

Documenting student engagement using an intention/reflection exercise during an advanced pharmacy practice experience

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*The article shares the outcomes of a practice called Intention/Reflection (I/R) when applied to a group of ten students in a five-week course involving an international advanced pharmacy practice experience. Developed by the authors and founded on a combination of theoretical principles, this practice is unique because of the blend of formative and summative activities. I/R activities account for learning goals established by the instructor but also promote the mindful creation of a student's own personal set of learning outcomes. In this practice, prior to any learning experience (which could be as long as a semester or as short as a single class session), students respond to questions that help them identify their individual learning goals and how this knowledge gain will help them. A similar set of questions *at the end* of the experience is meant to help the student understand the effect of the experience, and connect the students' intention with their learning outcomes. The results show two benefits from the learning process. First the students are able to monitor their own learning and track what they want to learn as well as how they learned it. Second, the practice appears to help students identify new distinct personal learning outcomes and a way to achieve them.*

Keywords: international education experiences; intention; reflection; transformation; student perspectives

INTRODUCTION

Reflective writing exercises (RWE) are a valuable tool for faculty involved in an international education course, and have been used in this capacity for many years (Mann, Gordon, & MacLeod, 2009). During an international travel experience, students may undergo both an educational and cultural transformation, which can be difficult to entirely absorb (Hawkins, 2012; Lenz & Wister, 2008). The use of specific questions in the reflection process captures important information, which can help guide students' experiences and enhance their overall educational outcomes. As noted below, a variety of education theories suggest that learning is most effective when the student has a personal and meaningful connection to the material. Also important in the learning process, especially in a travel experience in which the student must navigate language, culture, expectations, etc., is an examination of the experience designed to identify specific knowledge gains. With this in mind, the authors developed an educational practice called Intention/Reflection (I/R), primarily designed to build upon existing learning by allowing the student to identify his/her unique learning desires and results.

This qualitative research study focused on the following question: Can an I/R exercise effectively facilitate a transformation in student learning during an international Advanced Pharmacy Practice Experience (APPE)? The article will outline the I/R process, and share the results of students who have consistently documented their experiences using a pre-, mid-, and post-travel exercise.

This paper is not meant to offer an in-depth critical examination, or promote international travel and study abroad experiences. The purpose of this article is to provide an outline of the I/R practice when applied to an international travel experience. A review of existing literature related to international travel is important, however, because this data coincides with the development of the questions used in the I/R practice.

INTERNATIONAL STUDENT EXPERIENCES

The importance of studying the overall educational outcomes involved in international travel experiences continues to rise given the increasing number of students engaging in these types of learning activities (Institute of International Education [IEE], 2008). As the IEE highlights, while the number of students engaging in longer term (one or two quarters) international travel experiences are in slight decline, the number using short-term programs of eight weeks or less are rapidly increasing (59%).

Students' immersion into a new country—with values, customs, traditions, etc. that differ from their own—presents them with unique challenges (Lenz & Wister, 2008). Some researchers have suggested that, instead of expanding their critical thinking skills, these challenges may actually cause students to reduce their ability to assimilate new experiences and focus more on practical needs (Adler, 1975; Ward, Bochner & Furnham, 2001). As a result, the overall benefits of an international travel experience can be reduced for students (Hawkins, 2012; Ingraham & Peterson, 2004; Lenz & Wister, 2008).

The international experience creates an immersion into a culture unlike any other. It is through these experiences that a deeper understanding of diversity can take place. Ingraham and Peterson (2004) shared the overall positive effects on the international experience for students: “All of the reports reflect the belief by both faculty and students that they . . . learn more and more deeply while studying abroad” (p. 93) through an overall increase of personal growth and intercultural awareness.

There are several types of learning experiences that can take place during an international class. Braskamp, Braskamp, and Merrill (2009) focused on evaluating three domains for global learning in students: cognitive, intrapersonal and interpersonal domains. The focus on these three domains is important “since the research evidence supports the generalization that students with education abroad experiences are more apt to become more global in their perspective in the intellectual domain than they are in the other two domains which are non-cognitive” (p. 111). Students are able to experience travel first hand and compare and contrast similarities and differences that may exist culturally from the international perspective. This is exceptionally important to note for those students who are travelling with a health-specific perspective, since culture, policy, and health environments may be factors of patient care. In an international experience regarding nursing, Hawkins (2012) states: “The international learning experience provides a unique opportunity for students to venture out into the world. Not only are these students getting unique healthcare experiences that challenge their thought processes and critical thinking

skills, and promote the development of cultural and clinical competencies but they are also getting unique opportunities to build their confidence in life skills” (p. 7). Research has also shown that students in professional programs develop connections to new values toward the profession due to the global perspectives that are presented during the travels (Lindsey, 2005). Therefore, students’ perspectives, values, and motivations of practice can be altered due to the experiences and outcomes that personally take place during international opportunities.

