Making Your Point: The Impact of Processing Techniques on Classroom Activities

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Abstract

Many teachers would readily acknowledge that their words can have a tremendous impact on students' learning. When activity is used as a teaching tool in the classroom, these words can take the form of "processing," or intentional actions taken by a facilitator [educator] to influence the outcomes of that activity and, as a result, the learning that takes place. Much of the literature about processing is theoretical in nature. Therefore, the purpose of this study was to investigate the impact of two processing techniques (frontloading and debriefing) on activity outcomes. Frontloading (intentionally focusing students' attention to a particular issue or topic prior to an event) and debriefing (facilitating student reflection after an event) techniques were used in different combinations to target divergent outcomes in undergraduate college courses. The results of this study supported the necessity of using structured debriefing for classroom activities and did not support the use of frontloading as a stand-alone processing technique. Implications for classroom instructors are discussed.

Keywords: processing, frontloading, debriefing, experiential education, classroom activities

Many teachers would readily acknowledge that their words can have a tremendous impact on classroom decorum and mood, in addition to affecting students' learning. The level of intentionality behind these words further determines their impact, as demonstrated by the following example. An instructor of an adolescent development class was introducing an activity designed to call his students' attention to the different processes through which adolescents go about solving problems. He was distributing copies of a math word problem, akin to the "two cars leave two different cities at the same time, heading towards each other on the same road..." His intent was to have each student solve the problem on his or her own, and then discuss the different procedures used by the students. As he handed the problem to the students,

he said, "This is a very difficult problem. A number of you may not be able to solve it – so don't feel bad. Just try it, and then we'll discuss the right answer." As one may be able to imagine, the bulk of the students in the class did not even attempt to solve the problem. What the instructor hoped would be a lesson in problem-solving quickly turned into a demonstration of learned helplessness. The instructor disempowered the students through his poorly chosen words, in essence, making it acceptable for them to not even attempt the exercise. Without conscious intent, the instructor dramatically influenced the outcome of the activity with a few sentences of poorly chosen words.

With appropriate and intentional action, classroom activities can be used to target course learning objectives. Instructors can brief and/or debrief these activities to assist the students in connecting the classroom activity with the more generalizable outcomes. In the experiential education literature, these activity briefs and debriefs are thought to assist students in cognitively processing information, thus taking the specific happening within an activity and generalizing them to more abstract principles that can be more readily applied to other contexts and settings (Luckner & Nadler, 1997). These approaches are commonly referred to as "processing" techniques.

Processing is a central component to the practice of experiential education (Luckner & Nadler, 1997; Miles & Priest, 1999; Priest & Gass, 1997; Schoel, Prouty, & Radcliffe, 1988; Smith, Roland, Havens, & Hoyt, 1992). In general, processing consists of intentional actions taken by a facilitator to encourage participants' engagement in and reflection on an experience and the development of general lessons that may transfer from that experience to another, hopefully broader, setting. In this sense, experiential activities are intentionally-structured learning events designed to teach lessons or facilitate outcomes relevant to participants' real lives. Educators who facilitate activity to teach in the classroom can be considered, to some extent, experiential educators. From this perspective, experiential education literature becomes relevant to the classroom and may inform practice. While the nature of the activity is certainly important, many experiential educators would argue that the processing component is the change or learning agent.

Gass (1995) identified six generations of facilitation, with special attention paid to processing the experience. The first generation involves "Letting the Experience Speak for Itself" (p. 2). In this approach, the facilitator does not actively encourage the participants to reflect on their experience in any formal manner, but rather assumes that they will do so on their own and that learning will occur in its own time. The next generation is "Speaking for the Experience" (p.2). This occurs when the facilitator identifies what he or she believes to be the most important learning and then tells the participants what they should have learned from the experience. "Debriefing the Experience" is the third generation and involves the facilitator intentionally guiding the participants through a reflection process after an activity in order to identify what was learned. This can be accomplished through verbal questions,

