

Undergraduates' Satisfaction with Peer Collaborative Activities about Developmental Theories

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ABSTRACT. Four collaborative learning activities were implemented in a lifespan development course. We explored 35 undergraduates' experiences with collaborative activities designed to promote breadth and depth of students' understanding of developmental theories. The findings of this study attest to students' satisfaction with collaborative learning experiences. Five themes emerged from the study: application of theory, learning/teaching one another, personal growth, engagement, and theory acquisition. The undergraduates' positive accounts suggest that they applied theory to practice, strengthened their own understanding of theory, experienced personal growth, and were engaged in the class as a result of the collaborative learning activities focused on developmental theories.

Keywords: curriculum development, family life education and related areas, human development, teaching undergraduates, theory

The National Council for Accreditation of Teacher Education (NCATE) has firmly stated that developmental science training is important for work with children and youth (NCATE, 2010). In an NCATE survey, "80% of programs reported that their schools of education offered courses in child/adolescent development" (p. 10). Theory is an important part of developmental science training, as theory serves the development field by focusing on what, how, when, where, and why human development occurs (Bergen, 2008). When teaching theory and its applications, instructors should consider that students in developmental science courses often represent a variety of specializations within the human development and family studies (HDFS) field, as well as other majors within the university.

An understanding of child/lifespan development theory is important to teachers (Daniels & Shumow, 2003), family life educators (FLEs) (Bredehoff, Eckhoff, & Gesme, 2003), and other helping professionals (Broderick & Blewitt, 2010). Teacher preparation can be informed by developmental theoretical perspectives. Each theoretical perspective—such as constructivist, ecological, maturationist, or behaviorist—implies certain practices and characteristics that are valued (Daniels & Shumow). FLEs work with all family members, from the very young to those in senescence, and these practitioners need an understanding of human growth and development. Knowledge of human growth and development is a required content area in which FLEs need practical and theoretical understanding. This understanding includes knowledge of specific

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developmental theories by Erikson, Freud, and Piaget (Bredehoft et al., 2003). FLEs will need to provide research-based information, support group opportunities, or skill-building sessions that teach problems to high-need groups, such as teen parents (Myers-Walls, Ballard, Darling, & Myers-Bowman, 2011). Developmental theories promote FLEs' understanding of universal hallmarks of development (Bredehoft et al.) from practitioner and research standpoints. Other helping professionals might view client problems through several broad theoretical views of development (Broderick & Blewitt). While there are many developmental theories relevant to teachers, FLEs, and other helping professions, we selected eight specific theories.

Selection of Lifespan Developmental Theories

The developmental theories important to the course were spotlighted in the course text, which was Berger's (2008) development text. These are: (a) Freud's psychoanalysis, (b) Erikson's psychosocial theory, (c) Skinner's operant conditioning, (d) Bandura's social cognitive (learning) theory, (e) Piaget's cognitive development, (f) Vygotsky's sociocultural theory, (g) information processing, and (h) Bronfenbrenner's bioecological theory. These eight theories occurred and reoccurred throughout various chapters in the text. This suggests that creating a theoretical foundation early in a development course is important, given the frequency of exposure to these theories throughout the text.

To provide a rationale for why these particular theories were chosen, we independently examined 10 developmental textbooks for a description (not a mere mention) of the eight target theories. All eight target theories were found in 8 out of 10 development books (Berger, 2008; Berk, 2010; Boyd & Bee, 2009; Broderick & Blewitt, 2010; Feldman, 2011; Fiore, 2011; Papalia, Olds, & Feldman, 2004; Santrock, 2010). One book did not include a description of information processing (Craig & Dunn, 2007) and one book only briefly mentioned Freud's psychoanalytic theory and Bronfenbrenner's bioecological theory (Belsky, 2007). This brief content analysis suggests that the eight target theories occurred and reoccurred in lifespan developmental texts. We selected these eight theories because they were underscored in the course text; based on our review, it is plausible to assume that the aforementioned theories may be emphasized in lifespan courses.

