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How Will You Contribute? A Look at an Instructional Strategy to Improve Student-Centered Learning

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Abstract

The dreaded blank stares, looking down at a phone, or the student who falls asleep. University instructors know students who demonstrate these behaviors and have watched them disengage during class. Students might wish to engage, but may not know how. The purpose of this article is to examine the use of contribution strategies with undergraduate students in an effort to foster their engagement in class. Through a semester-long study, students' usage of seven contribution strategies within course discussions was examined through frequencies and audio recordings. Findings reveal that students incorporated the seven contribution strategies into course discussions however they did so at varying levels. Implications for the research suggest that when given the opportunity to actively contribute students do so; however, the instructor must foster an environment where active contribution is possible and valued.

Keywords: contribution strategies; action research; undergraduate

Introduction

It is difficult to ascertain why students might not connect during university class sessions and it is important to ask where the problem may reside. Is it something within the students themselves, or could it be something the instructor is or is not doing? This article briefly examines learning identity and then explores an instructional technique called contribution strategies that may assist in overall engagement in the university learning context.

Identity as Learners

To be successful in both the university classroom and in the work force more generally, it is beneficial for students to develop a positive learning identity. Kolb and Kolb (2009) define learning identity as how individuals view their ability to learn, accept their role in the learning process, and approach learning opportunities. There are many scholars who have examined aspects of learning that may shape how a student identifies as a learner including surface vs. deep learning (Biggs, 1979; Entwistle, 1984); fixed vs. growth mindsets (Dweck, 2006) and active learning opportunities (Doyle, 2011). Each of these are examined in the following sections.

Research shows two common approaches to learning may impact a student's learning identity: surface and deep (Biggs, 1979; Entwistle, 1984; Parpala, Lindblom-Ylänne, Komulainen, Litmanen, & Hirsto, 2010). Parpala and colleagues (2010) examined university students and found that students using a surface approach are more likely to focus on learning at a basic level. In contrast, students who take a deep approach to learning may be more likely to plan, monitor, reflect, ask questions, and think critically. Deep vs. surface learning influences how one approaches learning opportunities and views one's role in the learning process.

Dweck (2006) examined how students perceive their role in learning and their capabilities as learners. She argued two different mindsets exist: a "fixed mindset" and a "growth mindset" (p. 67). Students with a fixed mindset believe intelligence is predetermined and there is little that can change overall personal learning patterns. Those with a growth mindset, however, see learning as an exercise where hard work and perseverance can improve learning capabilities and overall intelligence. The type of mindset a student embodies (fixed vs. growth) as well as their approach to learning (surface vs. deep) may impact how a student approaches and engages in the university learning context, thus shaping his/her overall learning identity.

Students may not spontaneously regard themselves as having an influential role within the learning context, inevitably influencing their learning identity. Ruohoniemi and Lindblom-Ylänne (2009) surveyed university students regarding the influences on their learning and found they most often listed characteristics related to their instructors rather than characteristics related to themselves. Therefore, it is possible that learning identity is shaped by the instructors students meet and the instructional practices they are offered. Freire (1968) argued against viewing a teacher as the holder of all knowledge and proposed students develop a self-identity as a competent, engaged, and capable learner. However, in order for students to develop their learner identity, they must be given opportunities to engage in the learning process (class discussion, learning activities, etc.) actively.

Doyle (2011) suggests that university instructors "move away from a teacher-centered, lecture model of instruction to a learner-centered model of facilitating learning" (p. 1). Substantiating this claim with neuroscience, Doyle argued that when instructors rely on lecture-style teaching, they inhibit their students from fully

participating in the learning process and developing their learning identity. Students who are actively involved tend to acquire knowledge in more meaningful ways. Doyle suggests that control of the learning process be shared between instructors and students. When students are given an active role, and are required to apply a deep learning approach including planning, monitoring their thinking, reflecting, asking questions, etc., they tend to be academically advanced and more engaged in the learning process (Biggs & Tang, 2011).

