

Reflection on the Road: How Recent First Year Students Exhibit Reflection During a Short-Term Study Abroad Experience

Abstract

Study abroad experiences augment college and university curricula and expose students to an international setting with lectures, tours, and cultural activities. These studies raise awareness of professional, social and cultural differences among countries. Students recognize global challenges to the engineering profession when they discover that another country faces similar technical, social, cultural and resource-limiting challenges. They also learn that solutions to similar challenges in the U.S. may, or may not, be suitable in another country. Reflection is one way for students to derive meaning from their experiences. This leads to our research question: how did first year students exhibit reflection during a two-week study abroad experience?

Our institution offers a second semester international studies course to first year engineering students, followed by a two-week early summer trip abroad. Students keep a travel journal describing their activities, thoughts, and impressions. They are prompted to record new information, interesting or exciting experiences, uncomfortable or confusing situations, and key cultural differences found during their international travels. These journals are an instrument to facilitate the formation of meaning through reflection about events, observations and impressions, and their comparison to prior experiences and beliefs.

In our four-stage model, beginning with non-reflective description, reflection emerged through links to prior experience, extended to beliefs with self-questioning, and culminated in the validation of alternative views with possible transformation of beliefs. However, improvement in reflection was sporadic, since the nature of particular events and the students' states of mind influenced their depth of reflection, as well as their surroundings and daily schedules. Therefore, researchers need to evaluate what the student expresses through direct or indirect evidence involving feelings as well as logic.

After all of the reflective journal excerpts were labeled by stage, according to our model, this distribution of stages emerged: early attempt at meaning in 28% of the entries, reflection in 52% and transformative reflection in 20%. Progression from the lower to the higher stages was not continuous or uniform, but highly dependent on the subject matter for the reflection, as well as the student's willingness to practice reflective thinking at the time of each journal entry. In addition, prompts for specific topics or forms of learning sometimes elicited deeper reflection, but did not do so exclusively.

Introduction

Study abroad programs expose students to an international setting with lectures, tours, and cultural activities. These programs raise awareness of professional, social and cultural differences among countries. Students recognize global challenges to the engineering profession when they discover that another country faces similar technical, social, cultural and resource-

limiting problems as their own. They also learn that solutions to similar challenges in the U.S. may, or may not, be suitable in another country.

Our research-based institution in the southeastern United States offers a three-credit international studies course to first year engineering students, followed by a two-week early summer trip abroad. The course contains learning objectives in cultural awareness, global aspects of the engineering profession, the impact of politics, technology, society, education and the environment on engineering practice in various countries, and the importance of cultural differences in the practice of engineering.

Students keep a travel journal describing their activities, thoughts, and impressions during their trip. They were prompted to record new information, interesting or exciting experiences, uncomfortable or confusing situations, and key cultural differences. These journals were an instrument to facilitate the formation of meaning through reflection about events, observations and impressions, and their comparison to prior experiences and beliefs.

Reflection provides the meaning behind the experience, which leads to our research question:

- How did recent first year students exhibit reflection during a two-week study abroad experience?

Background and Theoretical Framework

A study abroad experience, even one as short as two weeks, exposes students to different environments, cultures and other phenomena, which may or may not be easily understood or accepted. Reflection is a form of mental processing, according to Moon [1], which can be directed at a specific outcome, such as building knowledge of a different culture in order to respond with intercultural competency [2]. Participants also develop meaning by comparing their new experiences to prior ones, and recognize that other ways of life are no less worthwhile than their own. This last realization arises from reflection, according to Kember, McKay, Sinclair and Wong, who considered reflection as a re-examination of beliefs [3].

Moon proposed a framework for reflection consisting of four stages, from descriptive to highly reflective writing, where the final stage involves detachment of the participant from the event in order to view it more objectively [1]. Reflection becomes a mental separation from the setting itself, with self-questioning and metacognition [1]. This progression can be facilitated by re-visiting an event several times and recording new reflections each time, which is what our travel journal prompts were intended to promote [1].

Leung and Kember also proposed a four-stage model, beginning with non-reflective description, followed by a search for external meaning, synthesis with prior knowledge and experiences, and finally to reflection resulting in a change in perspectives or beliefs [4]. Unlike Moon, Leung and Kember proposed that their model could be used for not only writing, but for online discussions. These authors also agree with Biggs [4]-[5] that reflection facilitates “deep” as opposed to “surface” learning.

Research Methods

Our study involved a random sampling of travel journal assignment submittals by students in study-abroad experiences in five geographic areas on four continents. As a qualitative study, it used directed content analysis in the form of the assignment of specific stages of reflection, as described below under Data Analysis. We used stages of reflection as pre-determined codes to validate this study and extend its applicability [6]. This method might be considered restrictive, but it allows for the later addition of codes that may be more compatible with the data than the original ones [6]. Another label for this method is deductive content analysis, which allowed us to operationalize our approach in order to test our model for stages of reflection [7].