Collaborative learning activities were used to help the lifespan development course students explore one theory in depth while being introduced to seven other theories. The present study captures aspects of teaching undergraduates about developmental theories through collaborative learning activities and students' reports of their experiences with these activities. The four collaborative learning activities we used are described next, followed by the method of how they were implemented.

Collaborative Learning Activities in Lifespan Courses to Suit Diverse Professional Goals

The extant literature establishes the benefits of collaborative learning on undergraduates' growth in such areas as their interpersonal skills (Cabrera et al., 2002) and active learning (e.g., Rau & Heyl, 1990; Umbach & Wawrzynski, 2005). We implemented collaborative activities and assignments to gauge students' satisfaction with this approach for learning about developmental theories. These four collaborative learning activities are described in an existing book chapter in

more detail (see Walsh & Sanchez, 2010). Table 1 is a summary of the four collaborative learning activities: (a) the all-you-know-about technique, (b) the auction game, (c) traveling teams (consisting of 10 different collaborative activities), and (d) the visual conceptualization activity.

Collaborative Activity Objectives and Reflection

The peer collaborative activities were guided by objectives:

- All-you-know-about technique: The objective of the all-you-know-about technique was for each group to create a K-W-L chart—what a student knows (K), wants to know (W), and has learned (L)—for their assigned developmental theory. For example, the group assigned to Freud’s psychoanalytic theory *knew* the stages of psychosexual development. They *wanted to know* answers to the following questions: (a) Why are they called the psychosexual stages of development? (b) What, or who, influenced Freud? (c) Why are the stages called oral, anal, phallic, and genital? After completing the visual conceptualization task, using mostly secondary sources and a couple of primary sources, they completed what they *learned* on the K-W-L chart through the sources and the conceptualization activity.
- Auction game: The objective of the auction game was for each group to accurately recognize hallmarks and main concepts of the eight selected developmental theories in a competitive (i.e., groups playing against one another) setting. Prior to the game, we prepared a list of true and false statements about each theory (Walsh & Sanchez, 2010). For example, the following true statement could be given in the game: *According to Piaget’s theory of cognitive development, a 4-year-old boy who thinks that his mother would like his teddy bear when she is upset has demonstrated egocentrism.* Statements are presented, one at a time, to the large group via presentation software (e.g., Microsoft PowerPoint format), and groups place bids on the statements—either true or false. When false statements are given, the group explains what makes the statement false (Walsh & Sanchez).
- The objective of traveling teams was to recognize, recall, and/or apply hallmarks of the eight selected developmental theories through the completion of 10 activities. For example, for the activity titled “Draw an Ecological Systems Model,” after one group drew the five systems in the model, they applied the model to a fictitious student from a family of low socioeconomic status background who attends a school in a local school district. They developed their application by adding their examples to the model.
- The objective of the visual conceptualization activity was to create a visual representation of the assigned theory. For example, the group assigned to social cognitive theory used an image of a preschooler and an adult female putting lipstick on their lips. Their slide was titled “Social Cognitive Theory” and included terms such as modeling, self-efficacy, environment, retention, motivation, and reproduction. During the presentation, the group took turns describing and applying these concepts to the image. The second slide included references to mostly secondary sources, as well as one primary source. The

assigned theory for the activity was the same as the one used for the K-W-L chart in order to promote learning one theory in depth.

After each collaborative learning activity, informants independently responded to two open-ended questions or reflection papers. Similar to Cavanagh's (2011) open-ended questions for undergraduates after lectures and cooperative learning tasks, the questions in the present study were also designed to capture students' experiences. We explored the following two questions: (a) What do students feel they gain from collaborative learning activities designed to promote their understanding of developmental theories? (b) Are they satisfied with each activity?