The research suggests that to foster a positive learning identity, both student and instructor must make room for active learning opportunities where students may take ownership of their learning. The remainder of this article will explore my use of an instructional technique called contribution strategies designed to assist both instructor and students to actively engage in the learning context together.

Conceptual Framework

As a university instructor, I began to reflect on the instructional practices I use in my courses and whether I was creating a learning context conducive to students taking an active role in their learning process. Gioia's (1987) work on contributions provided me a lens for how to nurture my students in a way that fostered active learning and student engagement. Participation in university classroom discussions and learning activities is not a new idea; however, it is possible that to optimize the learning experiences, students must not only participate but become contributors to their own and others' learning. Gioia (1987) differentiated between participation and contribution in the university learning context. He acknowledged that when students participate they are involved and included. However, while students who participate "take part," Gioia argued student contribution entails deeper social and "intellectual involvement, [the] sharing of knowledge and knowledge construction...and the willful intent to assist others in the forging of understanding" (p.16). Gioia identified methods for contribution including "providing recapitulations and summaries... citing relevant personal examples...asking key questions... engaging in devils' advocacy, and disagreeing with the instructor" (1987, p. 17). Gioia argued that through these types of contributions students

are socially and intellectually involved thus thinking and learning are at the center of class discussions.

I felt that intentionally and purposefully incorporating similar contribution approaches to those discussed by Gioia (1987) might assist students in better defining themselves as active agents in their learning and may also provide me with a framework for establishing an expectation for student engagement in my course. The research question guiding this study was, *How do contribution strategies assist in overall student engagement in the university learning context?*

Methods

Setting and Sample

This study took place at a small, mid-western, regional university. I incorporated contribution strategies into an entry-level, undergraduate, child development course with 21 students. Typical enrollment numbers for this class vary between 20 and 30. The course met once per week for 2 hours and 45 minutes. In a given semester, I am required to teach three courses and for the past three years, child development has been one of them. I was searching for ways to motivate my students to take ownership of the content, class activities, and discussion. I chose to incorporate the contribution strategies as it was an entry-level course and the undergraduate students enrolled were at the initial stages of their university program. By introducing the contribution strategies at this point, it was my hope they would continue to incorporate these strategies moving forward.

Introducing the Contribution Strategies

Building from Gioia's (1987) discussion of contribution, at the beginning of the semester I introduced and defined seven contribution strategies in an effort to examine how the use of contribution strategies might assist in overall student engagement (see Table 1 for the seven contribution strategies including student examples taken from audio transcripts). When introducing the contribution strategies, I gave students a handout defining the seven contribution strategies and a poster of the strategies was posted on the wall for the duration of the semester. I explained the contribution

strategies could be used as a technique to enter into discussion and contribute to the learning of others. I shared with the students that a requirement of the course was for students to take part in course discussions and activities in an active and engaged manner. To do this, students were expected to practice using the contribution strategies as they discussed course content and assigned readings. During the second class, we participated in an activity where each student was assigned a contribution strategy with the goal to incorporate the strategy whenever possible during class activities. This gave us the opportunity to define and utilize the strategies and discuss each of them as a class.

The role of modeling was particularly important, as the use of contribution strategies was new. It was important the students see how I incorporated the contribution strategies into our discussion in order to observe and envision the possibilities. I made a point throughout the semester to model the contribution strategies (e.g. “I would like to respectfully disagree with the text; making friends is a very abstract concept for young toddlers”). I also pointed out when students used particular contribution strategies to alert all students how contribution strategies could be used (“Did you see how [student’s name] contributed to the topic by making a personal connection?”).

