

Teaching and Educational Commentary

Reflecting on Using Reflection Exercises to Improve Student Learning and Teaching Effectiveness

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Abstract

In this commentary, I reflect on employing reflection exercises to improve student learning and teaching effectiveness. The theory of reflective learning and the importance of engaging in reflection after active and experiential learning are discussed. I present an overview of the reflection exercises that I employ, which are based on the Respond, Summarize, Vocabulary, Pose a New Question (RSVP) method and Gibbs' reflective cycle. Reflection assignments allow students to document their learning experience while also providing feedback used to make improvements to the course in real time. The summaries and questions posed by students assist with the identification of topics and concepts that need to be reviewed and remediated. Employing these exercises have increased students' class attendance, engagement, immediacy, and average course grades as well as my rapport with students and scores on my formal end-of-term course evaluations. Students' suggestions have led to the deletion of old assignments, creation of new assignments and reorganization of the course material, improving course effectiveness. Students indicate benefiting from engaging in the reflection exercises by feeling more connected to the course material. Students also demonstrate a deeper understanding of the course material.

1 Introduction

For nearly a decade, I struggled to achieve the same outstanding course evaluations for Advanced Agribusiness Management that seemed to come so easily for the other courses that I taught. No matter what I tried, the scores on these course evaluations consistently fell below my scores for other courses by almost 1 point on a 5-point scale. This changed when I started employing a series of reflection exercises.

Advance Agribusiness Management is a required capstone course for the Food and Agribusiness Marketing and Management specialization within Food and Resource Economics (FRE). Seniors enrolled in the course actively co-manage a company in teams of 3–5 through a semester-long online simulation. While the course focuses heavily on the application of financial concepts, the simulation requires students to also utilize skills learned in several prior courses including marketing and management. Students apply these concepts to complete a series of assignments and assessments based on the simulation. These include weekly assignments in which students must justify the decisions they made and two presentations to the Board of Directors (BOD), consisting of the teaching assistant, other FRE faculty members, and me. The BOD presentations are essentially oral exams in which students are asked to defend their managerial decisions in the simulation using their knowledge of finance, marketing, and management. Students also complete three individual case study assignments that help them develop a better understanding of the key concepts taught in the course before applying them to the simulation. The course consists of lectures and numerous hands-on, active-learning, and peer-teaching exercises such as in-class games and group assignments. The course is designed to engage students in active and experiential learning to encourage creative and critical thinking and the development of advanced

financial management skills through application. Ultimately, the goal is for students to develop skills that they will utilize in their chosen careers.

In Fall 2020, after seeing a presentation at the College of Agriculture and Life Sciences (CALS) Teaching Enhancement Symposium on reflection exercises (Emmanuel 2020), I decided to give it a try. Honestly, at the time, the decision to experiment with a reflection exercise was not motivated by the desire to improve my teaching but to simply get through the semester. I was expecting my second child due in mid-December, and I had what proved to be an accurate premonition that I would not make it to the end of the semester. Thus, I assigned a reflection video exercise to replace the typical second set of BOD presentations, knowing that I could easily watch the videos while caring for a newborn. What I did not anticipate was the insightfulness of the feedback that I received from students.

I now require students in all of the courses that I teach to complete weekly reflection journals based on Gibbs' (1988) reflective cycle and the Respond, Summarize, Vocabulary, Pose a New Question (RSVP) method (Emmanuel 2020). These assignments allow students to document their learning experience and self-assess their progress while also providing feedback, which I employ to make improvements to the course in real time. In addition to the weekly journals, I require students in Advance Agribusiness Management to submit a reflection video at the end of the semester. These videos are more holistic assessments of students' impressions of the course and suggestions for improvement. The suggestions contained in these videos are generally much more detailed and actionable than what is typically found in standard course evaluations.

2 Theory of Reflective Learning

The journal exercises are based on the theory of reflective learning. While there are many different models of reflective learning, Boud's triangular representation (Figure 1) is perhaps the simplest (OpenLearn; Boud, Keogh, and Walker 1985). In this model, engaging in reflection after engaging in experiential learning leads to further learning. It is similar to Kolb's (1984) learning cycle that involves four stages: concrete learning, reflective observation, abstract conceptualization, and active experimentation. In both of these models, reflection after experiential learning helps to solidify knowledge and leads to additional learning. Over time, these models have been extended to provide more detail. For example, Gibbs' (1988) more complex reflective cycle is presented in Figure 2.