Method

Informants and Archival Sources

A convenience sampling technique was utilized (Gall, Gall, & Borg, 2010). A total of 35 undergraduates (24 females, 11 males) completed the course activities that informed this study. Approximately 43% ($n = 15$) of the informants were HDFS majors. Other majors included early childhood education, pre-nursing, social work, speech pathology, biochemistry, liberal arts, and undeclared.

These students were enrolled for a summer session in a three-credit introductory lifespan human development course that was offered through the college of education at a midsize university in the western United States. The course met for 2 hours a day, 4 days a week, for 5 weeks. With the collaborative learning activities as the exception, the course followed a lecture format. Students were required to read one to three chapters per lecture, depending on the topic, from the course developmental text. The final course grade was based on a point system, of 550 points, that corresponded to a letter grade. In addition to the following described collaborative learning activities, students completed seven quizzes (with a possible score of 20 points earned for each) and three writing assignments (with a possible score of 50 points earned for each). Students were also given an attendance/participation grade (out of a possible 80 points) with participation in two of the collaborative learning activities counting as part of the participation portion of the grade. The university's institutional review board approved our analysis of the informants' existing documents, which were completed as part of their educational experiences in this course.

Procedure

Thirty-five undergraduate students participated in and reflected on four collaborative learning activities designed to promote the understanding of child/lifespan development theories. In the findings, some students' comments are used to support themes. We used pseudonyms (e.g., Student 1), and the numbers associated with the pseudonyms are arbitrary. The collaborative learning exercises spanned four class meetings and included activities outside of class time. Students' preparation surrounding these activities involved meeting one-on-one with the instructor, meeting with their team outside of class, and reading a required chapter on theories of development while being strongly encouraged to read sections of other chapters that also included theories.

One-on-One Meetings

Prior to the beginning of the collaborative learning activities, students completed a candidacy statement. The candidacy statement required a paragraph response to Rotenberg's (2005) prompt, which encouraged students to state in general terms the qualities and efforts they would bring to their collaborative learning team. In addition, students specifically addressed, in approximately one paragraph each, the following five areas: (a) experiences with human development terms and concepts, (b) practical and/or professional experiences with individuals and families, (c) team and leadership skills, (d) work style, and (e) skills with tools of technology. The instructor provided examples that were illustrative, but not an exhaustive list, of each area. During class, each student signed up for a time to meet with the instructor outside of class. Students met one-on-one with the instructor. During these meetings, each student spoke about his or her prompt and submitted it. The meetings occurred before and after class time on the second day of class and were approximately 10 minutes each, for a total instructor time commitment of approximately 6 hours. The instructor evaluated the completed candidacy statements, in terms of response to the prompt, completion of the five areas, clarity, and grammar/spelling. The candidacy statement was worth a maximum of 10 points.

The instructor placed a positive or a negative sign next to each of the students' responses to the five areas. The instructor purposefully assigned students into mixed ability groups. Students were placed in one of eight groups based on their candidacy statements. Each group was randomly assigned one of eight developmental theories: (a) Freud's psychoanalysis, (b) Erikson's psychosocial theory, (c) Skinner's operant conditioning, (d) Bandura's social cognitive theory, (e) Piaget's cognitive development, (f) Vygotsky's sociocultural theory, (g) information processing, or (h) Bronfenbrenner's bioecological theory.

Three Collaborative Learning Activities

For the second class, the lecture and assigned reading focused on all of the selected developmental theories. During the 2-hour class period on the third day of class, each group participated in three collaborative learning activities (see Table 1): (a) the auction game, (b) the all-you-know-about technique, and (c) traveling teams. Prior to each activity, each group was given a hard copy of the guidelines. The guidelines were also posted to the online course Web site, which electronically housed the course documents. The guidelines included the purpose of the activity, tips for being successful with the activity, additional considerations, how students' work would be evaluated, and two questions or reflection paper guidelines, which were the same for each activity. The auction game provided extra points on a quiz, while satisfactory completion of the all-you-know-about technique and traveling teams counted for participation. After completing each collaborative activity, informants independently formulated two reflection papers in the form of one- to two-page, typed responses to two questions, prepared outside of class time. The following two questions were used to guide students' individual responses: (a) What did you think about the collaborative learning technique? (b) What did you learn?

