get a knock on her door and then learn she must parent her grandchild and her adult child. The comic even depicts the middle generation or biological mother of the young child in a reduced physical size. The comic illustrates Bronfenbrenner's ecological systems theory by showing the impact of the (family) environment on the individual over time, even during a brief time span.

Comic 1.2 (Figure 2) addresses ecological system theory's multiple levels of direct and indirect influence on the individual. The comic shows conflict between a grandmother as a parent and formal institutions as parents. Based on concerns about the grandmother, students were asked to discuss factors influencing the grandmother's ability to care for and parent young children compared to the ability of a formal system provider (such as non-relative foster parents). Students were able to discuss various issues with an impact on families and institutions.

Possible Adaptations

The exercises this paper described were used singly and collectively in other courses with proper modifications. For example, these exercises facilitated and assessed understanding of connections between families and social policy and the need for family-based policy (Obasi & Hill, 2015). Instructors should find it easy to modify these exercises to reinforce and assess other family science theories such as social exchange and dynamic systems theories.

Conclusion

Making comics, cartoons, and sequential art has emerged as an innovative way to teach family theory while increasing students' engagement with the learning process. Utilization of comics in instruction can increase student attentiveness and engagement with theories and with subjects as complex as theories. The summarized lesson is likely to facilitate better understandings and stronger critical reviews of Bronfenbrenner's ecological systems theory as it relates to foster kinship care.

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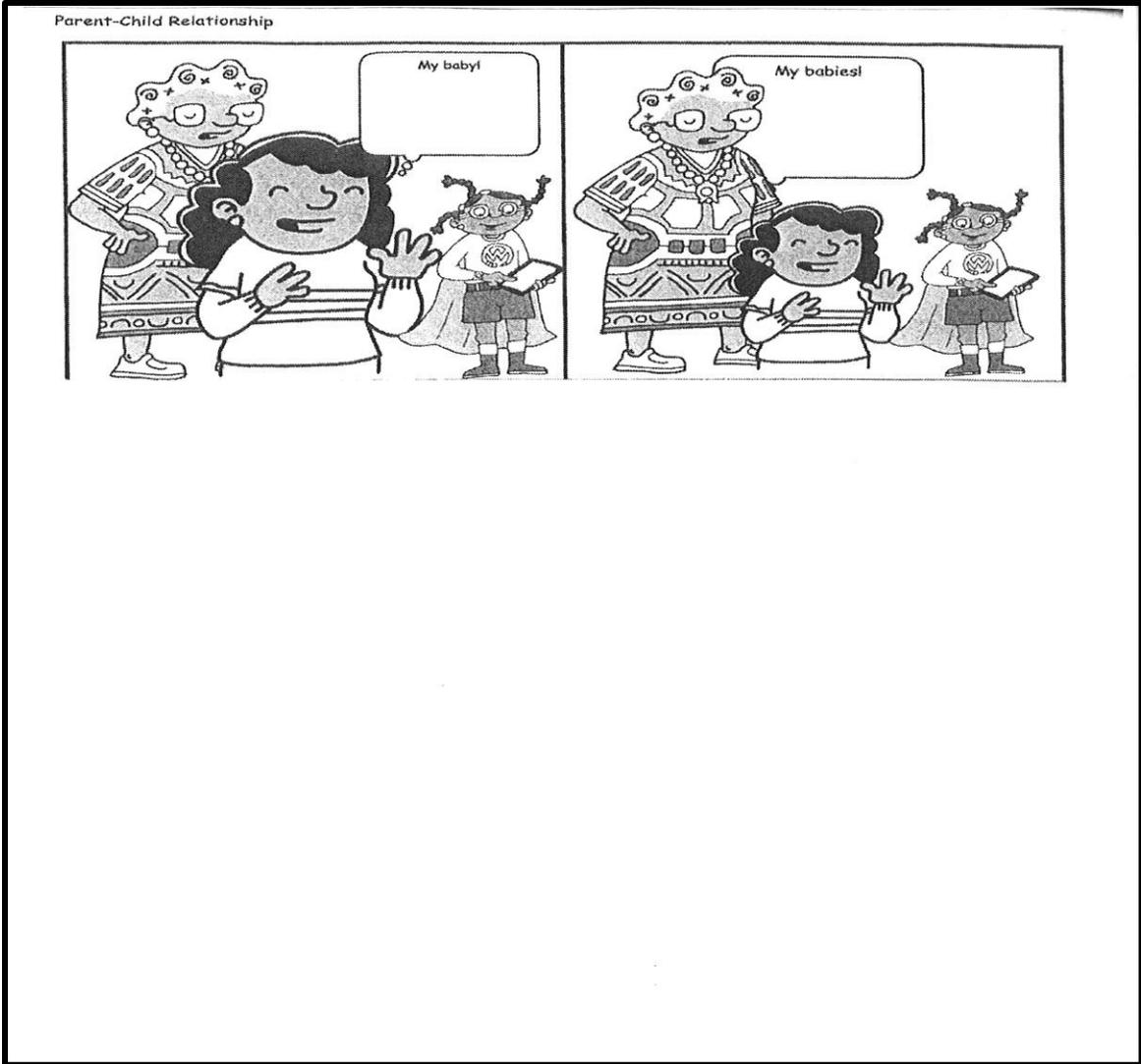