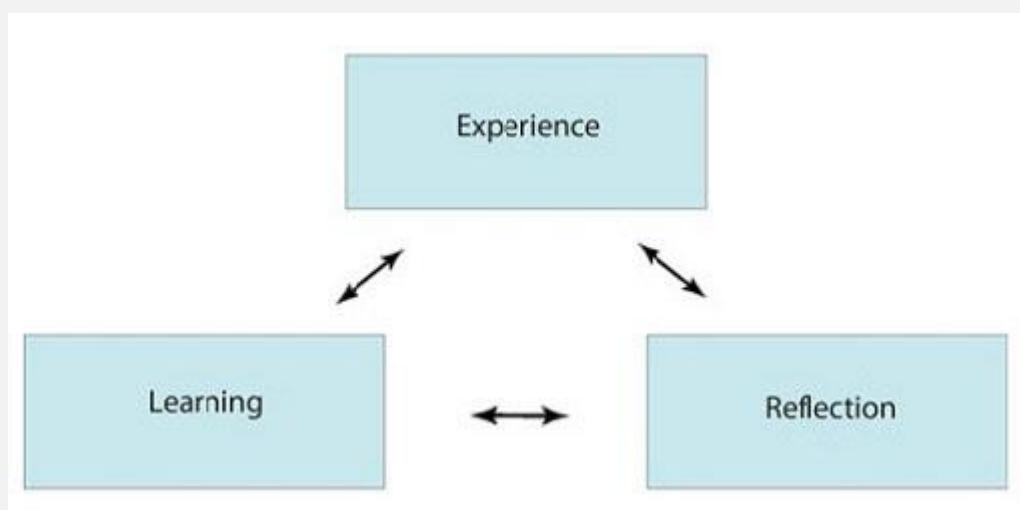


Figure 1: Boud's Triangle.

Source: OpenLearn, n.d.



Figure 2: Gibbs' Model.

Source: Gibbs 1988; Mohd Harithuddin 2021

A variety of strategies can be employed to encourage reflection. These include written or oral form and group or individual exercises. Clemson University (n.d.) and the University of Tennessee Knoxville (n.d.) provide excellent summaries of various reflection activities. Eyler, Giles, and Schmiede (1996) outline four core principles that effective reflection strategies share, known as the four Cs: continuous, connected, challenging, and contextualized. Continuous indicates that reflection must be woven into the entire course for it to be effective; it cannot be a one-off activity. Connected requires that the reflection process must enable students to make connections between their academic learning and experiential learning. Challenging indicates the reflection process must prompt students to reflect more deeply and even question their pre-existing knowledge and assumptions. Contextualized ensures that the reflections are relevant and meaningful to the students' experiences. Eyler and Giles (1999) add coaching as a fifth C to emphasize the importance of instructor feedback and guidance throughout the reflection process.

Effective reflection also employs the four Fs: facts, feelings, findings, and future (Greenaway n.d.). Facts provide an objective account of what happened, while feelings summarize the emotional reaction. Findings summarize the concrete learning from the situation, and future encourages reflection on how the knowledge gained can be employed in future situations. Elements of all four Fs can be observed in the Gibbs' reflective cycle (Figure 2); hence, it is the basis for the reflection exercises that I employ.

3 Reflection Exercises

Each week students are asked to take a few minutes to reflect on what they have learned using the RSVP process developed by Meghan Kahn at Indiana University and modified by Amber Emanuel at the

University of Florida (Emanuel 2020). Students are asked to reflect on each activity, assignment, and lecture. Figure 2 is included in the assignment instructions, and I ask students to consider the questions as they prepare their weekly journal entries in the RSVP format. Specifically, students are asked to:

1. Respond: What was your reaction to the information presented? What did you learn/what was new? What was hard to understand? What part(s) of the assignment frustrated you?
2. Summarize: Summarize in *your own words* the key concept(s). Your summary should be several sentences long and provide an overview of the key points and main takeaways, and how these concepts are linked to prior course concepts.
3. Vocabulary: Write out and define one word that was new to you.
4. Pose a New Question: Write one question that you have that needs further clarification or a follow-up to something you learned or want to know more about.