For the auction game, all-you-know-about technique, and traveling teams, the students had one reflection paper per activity. These assignments were due the next day, on the fourth day

of class, for a possible total of 30 points. All students were present for the collaborative learning activities; however, a few students only partially completed the reflection statements.

Collaborative Learning Activity

During the fourth day of class, the instructor spent 20 minutes describing the visual conceptualization task. This presentation of the task included giving each student a copy of the guidelines, showing conceptualization examples from previous semesters and other classes, and answering student questions. For the theory conceptualization activity, collaborators had to visually represent main tenets of their assigned theory. The guidelines allowed students to use only specific technological programs (e.g., Microsoft PowerPoint or Adobe InDesign), and they could use no more than 15 words in the conceptualization. The presentation of the visual conceptualizations occurred a week and a half after the discussion of the assignment. The entire class period was utilized for the presentation of the conceptualizations, with each presentation lasting approximately 15 minutes.

On the day of the visual conceptualization presentations, groups were given peer and self-evaluations. Each group was assigned to evaluate—that is, identify one strength and one area for improvement—another group (e.g., the Freud group evaluated the Erikson group). Group members individually evaluated themselves in terms of what they contributed to the process and product. Each group member also evaluated his or her own group members, in terms of contributions to the process and product. For each group, the instructor utilized a rubric to evaluate the visual conceptualization and its presentation. The instructor considered all of the aforementioned evaluations when assigning individual grades for the visual conceptualization. This collaborative learning task was worth a possible 100 points. After this collaborative learning activity, each group completed what they learned on their K-W-L charts. The reflection paper was due the next day, on the eleventh day of class, for a possible 10 points.

Data Analysis

The semester following the implementation of the four collaborative learning activities, the informants' perceptions of the four collaborative learning activities were analyzed one at a time using Glaser and Strauss' (1967) constant comparative method. Some other qualitative studies in higher education have similarly employed the constant comparative method in analyzing data and formulating theory (e.g., Haefner & Zembal-Saul, 2004; Kim, Williams, & Dattilo, 2002).

We coded each student response both independently and collaboratively over the course of several months. In his chapter on qualitative coding, Saldana (2009) suggested that coding in projects involving a research team “can and should be a collaborative effort” (p. 27). Some qualitative researchers have encouraged collaborative coding amongst team members (e.g., see Erickson & Stull, 1998; Guest & MacQueen, 2008, as cited in Saldana). We individually went through each line of each informant's response and provided a code for any themes they identified. While we coded the responses, we took notes in the form of memos, as suggested by Glaser (1965). After independently coding each student's response, we engaged in discussion and a collaborative consensus was reached for coding each informant's feedback. Glaser

suggested that this process is beneficial to “help bring out points missed, add points...and cross-check points” (p. 440). Furthermore, having multiple researchers analyze and interpret the data is helpful to reduce individual bias (Stumbo & Little, 1993). We revisited earlier coded responses, constantly modified initial coding, and added to categories as necessary to sort the data and begin to arrange emerging themes.

For this qualitative study, descriptive data were also reported. Sandelowski (2001) recognized that counting sometimes occurs in qualitative research. She asserted that although sometimes deemed nontraditional, counting can be a key component of qualitative studies (Sandelowski). For this study, we utilized coding to carefully keep track of the frequency of codes and to reveal prominent themes.

Results

Five main themes were identified from the student responses to the following two student prompts: (a) What did you think about the collaborative learning technique? (b) What did you learn? The five themes included: application of theory, learning/teaching one another, personal growth, engagement, and theory acquisition. Refer to Table 1 for a description of the collaborative activities from which these themes were derived. See Table 2 for the percentage and frequency of themes for each collaborative activity.