Table 1: Seven Contribution Strategies and Examples

Contribution Strategies	Example
Summarizing	<i>When I was reading the book, it stated that children tend to get their taste interests from their parents.</i>
Making Observations Connected to Course Content and/or Outside Sources	<i>I remember when we were watching the “Babies” movie and we saw children walking around without diapers on or living in houses without modern plumbing systems. It just goes to show other cultures can be a lot</i>

	<i>different compared to our own.</i>
Making Personal Connections	<i>My husband speaks in Spanish to my daughter and I speak in English to my daughter. My husband was always nervous it would confuse her, but it doesn't and I think it's really cool because she is learning two languages in the same household.</i>
Agreeing or Branching off of Peer or Content	<i>I agree with [student's name], it's really hard to put a date and a time as to when children start showing developmental milestones.</i>
Asking Questions Leading to Further Thinking of Self or Others	<i>How do researchers know that babies can taste?</i>
Playing Devil's Advocate	<i>The chart within the book...gives an expectant age at which children should be hitting benchmarks and development, which although helpful, can cause parents to think what is wrong with their child if they have not reached benchmarks at a certain age.</i>
Respectfully Disagreeing with Peer, Instructor or Content	<i>I hate the phrase that "kids will be kids" because there is also the phrase that "kids will be cruel." I feel that these phrases are not okay and that kids need to learn from a young age about what is and is not acceptable.</i>

While explicitly modeling the strategies was important, it was equally essential to create space for students to incorporate contributions into class activities and discussions. Therefore, I fostered open-ended discussions and incorporated active

learning activities into our class sessions as much as possible. Students who felt uncomfortable speaking in front of others were given the opportunity to begin by sharing one-on-one with students and instructor, with the goal of eventually participating in the whole-group discussions.

Data Collection and Analysis

To capture the use of contribution strategies in whole group class discussions, an undergraduate student not enrolled in the course but acting as a research assistant gathered data during nine class sessions. Data was not gathered in the beginning class sessions to obtain informed consent and provide time to introduce, model, and practice using the contribution strategies. Prior to the beginning of the semester, the research assistant and I discussed and agreed upon a definition for each contribution strategy and I used these definitions when introducing the contribution strategies to the students.

The research assistant attended every class and was responsible for tallying when students used the contribution strategies within whole group discussions. Since a single research assistant would have limited ability to capture all contribution strategy use in small groups, we pragmatically focused only on whole group conversations. At times, students would intentionally identify which contribution strategy they were using (e.g. “I’m going to respectfully disagree.”). More often, the research assistant would determine the contribution strategy based on the student’s points and predetermined definitions. Three course sessions were audio recorded to capture a sample of class discussions. Transcriptions of the audio recorded sessions were used to check for inter-rater reliability and to gather qualitative examples of how students incorporated the contribution strategies and how I supported their use.

To calculate inter-rater reliability the research assistant and I independently listened to a portion of an audio-recorded class session and tallied students’ use of contribution strategies. Krippendorff’s Alpha was utilized to calculate inter-rater reliability as it has many benefits including it can be used for different types of variables, small sample sizes, and for two coders. A Krippendorff’s Alpha of .800 or higher is optimal (Krippendorff, 2004). For this research, a Krippendorff’s Alpha of .954 was determined for inter-rater reliability.