Students submit their journal entries each week via the course management website (Canvas). The journal entries are graded based on completeness and thoroughness in following the RSVP format for each lecture and activity.

As a final course assessment, students must submit a video (no more than 10 minutes in length) in which they discuss their big ah-ha moments in the course. Students are also asked to discuss how the key concepts fit together, how these concepts are employed in financial management, and how they plan to use the skills they developed in the course in their intended career. Students are instructed to discuss specific course activities and explain how these activities helped them learn the concepts. Students are asked to discuss the barriers to the learning process that they encountered and what they would do differently if they had to do it over. In addition, students are asked to discuss what I could have done differently to improve the learning experience and suggest improvements for future iterations of the course.

4 Reflecting on Reflection

Since implementing these reflection exercises, I have observed several benefits to the activities, including improved student engagement and end-of-term course evaluation scores. First and foremost, the summaries and questions posed by students in the journal entries allow me to identify topics that need to be reviewed and remediated. Each week, I read the journal entries prior to preparing the week's lecture material and assignments. I do my best to address each question either individually using the grading comment function in Canvas or by discussing it in class. Hearing other students' questions encourages students to ask more thoughtful questions and encourages them to provide a more honest assessment of their understanding of the material in the Respond section of the assignment.

Furthermore, responding to individual students' questions helps to build rapport with the students and immediacy. As a result, attendance and engagement has increased (and it is certainly more fun to teach when the students are engaged). I have had students apologize for their poor performance on assignments, taking responsibility for not allocating the appropriate amount of time to completing them. Prior to implementing the reflection journals, students would often complain about the amount of work required; by reflecting on each assignment, students now understand how each assignment contributes to their learning and links with the course material. Prior to implementing the reflection exercises, the average course grade was a B-, now the average grade is a high B+. Because of the rapport developed through the journals, students feel more comfortable stating criticism and offering suggestions for improvement. When feasible, I try to implement students' suggestions within the current

semester. This helps to maintain student engagement with the process. In addition, the rapport that I develop through the journals makes students feel more comfortable sharing their own challenges. I have connected students with mental health, victim advocacy, domestic violence, and addiction services because of what they shared in their journals.

Implementing students' suggestions have made the course more effective. Students' suggestions have led to the deletion of old assignments, creation of new assignments, and reorganization of the course material. I tailor the pacing of the course and depth of material based on students' feedback and interests each semester. Customizing the course to the students' needs further promotes engagement.

In addition to improving the course and my teaching, students also indicate benefiting from engaging in the reflection exercises. Students indicate feeling more connected to the course material by being "forced to review it each week." Prior students have also found their journals to be a helpful study tool. Thus, I now encourage students to compile all journal entries in one word document that can easily be searched when studying. The answers that students provide during the BOD presentation confirm that students have a deeper understanding of the material. In the reflection videos at the end of the semester, students often comment on how preparing the video helped them appreciate how much they learned in the course. They frequently indicate feeling "proud" and "accomplished." They provide clear examples of how they intend to use the material in their intended careers and hence the students view the course as more valuable. Students often indicate that they highlight course activities in job interviews, and most students graduate with jobs.

While there are many benefits of implementing these reflection exercises, there can be some challenges as well. It often takes several weeks for students to fully engage with the process. At the beginning of each semester, students often feel writing the journal entries is "busy work" as they do not yet appreciate the value. In addition, thoroughly responding to each student's question individually is time consuming. It takes me about 2–5 minutes per entry to read and respond. As the students' questions become more complex over the course of the semester, the time required to respond increases. While a teaching assistant may be able to assist in larger classes, they may not have the knowledge to understand nuances in students' summaries or to respond to more complex questions. Artificial intelligence programs could be employed to assist as well, particularly as natural language processing and large language models continue to improve. But ultimately, other reflection activities may be more suitable for large classes. I have also found that graduate students tend to write rather lengthy summaries; as a result, I now put a 100-word cap on the summary section. In spite of these challenges, in my opinion, the upside of employing reflection exercises clearly outweighs the downside.

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