Theme 1: Application of Theory

Within the application of theory theme, students expressed that they were able to apply the targeted theories to hypothetical situations or situations in a real-world setting, such as in their own lives, and in their work with children and families. Student responses within this theme included how activities encouraged students to use their own experiences and reflections to form an understanding of theory. For instance, Student 1 wrote, “Making the material applicable in a real world setting seems to make it more concrete in both my understanding and memory of the subject.”

Of the four collaborative activity reflections, this theme was seen most frequently in traveling teams. This may be associated with the design of some of the activities within traveling teams. Many of the traveling teams’ activities gave students opportunities to interact with the theories, allowing them “to apply theoretical knowledge to practical problems” (Olson & Bruner, 1998, p. 9). For example, one of the 10 traveling teams’ activities required students to read a scenario of a young child living in their local area. Students were then required to consider the description of this child’s life and draw this child’s ecological systems model using knowledge of Bronfenbrenner’s ecological systems theory. This allowed students to consider how they might evaluate a real-life person using Bronfenbrenner’s model. Another task for each student in traveling teams included drawing a cartoon that depicted either operant or classical conditioning, using one of his or her own experiences. Student 2 commented that the activity “forced us to think outside of the ideas we’d already heard about classical conditioning and create a new idea on our own.” Overall, it appeared that the design of these activities proved meaningful to the students. Reflecting on the activity of the traveling teams, Student 3 noted, “Until we talked about them [the terms] and discussed them in a practical and realistic application, it wasn’t clear.” The findings of this theme may suggest that instructors who desire to have their students

connect their experiences and apply theory in a practical manner may choose to include collaborative strategies, such as those used in the traveling teams, in their curriculum.

Theme 2: Learning/Teaching One Another

Within the theme of learning/teaching one another, students expressed their ability to learn from one another. The collaborative activities required students to delegate and collaborate with each other, in-turn showcasing their strengths and abilities in various areas. Additionally, students found teaching or assisting other students helpful in their own understanding of theories. Student 4 wrote, “This assignment [all-you-know-about] is a good way to bring the whole group into one consensus and to make sure that all the knowledge that everyone has can be shared and bring a benefit to the whole group.”

This theme was found most frequently in the visual conceptualization activity responses. Students expressed enjoyment and/or benefit from learning from their collaborators. In her response to the visual conceptualization activity, Student 5 noted, “Students teaching students can be helpful sometimes because they...can explain it in a different way than the teachers.” Student 6 found the teaching aspect to be beneficial, sharing that “getting to present it [the theory] and explain it to others further drove the understanding process home.”

The visual conceptualization activity encouraged students to work together and become comfortable enough with the content to present it to their fellow classmates. It also gave students the opportunity to listen to the presentation of other students and gain a unique perspective on the theory. To promote students taking on active roles, instructors may be interested in using a collaborative presentation-based activity such as the visual conceptualization assignment.

Theme 3: Personal Growth

Overall, the personal growth theme highlighted students’ abilities to feel comfortable in a group setting while building confidence and learning specific skills. Some examples of specific proficiencies mentioned included the improvement of study, critical thinking, social, communication, collaborative, and public speaking skills.

According to students, one factor that contributed to their personal growth was their comfort level within the group setting. For example, Student 7 shared that the comfort gained in group experiences “will make it easier...to learn in general.” In addition, Student 8 recognized gains in specific skills areas. She explained that “working together as a team is a great way to build social and critical thinking skills.” Of the students who mentioned improvement of some skill, approximately half reported that activities were specifically helpful in building their study skills. Another student commented when responding to the all-you-know-about activity that “this assignment will also be helpful for future quizzes/exams because we had to think and recall information that we learned about in class.”

The theme of personal growth was seen most in the auction game activity. In this activity, students had to employ teamwork in a competitive atmosphere, which encouraged discussion, negotiation, and coming to a consensus quickly in order to compete against other collaborative

groups. This may suggest that instructors interested in enhancing personal growth and comfort levels of their students could consider employing a collaborative activity similar to the auction game.