Study Context

Students were required to write a daily travel journal which was worth 20% of their grade for the course. In addition to self-generated narrative descriptions and associated reflections, students were prompted to reflect about the following:

1. On the first day: set at least one goal for each of the following: learning, professional development, and cultural engagement. Return to these goals every four days to track your progress.
2. After a few days: What have you learned so far in the program? What can you do better with respect to seeking out learning opportunities? Think about how you can point to specific activities or observations on the trip as examples of learning that you could use in a future job interview.
3. Halfway point: Describe a time when you felt a bit uncomfortable with the travel, being in a new environment, or with your peers. How did you deal with the situation? What did you learn from this experience? How might you apply what you learned to your future?
4. Later in the trip: What differences have you seen with respect to engineering, culture, business and technology between the cities you've visited and the U.S.? How might these differences influence what you think about other countries and cultures in the future?
5. Next to last day: Tell stories about two people, not affiliated with the trip, whom you encountered during your travels, especially about their lives and experiences. What makes each story especially meaningful to you?
6. Last day: Pretend that you are in an interview for an internship and respond to these questions: What new knowledge or skills did you learn or build upon while you were abroad? How can your experience be of value to my company/organization?

Participants

The participants were first year engineering students who had completed a three-credit course entitled Global Engineering Practices prior to their international trip. Approximately two thirds of the participants were male, and one third were female.

Data Collection

Travel journals had been submitted as course assignments, then made available to our research team according to Institutional Review Board requirements. Three randomly-selected sample

journals were collected from each of five “tracks”: South Africa, United Kingdom and Ireland, Ecuador, Peru and Chile, New Zealand and China. Each journal was made available in unedited, handwritten or typed form, from which 3-20 excerpts were compiled exhibiting reflection. These excerpts contained just enough description to provide context, but passages of descriptive text without reflection were not included in the data set.

Data Analysis

Using the theoretical frameworks and stage models of both Kember and Moon, we constructed our own four-stage model described as follows:

- **Description:** Narrative description, often chronological, with no exploration or interpretation of thought. Overall message is not focused on specific issues.
- **Early Attempts to Find Meaning:** Provides hints at reflection by identifying specific points or issues, but does not explore them through comparisons with own experience or potential application.
- **Reflection:** Student names specific points or issues and writes reflective comments by relating what they learned to personal experience, external ideas, motives for behavior, or theories of behavior. Description may include self-questioning, criticism of others, and/or differences or conflicts due to frame of reference or context.
- **Transformative Reflection:** Description exhibits an external view of the event, describes alternative contexts, validates the views of others, shows how learning from the experience influences the formation of judgements and expands not only one's knowledge, but the dynamic nature of knowledge and beliefs.

This original model was designed to be compatible with the depth of reflection expected in the travel journals, by incorporating the highlights of the Kember and Moon models without a high level of detail. In addition, this model is also compatible with students' impressions of a study abroad experience, as reported by Streitheiser and Light [2].

The data were then categorized as to which stage of reflection was exhibited, keeping in mind that not only could more than one level be present in each participant's collection of entries, but that reflective behavior could be random rather than consistent, with the impressions of certain events prompting a deeper level of reflection than others.

Limitations to This Study

The relatively small data set is a limitation to the generalizability of this study, as nearly 170 journals were made available to the research team. However, we can verify this study through prolonged engagement with participants' reflective responses, as well as clarify our own researcher bias in interpreting responses [8]. All publications will be subject to peer review, which further mitigates the effect of researcher bias.

Results and Discussion

After all of the reflective journal entries were labeled by stage, according to our model, this distribution of stages emerged:

Early attempt at meaning: 28%

Example entry: I want to learn the ins and outs of fitting in and adapting to a culture.

Reflection: 52%

Example: During the trip, I often found myself asking why people felt a certain way and why situations occur. I try to put myself in their place and look at the situation from their perspective to gain a deeper understanding of their mindset.

Transformative reflection: 20%

Example: While abroad, I learned that one cannot depend on stereotypes to get them through a situation. One must be fully immersed in a culture and really understand the history before jumping to conclusions.

The number of reflections per journal varied from 3 to 44, and all journals contained a large amount of narrative description without reflection. However, the presence of previously unknown phenomena and experiences caused many of the students to think deeply about them, comparing similarities and differences, and questioning their own beliefs and biases, at least some of the time. This could be explained by Streitwieser and Light as an “ethnorelative” position whereby the student embraces difference rather than disregards it [2].

Improvement in reflection was sporadic, since the nature of particular events and the student’s state of mind influenced their depth of reflection, as well as the details of the daily schedules. Moreover, prior studies with first year students and reflective journal writing have revealed that reflection is often embedded within a largely narrative context. Therefore, it is necessary to evaluate what the student expresses through direct or indirect evidence involving feelings as well as logic.

Conclusions and Recommendations

We have discovered how first year students in a two-week study abroad experience exhibited reflection through their travel journals. A slim majority incorporated highly meaningful reflections containing references to previous experiences and recognition of alternative views and lifestyles. Certain members of this majority also mentioned habits of learning which they may have already practiced, or not, in response to the reflective prompts. The reflective prompts for the 2019 trips were rewritten to be ask more specific questions, intended to encourage higher stages of reflection than those in 2018, leading to greater self-questioning and examination of beliefs and assumptions about both prior and new knowledge, both of which enable learning.

In future studies, we will expand our data set with additional journals from the same or a similar trip, focusing on specific events or interactions that encouraged deeper or transformative reflection. This larger data set will also assist in validating our four-stage model, or indicate that another model may be more applicable. Our ultimate research goal is to promote reflection as a continuing habit to improve metacognition, which will help our students to learn more effectively and sustainably. After all, an engineer’s skill set is only as useful as what they can remember to use when it is needed.

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