Results

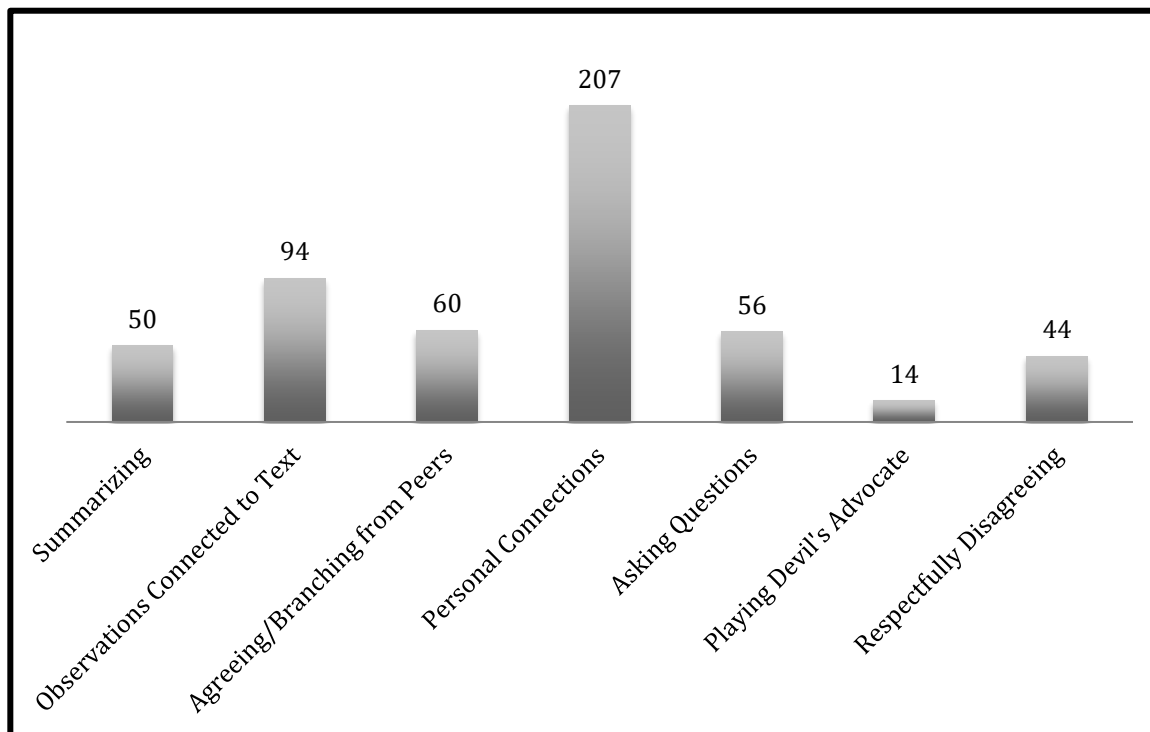
Research Question: How do contribution strategies assist in overall student engagement in the university learning context?

Frequency totals were calculated to examine students' use of each contribution strategy across nine class sessions. (see Figure 1). Based on the frequency totals, students did incorporate the contribution strategies into whole group discussions, although usage fluctuated. Students were most likely to use personal connections, followed by observations connected to course content and/or outside sources, and agreeing or branching from peers. The contribution strategies used least included playing devil's advocate and respectfully disagreeing.

While frequency totals are helpful, examining one of the three audio-recorded class session transcripts highlights how the students incorporated contribution strategies. Activities for this particular class session included brief announcements, a student-led play debate (should there be more play in schools or less), lecture with reflection questions interspersed (e.g. after lecturing for 5 minutes on the dynamic systems theory students were asked to connect this theory to their future role as educators) and an activity where students created skits on topics related to the weekly assigned reading. Qualitative examples from the audio transcriptions reveal how students' use of these contribution strategies further engaged themselves and other students in the learning process. For example, students were asked to create and perform skits related to various social-emotional development skills, one group focused on portraying children doing math problems on the board in front of their peers. Following the skit, another student said:

I am making a personal connection. I hated watching this [skit] because when I was in school I was a really bad reader and the teacher would always try to make me read aloud in class. This would make me feel embarrassed... and the teacher would say you really need to practice your reading skills.

Figure 1: Frequency totals for students' use of each of the seven contribution strategies.



Numbers represent the frequency of specific contribution strategy use across nine classes for all students in the sample. Contribution strategies were adapted from Gioia(1987).

The frequency totals show that students utilized the personal connection strategy far more than any other strategy. The example above shows how a student personally connected with the content, the activity in the class, and her own memories. From this interaction and the contribution of this individual, the entire class was able to see the effect that a specific teaching decision (having children complete math problems on the board or having children read aloud in class) might have on a student years later.