Theme 4: Engagement

Students consistently discussed their engagement in learning tasks and described their positive experience with the non-lecture format of the activities. Student 9 commented,

What I liked the most about the project is that it added something extra to the normal class lecture note taking and reading chapters each night. Sometimes classes can get dry and I feel that throwing a group project in the mix allows the class some change and a chance to work on something fun.

The engagement theme was present most frequently in the traveling teams and auction game responses. These particular experiences were very different from a traditional lecture format, involving higher levels of activity, increased collaboration, hands-on participation, and a competitive element.

Students explained that several different factors influenced their positive engagement in the learning experiences. For example, students shared that the activities varied in difficulty, style, and pace. Student 10 commented that the variety of activities in the traveling teams kept her “interested much longer than doing the same thing for 2 hours.” Another student shared that the interactive nature of the collaborative experiences better met his learning style as he tends “to do better hands-on.”

Other factors encouraging engagement, as reported by the students, included opportunities to exercise creativity and the competitive nature of the activities. Regarding creativity, Student 11 noted, “So much of academics is just memorizing and testing knowledge. It’s refreshing and fun when teachers offer ways for students to be creative.” Incentive was particularly apparent in the auction game activity. Another student shared that “everyone seemed to really jump right in because, since there were teams involved, it brought out the competitive nature of everyone and really spurred participation.” Instructors who want to engage their students in learning may be interested in employing activities similar to the auction game or traveling teams.

Theme 5: Theory Acquisition

The theory acquisition theme occurred and reoccurred from students sharing that they gained clarity or increased their understanding about the emergent and grand theories of human development. The collaborative activities reinforced learning and helped them commit knowledge to memory. Students also shared that they were able to make connections to prior coursework (i.e., lecture, notes) by participating in the activities.

Concerning the visual conceptualization activity, Student 12 commented, “This assignment really made me learn the Vygotsky theory in terms of where I could say the theory in

my own words and explain it to the class or anyone else.” Another student’s response to the all-you-know-about activity shared that the K-W-L chart is a “powerful” activity because it “is a great way to attach new learning to information the learner already knows.” Student 13 shared a similar view, stating, “This assignment was a great learning tool and helped me organize all the theories we have been learning in class.”

The overall responses to the theory acquisition theme were higher than for those found in any other theme. The visual conceptualization activity had the highest incidence within this theme. This may be due to the nature of this activity as demonstrated in the teaching/learning one another theme, where students had to learn theory well enough to be able to teach it. This activity also provided students with an opportunity to teach their peers.

In sum, instructors may choose to use collaborative activities in their curriculum, such as those described in Table 1, to promote students’ satisfaction with learning about developmental theories. Utilizing a presentation-based activity, such as visual conceptualization, may be particularly helpful for teaching theory to undergraduates.

Discussion

This study explored undergraduate students’ experiences with collaborative learning activities designed to promote their understanding and application of lifespan developmental theories. Given the importance of developmental theory to teachers (Daniels & Shumow, 2003), FLEs (Bredehoft et al., 2003), and other helping professionals (Broderick & Blewitt, 2010), it is the responsibility of higher education to help students make the link between developmental theory and practice. The findings of this exploratory study corroborate Stott and Bowman’s (1996) view that considering undergraduates as collaborators is a positive approach to tertiary education regarding developmental theory. Overall, in the present study the collaborative learning activities were positively experienced by undergraduates. The five themes that emerged included: application of theory, learning/teaching one another, personal growth, engagement, and theory acquisition. This study may help human development instructors in higher education design instructional activities for their curricula to promote the theory to practice link.