Figure 1. Kinship care across two generations

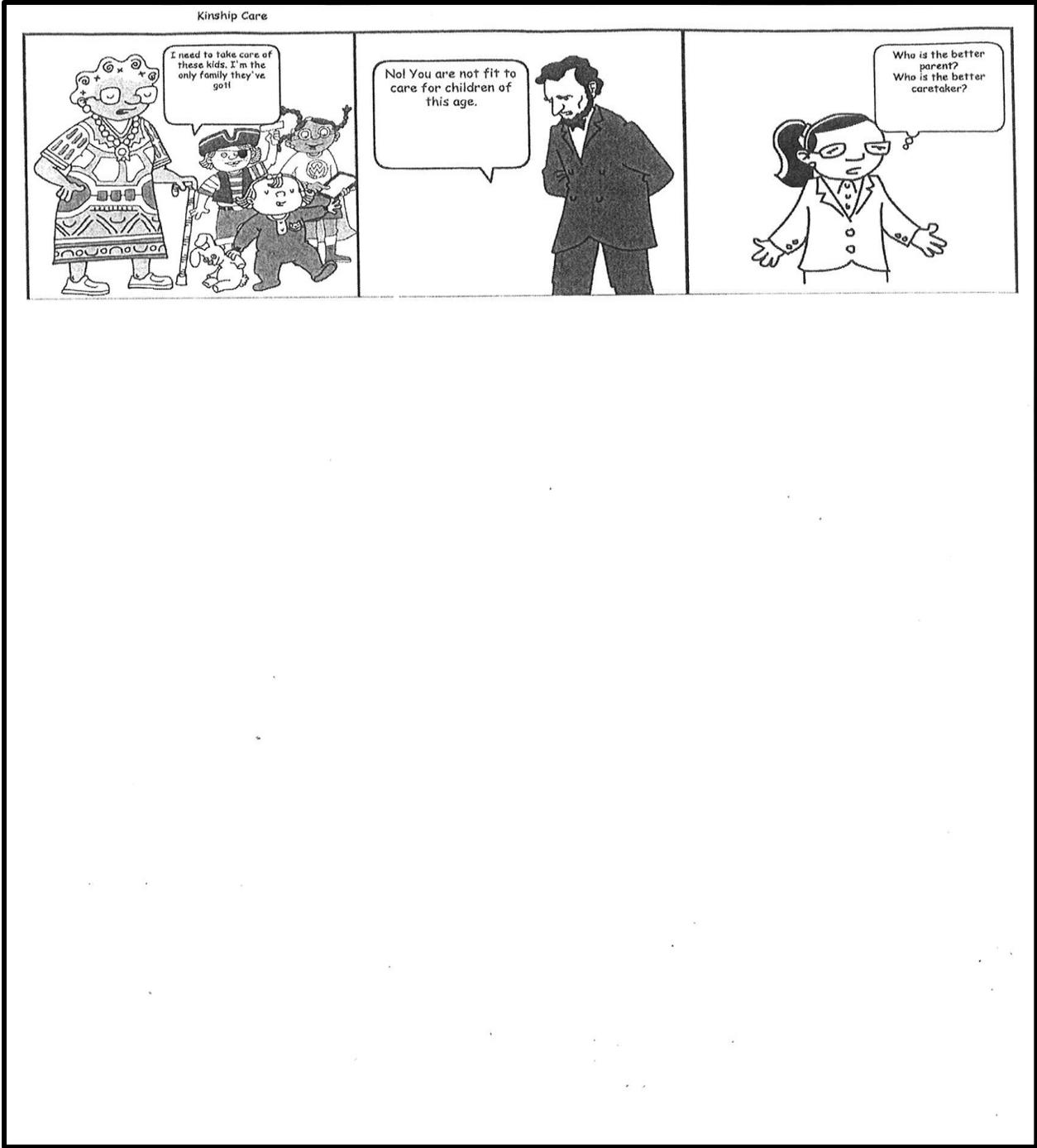


Figure 2. Ecological view of kin care – system vs. family