INTENTION/REFLECTION

The practice of reflection has been promoted for decades as a meaningful learning activity. The American educational guru John Dewey stated in 1933, “we do not learn from experience . . . we learn from reflecting on experience.” Educational research over the last several decades further suggests that reflection and RWE can promote critical thinking (Sobral, 2000) and the development of one’s professional identity (Mann, 2009), among other benefits.

Also, specifically related to health care, reflection promotes the concept of learning from one’s experiences—a crucial aspect of continuous professional development in health care (Mann et al., 2009). As Schon points out (1983), reflection allows the learner to continually reevaluate his/her learning needs, which facilitates the entire learning process.

Different models and approaches to reflection have been proposed, many in the 1980s and 1990s. They all have in common what Dewey (1933) defined as a basic tenant of reflection: “active, persistent and careful consideration of any belief or supposed form of knowledge” (p. 118). In practical terms, the act of reflection includes examining our experiences in light of our beliefs and perceptions for the specific purpose of developing greater understanding and guiding our actions in future experiences.

Several specific aspects of RWE have been highlighted in educational research as fostering successful outcomes. Among them are sufficient time and energy to fully engage in the activity (Boenink, Oderwald, DeJonge, VanTilberg, & Smal, 2004; Mamede & Schmidt, 2004), and an environment that is flexible, supportive and authentic (Mann et al., 2009).

Problems associated with RWE include the issue of honesty or, as Williams and Wessel (2004) state, “students may write what they think the teacher wants to hear” (p. 22). Duckett (2002) highlighted similar issues in stating that students who are unclear of the purpose of the activity may not derive the intended benefits from it. Maloney, Hong-Meng Tai, Lo, Molloy, & Ilic (2013) note, while true reflection offers benefits, certain factors can positively or negatively influence its effectiveness. Among them are students’ knowledge and skill in applying the critical reflection process. Another potential issue is the quality of reflection. Leijen, Valtna, Leijen, & Pedaste (2012) note that not all student reflection is of the same level or quality. Higher education, especially in a professional pharmacy program, generally strives toward higher order thinking, which is required to solve difficult, complex problems. Lucas (2012) refers to this as the breadth and depth of thinking in reflection. This study attempted to account for these potential issues in the design, as outlined below.

The act of reflection, by definition, is an examination of what has occurred in the past. As valuable as this is in the learning process, the authors speculate that an equal amount of value may be gained by examining similar questions before the learning experience has taken place. In addition to asking students, “what did you learn?” the authors asked students what they expected to learn, and what they hoped to gain from the experience. These questions, and this approach, is based on an amalgamation of educational theory, activities, and research including constructivist theory, formative assessment, student-centered learning principles, inquiry-based learning, backward design, self-directed learning, and others. The unifying factor in these various theories is that they urge learners to address a basic question: “why are you engaging in this learning experience?” This important question is designed specifically to engage adult learners and promote higher order thinking skills.

When adult learners identify meaningful reasons for engaging in a learning experience, they are more likely to fully engage in that experience, and are more likely to experience positive outcomes (Knowles, 1980). Adult learners, distinct from K-12 students, bring a set of experiences and prior knowledge to the classroom. Often in an advanced professional program, they may also bring a heightened ability to ask critical questions. Knowles argues this critical thinking skill drives the need to connect course material with real-life scenarios; essentially answering the question: Why are we learning this? Brookfield (2000) goes further in explaining this connection by showing how engagement and interest increase in adult students when they are able to identify their own learning skills and use those to address the “why” question mentioned above. The positive outcome is that students’ needs are met, and they are able to connect theory with practice. The effects of this can also positively affect students’ persistence through difficult periods of a program (Bers & Smith, 1991). The aspects of adult learners as identified by Knowles and Brookfield—intrinsically motivated, self-directed, logical, critical, and interested in quickly applying course material—suggests they will respond favourably if they can identify purpose and meaning in what they are learning.