Students used the strategy of branching or building off each other's comments and respectfully disagreeing with content. In the following example, I informed students that the state they live in does not mandate kindergarten. Many students were surprised by this information and the following discussion ensued:

Student 1: How can they expect children to go to first grade without learning the basics? They can't just throw a child [in] and expect them to catch up.

Student 2: Building off what she said, I also believe that kindergarten is important because that is where the foundation is set for learning and understanding and that's the most important for children. No

foundation makes it harder for the students and the teacher.

Student 3: I also believe that it's harder for the teacher as well. These children come in not knowing how to stay in their seats or sit on the carpet.

Student 4: I also think socially that it's important. Without kindergarten, it is harder because these kids come in without learning how to share and meet other kids.

Student 5: I knew [our state] had this educational policy, but what I don't understand is why parents wouldn't want to send their children to school.

Throughout this exchange, I acted as facilitator allowing students to drive the conversation while providing ample wait-time for students to gather their ideas and thoughts. I reinforced certain points or asked prompting questions. For example, a student posed a question but the others did not readily respond. I rephrased the question saying, "Let's think of some reasons why a parent might not send their child to kindergarten." This spurred a conversation where students responded actively (the child might not be ready, lack of transportation, cultural beliefs, or the parents want the child at home). In this brief discussion, the students explored multiple perspectives looking at the role of the family, child, and teacher. They posed questions and expanded on each other's thinking. They covered pertinent content. Perhaps more importantly, they took a critical look at the content presented in class and became engaged with each other and their learning. In these examples, the students were driving the conversation and supporting their ideas and questions using the contribution strategies. The students themselves play the vital role of leader and knowledge provider while I became the facilitator.

The audio transcripts also revealed that in order for students to incorporate the contribution strategies, it was essential that as the instructor I provided room for students to discuss and engage while supporting them. In the example above, there was ample time for students to contribute. However, other portions of the class audio-recording denote that when I began to lecture, students were less likely to contribute. It was not until I asked a prompting question based on my lecture that students incorporated the contribution strategies. For example, during a school readiness lecture, the students did not interject or incorporate contribution strategies. This continued for

approximately 10 minutes. Then I posed a question, “If you are a first-grade teacher what do you do? At this point students began to engage, calling upon the contribution strategies:

Student 1: I was a teacher cadet in high school and worked in a first-grade classroom. Instead of ostracizing the kids who needed more help with reading or math, they split the class in half...each of them focused on different concepts and they made it fun for the students’ learning.

Student 2: I can connect to [student 1’s name]. I was in the same program when I was in high school.

This student went on to talk about her experience with the teacher cadet program and how they worked with struggling learners. From this point, another student shared her experience as a struggling reader and how she felt when “pulled out” for additional instructional support. From here a student said:

Student: I am going to respectfully disagree because when I was in school the reverse happened to me.

This student went on to share her experience as a gifted student. Other students offered their experiences both as struggling and gifted readers. The students discussed how as educators they might better support their future students, both struggling and striving. Overall, they were engaged; they were talking with one another and I was facilitating. The shift in the tone of the class was evident from when I was solely lecturing.

Discussion

My goal behind introducing contribution strategies and asking that students adopt them was to move away from blank stares of students who felt disengaged or disconnected and move toward a learning community where students felt invited and empowered to contribute to their own and others’ learning. According to the frequency totals and qualitative examples, students did incorporate the contribution strategies into class discussions, thus increasing overall student engagement.

When class activities were learner-centered, students incorporated the various contribution strategies. However, students were less likely or less able to incorporate contribution strategies when class sessions were dominated by lecture. This is an important finding for instructors across disciplines. It may not be enough to incorporate

innovative teaching and learning strategies into course design. Students must be provided with space and time to engage and instructors must create the conditions that nurture the use of contribution strategies. Without both student and instructor working together the potential of contribution strategies may not be maximized.