journaling, drawing, etc. The fourth generation is "Directly Frontloading the Experience" (p. 3). The facilitator engages in a "prebriefing" (p. 3) of the experience – telling participants what they can learn from the experience so that they can become more watchful for the lesson. The fifth generation involves "Framing the Experience" (p. 4), which is, essentially, frontloading the experience through the use of metaphor, making it more subtle than the fourth generation. Finally, the sixth generation is "Indirectly Frontloading the Experience" (p. 5). This approach involves a rather complex set of strategies (used primarily with problematic groups) which seek to bind the group to its outcomes – good or bad. With respect to the frontloading techniques (generations four, five, and six), Gass recommends that debriefing be used in conjunction to reinforce learning (p. 4). In general, the level of skill and experience needed by a facilitator to successfully employ each generation increases with each step – with the sixth generation being almost therapeutic in nature.

The two generations of interest in the present study are direct frontloading (generation four), hereafter referred to as simply "frontloading," and debriefing (generation three). These were chosen, primarily, due to their apparent prevalence in professional practice and their relevance to educational settings. Educational theory may help explain the utility of these practices in the classroom.

Schema theory, which can be linked to the early work of Piaget (1926), may inform the process through which frontloading influences student learning. The basic tenet of this theory is that knowledge is stored in distinct schema, or segments, that are interconnected based on life experiences. When an individual is presented with new content, that information is linked with previous knowledge based on which schema are activated. One way to increase learning, then, is for a teacher to intentionally activate certain schema (Ausubel, 1969). Essentially, this calls students' attention to a logical place to "file" their new learning. Returning to the example at the beginning of the paper, the instructor, albeit unintentionally, activated students' self-concept schema rather their problem-solving schema and, thus, fostered very different learning outcomes than those intended. Frontloading, then, could be capable of influencing student outcomes via schema.

The second processing strategy under investigation, debriefing, involves the critical examination of an event after the fact. In an education context, Dewey (1933) advocates for reflective thought as the "active, persistent, and careful consideration of any belief." More specifically, in a service learning experience (representing a hybrid of experiential and classroom education), Hatcher and Bringle (1997) define reflection as "the intentional consideration of an experience in light of particular learning objectives" (p. 154). Similar to debriefing, reflection is often best achieved through questioning by a teacher (facilitator) to promote thought (Wasserman, 1992). As such, it is reasonable to believe that debriefing could also impact student outcomes.

A problem within the literature on processing is that it is primarily theoretical – there is little, if any, documentation of the existence or relative influence of Gass' (1995) generations. This project seeks to control an educational experience in a classroom setting to the greatest extent possible and then focus on two processing strategies (frontloading and debriefing) in their simplest and independent forms. Therefore, the purpose of this study is to identify the impact of processing techniques on the outcome of a classroom activity.

Methods

Participants were undergraduate students enrolled in three core parks, recreation, and tourism classes at a major university in the west. These classes were chosen as they contained a broad sample of students – representing all of the department's emphasis/option areas and a variety of student interests. All students in the selected courses were invited to participate in the study, but were not rewarded for their participation in any way. Data were collected during the spring of 2005.

The study was a post-test only design, with four conditions: Frontloading toward Outcome 1 (recognizing the value of different jobs in society); Frontloading toward Outcome 2 (respecting diversity); Debriefing toward Outcome 1; and Debriefing toward Outcome 2. For ease of comparison, these processing techniques were operationalized in their simplest terms through the use of a single statement or question, respectively, and were treated independently. The specific outcomes were chosen because they were relevant to the course content and because the experimental manipulation lent itself to these outcomes, as well.

The experimental manipulation consisted of listening to a story. Using a story as an educational classroom activity has been advocated for recreation educators by Pommier (2003) and allowed the researchers to control a variety of potentially confounding variables in the experimental manipulation (e.g., group dynamics). The specific story used was an excerpt from Antoine de Saint Exupery's (1943) The Little Prince:

> Once when I was six years old I saw a magnificent picture in a book, called *True Stories from Nature*, about the primeval forest. It was a picture of a boa constrictor in the act of swallowing an animal. Here is a copy of the drawing.
>
> [*Here, participants were shown an illustration of a snake wrapped, multiple times, around a small, furry animal.*]
>
> In the book it said: "Boa constrictors swallow their prey whole, without chewing it. After that they are not able to move, and they sleep through the six months that they need for digestion."