Limitations

For this qualitative study on undergraduates’ satisfaction with collaborative learning activities about developmental theories, we employed a convenience sampling technique. Forty-three percent of the informants were HDFS majors. As a result, these students may not be representative of all students enrolled in lifespan development courses and may overrepresent those who are studying HDFS. Caution should be taken in the transferability of the findings since the sample was from one course at one institution. In addition, the small sample size makes it difficult to transfer these findings to larger course sizes. The findings may differ in larger courses, and the delivery of collaborative learning activities in a larger sample of undergraduates may or may not be possible.

Students' Comments: A Reflection More Than 1 Year Later

The following quotes capture three students' reflections of collaborative learning activities to promote theory. These quotes were shared during a meeting with the course instructor and teaching assistant. The purpose of the reflection meeting was to obtain student feedback about teaching practices in the introductory lifespan human development course they completed. Students took the course approximately 1 year and 4 months prior to the reflection meeting. In this time, students have taken other coursework in pursuit of their degree, including upper division courses, research courses, and coursework that included experience in the field as an emerging practitioner. The following quotes are included to get a retrospective perspective of teaching developmental theory through collaborative learning activities.

This was the first of my classes that had a collaborative component. As a nontraditional student, the class helped me open up more and made me feel more included in the class and the university. I think the collaborative activities were a positive way to use our abilities and interests to study developmental theory. We had to use our talents and abilities to equally contribute. The group presentation helped me to accomplish more than I could on my own. (Student, nursing major)

That was the first of my classes that included theory. Having taken other HDFS classes now, I can see why we talked about theory so much. This was also the first group project that I had and it helped me build for future group projects. It allowed me to feel comfortable in a group, speak in front of the class, and have the feeling of people being there with you. I would have liked to have more time on the different theories. We learned eight theories and splitting them up more would have been helpful. I liked the group setting of the auction game. I could really show what I know. If it was an individual activity, I would have stayed quiet rather than participated. (Student, HDFS major)

That was my first HDFS class. It built a good foundation for theory and working with groups. There was good energy in the class. The instructor made it a positive experience. In thinking back on the class, I would have preferred to have a visual handout or hard copy of the other theories that I didn't directly participate in the group project [visual conceptualization project]. (Student, HDFS major)

These quotes reflect the students' positive recollection of exploring developmental theories in a collaborative learning setting. These students also made suggestions that the instructor of this developmental unit on theory should consider.

Implications for Instructors and Further Research

The present findings are consistent with Cavanagh's (2011) conclusion that learning with peers helps with engagement of the course content. Based on our findings, instructors desiring to promote the application of developmental theory may consider implementing the collaborative learning activity of traveling teams. To promote students guiding each other with the learning and teaching process of developmental theory, the visual conceptualization task may be helpful.

Instructors should keep in mind that inaccurate information could be taught by students during this activity, thus instructor feedback on the content presented in the visual conceptualization assignment is important. Instructors desiring to promote personal growth and engagement may consider the auction game.

The collaborative learning activities could also be incorporated into a professional development workshop for current professionals in the field. The workshop would need to include a portion that underscores the main tenets of the target theories. The facilitators of the workshop should also provide explicit examples of how theoretical orientations guide practice. The workshop should emphasize engagement in the four featured collaborative learning activities. The workshop should conclude with a summary of the main points and a reflection session that captures the attendees' experiences with the activities.

Future studies may include focus groups with undergraduates. In addition, future work should explore instructors' experiences with the collaborative learning activities. Future work may also include closed-ended item questionnaires to supplement the open-ended questions employed in the present study. Student learning outcomes should be examined. Similar to Cavanagh (2011), we suggest that future studies may measure students' understanding before and after the collaborative learning activities and compare these findings to students in a typical lecture-style class. The ability to triangulate multiple data points will not only give researchers the ability to feel confident in their findings but also provide more conclusive evidence showing more effective teaching activities to promote the understanding and applications of developmental theory.