This is an important finding for me personally as I claim to be an instructor who values student contribution. However, if I fail to carve space for such contributions I may hinder my students' ability to actively partake in their learning process. When explicitly introducing, defining, modeling, and promoting student use of contribution strategies, I was more intentional in my teaching. After reflecting on the results, as I plan classes I often ask myself; "Am I providing enough space for the students to use contribution strategies? How can I promote the use of contribution strategies with this activity? Am I allowing enough wait-time for students to engage and contribute?" This reflection in my class preparation and overall teaching has made me a more intentional and interactive instructor. I also learned that I must support my students as they incorporate the contribution strategies. I must continually create linkages between student contributions and course content and goals. Student engagement was important but it must be meaningful. My role in ensuring that student contributions were connected to course content and lead to meaningful learning was key.

Another interesting finding is that students tended to use some strategies more than others. Students were most likely to use personal connections; far more than any other strategy. It is possible that this type of contribution felt most natural as students were drawing on their own personal knowledge and experience. The contribution strategies used less often (devil's advocacy and respectfully disagreeing) required more interpersonal skills or social "risk." Likely, comfort level or understanding of what the strategy entailed bolstered or limited students' use. It would be telling to extend this research with student interviews to examine student perceptions related to the specific contribution strategies. A focus might be to ascertain whether students felt more comfortable with some strategies over others.

At the end of the semester I asked the students to write down one thing they would take with them from the course. Several students wrote:

Student 1: I liked learning from each other rather than having a lecture. Learning from each other is more informative than having an instructor lecture to

the class.

Student 2: This class has helped me to be more confident and share my thoughts, listen to other people's ideas, and contemplate and come up with something new.

Student 3: I really liked how this class was set up. Talking in big groups makes it easier to connect to people and build off each other's ideas. I feel that this class has helped me learn to communicate my ideas and thinking to others.

I did not receive comments from students (either within the end-of-semester reflection or in my semester course evaluations) describing neutral or negative perceptions of the contribution strategies. A future direction of research is to interview students at the end of the semester to examine their thoughts (positive, neutral, and negative) on this particular strategy and how it relates to student engagement.

Limitations and Future Directions

The sample size for this research was small and captured the use of contribution strategies during a single semester and only within whole group conversations. In addition, only three class sessions were audio-recorded and transcribed. Follow-up research with additional audio recording would assist in further qualitative analysis of how students incorporate the contribution strategies and how I as an instructor facilitate the strategy within my course design and teaching. As discussed earlier, student interviews specifically examining how students perceived the contribution strategies would be telling. In addition, the students within this sample were all preparing to become classroom teachers; therefore, while it is important for them to become engaged and active learners it is equally essential for them to pass these learning qualities on to their future students. A future direction of research might be to interview students exposed to the contribution strategy during their teacher preparation course work once they become teachers to see if their use of contribution strategies during their studies influenced their pedagogical choices as classroom teachers.

Conclusion

Keene and Zimmerman (2007) posit that students may feel “utterly ill prepared”

to interact with and discuss in a meaningful way (p. 4). Prior to using the contribution strategies, I noticed that I would often revert to lecturing because students were not engaging, asking questions of one another, and so forth. I incorporated the contribution strategies in an effort to better prepare my students to enter into meaningful and engaged learning experiences where they felt welcomed and prepared. The contribution strategies allowed me to speak about student engagement with the students. I was not simply requiring them to contribute; I was providing a means. The strategies provided a concrete method from which I could model and for the students to utilize when they were uncertain how to enter into meaningful conversations. I noticed that when I modeled a contribution strategy students listened. When I pointed out another student using a contribution strategy, students smiled and referenced one another. At times, students would announce when they were using a contribution strategy. Overall, after incorporating this strategy I found myself intentionally planning for student engagement, and contribution became an expectation for all.

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