I pondered deeply, then, over the adventures of the jungle. And after some work with a colored pencil I succeeded in making my first drawing. My Drawing Number One. It looked something like this.

[Here, participants were shown an illustration which resembles a wide and flat brimmed Stetson-type hat with an eye, or dot, on the brim.]

I showed my masterpiece to the grown-ups, and asked them whether the drawing frightened them.

But they answered: "Frighten? Why should any one be frightened by a hat?"

My drawing was not a picture of a hat. It was a picture of a boa constrictor digesting an elephant. But since the grown-ups were not able to understand it, I made another drawing: I drew the inside of a boa constrictor, so that the grown-ups could see it clearly. They always need to have things explained. My Drawing Number Two looked like this.

[Here, participants were shown a transparent version of the previous drawing, clearly revealing an elephant inside a snake, rather that a hat.]

The grown-ups' response, this time, was to advise me to lay aside my drawings of boa constrictors, whether from the inside or the outside, and devote myself instead to geography, history, arithmetic, and grammar. That is why, at the age of six, I gave up what might have been a magnificent career as a painter. I had been disheartened by the failure of my Drawing Number One and my Drawing Number Two. Grown-ups never understand anything by themselves, and it is tiresome for children to be always and forever explaining things to them.

So then I chose another profession, and learned to pilot airplanes. I have flown a little over all parts of the world; and it is true that geography has been very useful to me. At a glance I can distinguish China from Arizona. If one gets lost in the night, such knowledge is valuable.

In the course of this life I have had a great many encounters with a great many people who have been concerned with matters of consequence. I have lived a great deal among grown-ups. I have seen

them intimately, close at hand. And that hasn't much improved my opinion of them.

Whenever I met one of them who seemed to me at all clear-sighted, I tried the experiment of showing him my Drawing Number One, which I have always kept. I would try to find out, so, if this was a person of true understanding. But, whoever it was, he, or she, would always say:

"That is a hat."

Then I would never talk to that person about boa constrictors, or primeval forests, or stars. I would bring myself down to his level. I would talk to him about bridge, and golf, and politics, and neckties. And the grown-up would be greatly pleased to have met such a sensible man.

After reading the consent letter, participants were asked to listen to the story, which was tape recorded using a male voice (to be consistent with the story). The story was replayed in conjunction with overheads of the story's illustrations. This approach was chosen over asking students to read the story on their own in efforts to control as many dimensions of the experience as possible. Attached to the consent letter were a number of pages stapled together in a packet, so that participants could not see the questions they would answer until asked to look at them. The sequence and content of these pages creates each of the four conditions as follows:

Condition 1: Frontloading toward recognizing the value of different jobs in society
Page 1: Consent Letter
Page 2: "Please listen to the following story about recognizing the value of different jobs in society. When the story is over, please turn the page."
Page 3: "What's the point of the story? [SPACE PROVIDED] When you are finished with your answer, please turn the page and tell us a little about yourself."
Page 4: Demographic Survey

Condition 2: Frontloading toward respecting diversity
Page 1: Consent Letter
Page 2: "Please listen to the following story about respecting diversity. When the story is over, please turn the page."
Page 3: "What's the point of the story? [SPACE PROVIDED] When you are finished with your answer, please turn the page and tell us a little about yourself."
Page 4: Demographic Survey

Condition 3: Debriefing toward recognizing the value of different jobs in society

Page 1: Consent Letter

Page 2: "Please listen to the following story. When the story is over, please turn the page."

Page 3: "What's the point of the story? [SPACE PROVIDED] When you are finished with your answer, please turn the page and answer one more question."

Page 4: "What does this story have to do with recognizing the value of different jobs in society? [SPACE PROVIDED] When you are finished with your answer, please turn the page and tell us a little about yourself."