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Table 1

Collaborative Learning Activities

Activities	Description
All-You-Know-About Technique	Student groups were assigned one of the grand theories of human development. They then created a K-W-L chart to record and reflect on what they <i>know</i> , <i>want to know</i> , and <i>learned</i> about their assigned theory (Ogle, 1986). Students used one outside resource as well as available classroom resources to fill in the “learned” section.
Auction Game	Students were shown statements via presentation software slides related to each of the 10 theories. The students had to work in their groups to determine whether the statement was true or false (and why). A bidding system was used that gave students an opportunity to gain extra credit points in the course.
Traveling Teams	Students engaged in 10 different activities related to the theories in order to exhibit and practice their understanding of the theories. The 10 activities were placed in envelopes around the classroom. Students then traveled as groups around the room, completing all 10 activities.
1. <i>Matching Activity</i>	Students matched the theories of human development to the corresponding theorists.
2. <i>Freudian Psychoanalysts Worksheet</i>	Students were given a detailed hypothetical scenario of a woman marrying an older man. Students read the scenario and imagined they were psychoanalysts. Using Freudian terms, they attributed her adult behaviors to possible childhood conflicts.
3. <i>Theory Crossword Puzzle</i>	Students were given clues about various theories, theorists, and terms. They used these clues in order to solve a crossword puzzle.
4. <i>Drawing an Ecological Systems Model</i>	Students read a scenario of a young child living in their local area. They were then required to consider the description of this child’s life and draw this child’s ecological systems model using knowledge of Bronfenbrenner’s theory.
5. <i>“Who am I?” Activity</i>	Students read descriptions of mystery theorists. They then had to solve the identity of each theorist by labeling them appropriately.
6. <i>Hot & Cold Activity</i>	Students were asked to recall the childhood game of Hot & Cold. Group members provided clues to one collaborator in order to find a hidden object. When the collaborator was closer to the object, they were told they were “getting hot” (getting close) on varying degrees. The opposite was true as they got further from the hidden object. After engaging in this game,

	students answered questions about how this activity mimicked the concept of shaping and related to operant conditioning.
<i>7. Erikson's Psychosocialist Worksheet</i>	Students were given a detailed hypothetical scenario of an adult man unwilling to move out of his parents' home. Students read the scenario and imagined the situation from a psychosocial perspective. Using Eriksonian terms, they attributed his adult behaviors to possible childhood conflicts.
<i>8. "Making Connections" Picture Card Activity</i>	Students were supplied three picture cards depicting different theoretical concepts. They then connected each picture to its appropriate theory and used relevant vocabulary to provide a write-up.
<i>9. Assimilation or Accommodation Activity</i>	Students read scenarios describing an instance of either assimilation or accommodation. Working with their group members, they appropriately labeled each scenario. Students also had to share one of their own experiences and describe why their example was either assimilation or accommodation.
<i>10. Conditioning Cartoon</i>	Students had to draw an original scenario of either classical or operant conditioning and label it appropriately.
Visual Conceptualization	Student groups were assigned one of the grand or emergent theories of human development. Students had to create a standalone visual representation of their theory with fewer than 15 words, using a technological tool (e.g., Microsoft PowerPoint). The work on this activity was completed outside of class. The groups then presented their visual representation to the class in a 10-minute presentation.

Table 2

Percentage and Frequency of Themes Found Within Each Collaborative Activity

Activity	<i>n</i>	Theme									
		Application of Theory		Learning/Teaching One Another		Personal Growth		Engagement		Theory Acquisition	
		%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>
Traveling Teams	35	46	16/35	55	19/35	37	13/35	86	30/35	83	29/35
Auction Game	35	6	2/35	26	9/35	51	18/35	89	31/35	80	28/35
All-You-Know-About Technique	33	12	4/33	30	10/33	30	10/33	42	14/33	73	24/33
Visual Conceptualization	32	38	12/32	63	20/32	19	6/32	72	23/32	91	29/32

Note. It was possible for a student to be coded more than once within one theme. However, each student was only coded once per activity. Percentages reported in this table were rounded to the nearest whole number.