Page 5: Demographic Survey

Condition 4: Debriefing toward respecting diversity

Page 1: Consent Letter

Page 2: "Please listen to the following story. When the story is over, please turn the page."

Page 3: "What's the point of the story? [SPACE PROVIDED] When you are finished with your answer, please turn the page and answer one more question."

Page 4: "What does this story have to do with respecting diversity? [SPACE PROVIDED] When you are finished with your answer, please turn the page and tell us a little about yourself."

Page 5: Demographic Survey

The packets were randomly distributed within the three classes so that each condition was equally represented in each class. After removing the unusable surveys, the following sample was obtained: Condition 1 n=14; Condition 2 n=13; Condition 3 n=15; and Condition 4 n=15. Basic demographics of the sample show that 51% were female and 49% were male with an average of 24.1 years. Due to the relatively small sample size, data were considered in their entirety.

Data were transcribed into Microsoft Word and then manually analyzed by a member of the research team using thematic reduction and enumeration, when appropriate. These analyses were then repeated and verified by a second member of the research team.

Findings

With respect to both of the frontloading conditions (1 and 2), participants' responses were generally unrelated to the targeted outcome. Attempting to focus the participants' attention on either recognizing the value of different jobs in society or respecting diversity was unsuccessful. Instead, the participants' responses, regardless of targeted outcome, focused on the potential pitfalls of "growing up," in general, or the loss of imagination/creativity, specifically – which are, arguably, the most obvious surface-level interpretations of the excerpt:

"The point of the story is the lack of imagination on the part of the grown-ups swallows the imagination of children." (C1)

"The interaction between youth and adults... The unwilling force that pushes us to fall in line to adulthood. It brings confusion and misunderstanding and misconception." (C1)

"Some people (grown ups) don't take the time to explore what's been put before them and decide what is important is what they have been taught in the past – continuing a cycle." (C2)

"To show that much of the population lacks the ability to think "outside the box" or had lost his/her sense of creativity." (C2)

For the debriefing conditions (3 and 4), participants were first asked to simply identify the point of the story. This was designed to act as a control-type question to determine their interpretations without any direction or guidance – similar to Kolb's (1984) reflective observation stage. As may be expected, participants' responses focused, again, on the most readily observable interpretation of the story:

"We are gradually robbed of our creativity and imaginations through conformity and specific expectations. We have lost the ability to see anything out of the ordinary or anything abstract." (C3)

"Helping adults realize our potentially negative impact of children's growth and development." (C3)

"To show how imagination and dreams seem to disappear when one grows up and how often adults' lack of childish fantasies or imagination can shatter a child's dream or discourage them from getting the most fun possible out of their childhood. Shame on boring adults!" (C4)

The next stage of the debriefing conditions asked participants to identify the relationship between the story and specific target outcomes: recognizing the value of different jobs in society (C3) and respecting diversity (C4). For the first time in this study, with specific direction, participants can link the activity to the targeted outcomes. With respect to relating the story to recognizing the value of different jobs in society (C3):

"There is a different job for everyone. You just have to find your passion and follow it."

"Many people place value on elite jobs and having an elite career means one is accomplished and successful. Why don't we look

deeper for something more meaningful with potential for happiness?"

"It lets you understand that, whatever your job choice is, they're all important. It just depends on what people are interested in."

Similarly, in Condition 4, participants were asked to relate the story to respecting diversity. With this increased structure, participants were, again, able to abstract the meaning of the story:

"That you should always respect someone's vision, interpretation, opinion – even if it's not your own."

"It shows how we have to respect everyone's opinions and beliefs and diversity no matter what."

"If we become accustomed to seeing things in only one way, we miss out on the potential enlightenment that comes from a diverse viewpoint."

In each of the two above conditions, it is clear that participants had the ability to link the activity to the targeted outcome, regardless of which one. It is also interesting to note that participants no longer make direct reference to the story or its events. The concepts are discussed in more general terms – similar to what one would expect according to Kolb's experiential learning cycle (1984). Participants seem to be in the stage of abstract conceptualization. Or, in the case of respecting diversity as an outcome, it is also possible that the responses are simply rote comments that the students provide whenever they are asked about the value of diversity.

Follow-Up Study

At this point, the research team became curious about two additional questions. First, what would happen to the nature of participants' responses if they were not asked the general question about the point of the story and proceeded, instead, directly to focused debriefing (Condition 5)? Second, what would happen to the nature of participants' responses if frontloading and focused debriefing were combined (Condition 6), as advocated by Gass (1995)? A follow-up study was conducted to investigate these two questions. Only the outcome of respect for diversity was used since it had already been established that the same story could achieve either of the two outcomes. Data were collected in summer of 2005 from a class in Exercise and Sport Science. This sample was chosen due to some level of commonality with the original sample, but also to see if the original data were idiosyncratic of parks, recreation, and tourism students. Packets were, again, randomly distributed within the class so that both conditions were equally represented. After removing the unusable

surveys, the following sample was obtained: Condition 5 n=18 and Condition 6 n=18. This sample was 51% male with an average of 24.6 years.

Data were transcribed into Microsoft Word and then manually analyzed by a member of the research team using thematic reduction. These analyses were then repeated and verified by a second member of the research team.

In Condition 5, participants listened to the story and were then asked to identify what the story had to do with respecting diversity (omitting the general point of the story question from Condition 4). As before, participants' responses indicated their ability to relate the activity to the targeted outcome of respecting diversity:

> "Not everyone will grow up to be the 'sensible man.' Everyone has different interests. But the 'sensible man' doesn't understand diversity. The diversity must bring themselves [sic] down to his level."

> "The little boy wanted to have his drawings accepted by those who are older than him. I guess if people don't feel accepted for their talents or character they will try to change to someone who is more 'understandable' or majority."

> "Respecting people with different ideas or perspectives. But the narrator didn't have much respect for people that didn't have his same outlook – he had to stoop 'down' to their level to get along with them."

> "The drawing is a representation of the speaker's view of the snake. For others, it is viewed as a hat. Diversity is represented due to how others perceive things."

Note that, in this condition, participants made reference to the story itself in order to explain their answers, even providing direct quotations from the story.

With respect to the final question, Condition 6 combines frontloading and debriefing. Participants were instructed to listen to the story about respect for diversity. Then, after the story, they were asked to relate the story to respecting diversity. The participants were readily able to link the story to the targeted outcome:

> "It has to do with seeing things from other people's points of views. To the child, the picture made perfect sense. To the adults, they couldn't see past the idea of it being a hat."

> "Respecting diversity goes beyond seeing people as color or ethnicity but respecting different ideas or methodologies. Children often see without blinders and should serve as inspiration."

"Respecting diversity or difference. It has to do with how we each see the world – with what set of eyes, so to speak. To respect another's point of view. But this man seems to give up before he really explained his view. This is sad."

As with Condition 5, the relationship is often explained though direct examples from the story. The only difference between the responses from Conditions 5 and 6 is the slightly increased use of the verbatim term "respecting diversity" in Condition 6 (four occurrences vs. one occurrence). This may be due to a "parroting" effect as a result of greater exposure to the term in a short period of time.

Discussion and Implications

The purpose of this study was to identify the impact of two processing techniques (frontloading and debriefing) on the outcomes of an experiential education activity. Based on the results of this study, frontloading alone was not effective with respect to facilitating participants' ability to relate the activity to the targeted outcomes. This may be true for several reasons. First, frontloading was conducted through the use of a single sentence, which may not be a sufficient stimulus to activate students' schema. It may be necessary to provide more of a rationale in order to "hook" participants' attention. Second, frontloading may be ineffective with novel, engrossing activities. In essence, the recency of the interesting experience may override the primacy of the frontloading. Third, it may be that frontloading is less effective when the activity bears a reasonably self-evident point on its own, as with the story used in this study. It may be cognitively dissonant for participants to believe the story is about recognizing the value of different jobs in society or respecting diversity when it is so apparently obviously about distinctions between children and grown-ups. The troubling part of these reasons, however, lies in the fact that most classroom activities are novel and engrossing – simply as they stand in contrast to more rote, didactic learning. Further, due to the differences in individual learning styles, group dynamics, and any number of other factors, it is highly likely that an experiential activity may go a very different "direction" than that announced or intended by the facilitator. As such, frontloading, as a stand-alone processing strategy, is not supported by this study, which is consistent with Gass (1995).

As a processing strategy, focused debriefing was largely successful with respect to facilitating students' ability to relate an activity to targeted outcomes – regardless of the target outcome. In fact, in this study, the same activity led successfully to two distinct outcomes. When asked to relate the story to recognizing the value of job in society or respecting diversity, students could readily accomplish the task. However, using only focused debriefing, students seemed to rely on their immediate experience with the story to explain their answers – rather than abstracting a general lesson from the story to stand by itself. Further, it seems that students could be encouraged to

"parrot" responses by being exposed to both frontloading and debriefing, indicating that this repetition may be beneficial for memorization and recognition of concepts.

Arguably, the "highest order" responses in this study were obtained by asking a general reflection question ("What's the point of the story?") prior to focused debriefing ("What does this story have to do with...?"). This process seemed to allow students to "dump" the specific details of the story and, perhaps, clear their heads for the general principles contained within the story. It is these free-standing, general principles that are, arguably, more ready for transfer to other settings as they do not require the details of the activity for context.

With respect to facilitating transfer and usability of knowledge, Kolb (1984) presents an experiential learning cycle that can serve as a framework for structuring learning activities. It begins with a concrete experience – in this case, a classroom exercise – in which the students are actively engaged. Concrete experience could take the form of a film, a reading, a role-play, a simulation, or any multitude of other options. Then, participants engage in observation and reflection about the experience. In this phase, they describe the experience and its objective qualities – evidenced here by describing the most obvious interpretation in response to the question, "What's the point of the story?" The next stage involves forming abstract concepts, or extrapolating from the experience to more generalizable principles. In this study, this process was facilitated by asking students, "What does this story have to do with recognizing the value of different jobs in society/respecting diversity?" Finally, learners have the opportunity to test their concepts in new situations, which represents transfer. Ideally, facilitating students' progress through such a cycle should make transfer more obvious and successful, as the principles are not grounded in a specific experience any longer.
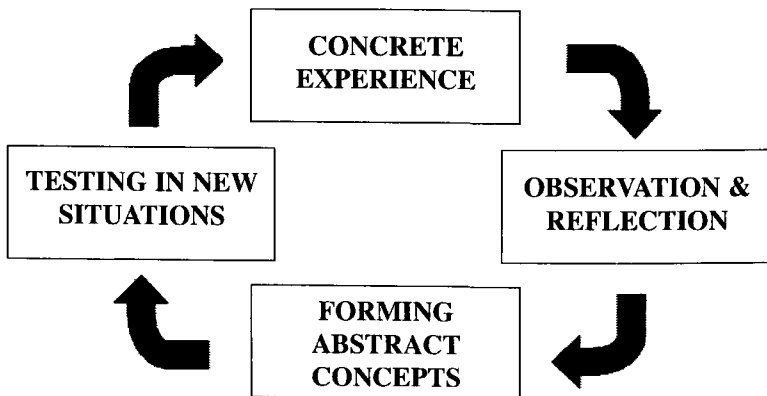

Figure 1. Kolb's (1984) Experiential Learning Cycle

Despite remaining questions regarding the specific mechanisms of more abstract learning, this study does support the need for a targeted educational outcome and an intentional way to guide the students to this target. It should not be assumed that inherently engaging classroom activities lead to intended learning outcome. Furthermore, only briefing or frontloading activities or other course assignments (e.g., homework), especially with any subtlety, may be a less effective way to guide students to desired learning objectives. Some type of post-activity discussion or debriefing seems to be necessary to fully realize the educational potential of educational activities.

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