Much of the work mentioned above is directly connected with Piaget’s groundbreaking work on how people perceive information and respond to it (Piaget, 1961/1969). He observed that knowledge acquisition occurs most effectively when students are intentionally engaged in the subject of study, as opposed to passively absorbing and storing it. This led to the development of his theory of constructivism, which proposes that students who have authentic and meaningful interactions with information are more likely to remember and fully understand it (von Glasersfeld, 1981/1984).

Embedded within constructivism is the argument that, consciously or not, humans are goal-minded entities. We tend to repeat successful experiences and not repeat unsuccessful experiences. As von Glasersfeld so poignantly noted, “the success of a key does not depend on finding a lock into which it might fit, but solely on whether or not it opens the way to the particular goal we want to reach” (p. 14). With this in mind, a student who has identified learning goals (intention) and then is able to document the achievement of those goals (reflection) may be more likely to engage in the learning process repeatedly.

Based on the work mentioned above, the authors developed the I/R educational practice. This practice is unique because of the blend of formative and summative activities based on a constructivist learning approach. Perhaps most importantly, I/R is an entirely

student-centered practice. By contrast, previous education practices around content have been entirely, or mostly, teacher-centered (National Center for Education Statistics [NCES], 2002); learning goals and formative assessment methods are based on the instructor's view of what is most important. I/R activities account for learning goals established by the instructor, but also promote the mindful creation of a student's own personal set of learning outcomes.

This practice is also a seamless whole. The learning experience, from beginning to end, is connected directly and obviously through this practice. Previous practices have made attempts at a similar objective, but have been disjointed and somewhat inaccessible for most learners to notice. I/R asks learners to identify what they will learn and how they will learn at the beginning of the experience and expressly states that they will be asked these same questions at the end of the experience.

The I/R practice has been used previously in various higher education settings including online courses and international interprofessional courses. Based on a combination of anecdotal feedback and unpublished research from these groups, students find this practice to be beneficial and have provided generally positive feedback regarding the overall process. Specifically, students have noted that it has helped them align personal thoughts to the upcoming experience and offered them an opportunity to reflect on what they learned through the experience. Perhaps most importantly, students can identify how they will change future behaviour.

I/R is a series of questions designed to facilitate a critical examination by learners to help identify what and why they want to learn, and how they are going to learn, regarding a given learning experience. The I/R questions are separate but may be related to the course objectives outlined by the instructor. This practice is not intended to take the place of instructor-defined course goals and objectives. Rather it is designed to enhance them based on the student's areas of interest experience or future needs. Students are encouraged to identify these uniquely personal learning goals and develop methods to acquire the desired knowledge or skills using the course content as a framework. Students' desire to learn is based purely on their own set of goals, questions, desires, and frames of reference. The course content provides a vehicle with which to achieve these goals.

This additional knowledge and skill acquisition can be gained in any learning experience. However, the experience of the researchers shows that learners rarely identify potential learning opportunities outside the specified learning goals as outlined by an instructor. This practice specifically and intentionally asks learners to identify—independently of what is outlined in the course content—what they would like to gain from the experience.

The first step in the process is prior to the formal learning experience (course, experiential activity, seminar, etc.). Students respond to a set of questions regarding their specific intentions for the experience. Questions can include:

- What do you intend to learn from this experience?
- What do you hope to gain from this course?
- How did you decide to engage in this learning experience?
- How will you ensure you achieve your intention for this experience?
- How will this opportunity affect your future profession?

The timeframe for these intention-based questions can vary based on the learning experience. For example, the intention activity for the international travel course mentioned in this research took place two weeks prior to departure. However, the intention activity for a one-hour speaker or lecture may take place in the first few minutes of that hour. The timing of this portion of the practice depends on the framework of the learning experience.

Once the formal learning experience has taken place, the reflection activity occurs. Again, a specific set of questions, which mirror the intention practice, are presented to learners. Some examples include:

- What did you learn that was most surprising to you?
- To what degree did you achieve your learning intention?
- How has this learning experience changed your perspective?
- What steps did you take to ensure your team was prepared to succeed?
- If you had to repeat the process of learning this information, what would you do differently?

These questions are designed to stimulate critical self-examination and foster a sense of ownership in the learning process. The questions may change, and additional questions may be added depending on the learning experience and outcomes desired. It may be appropriate to simply have an open text area for students to record other personal reflections. The important guideline is that the reflection questions tie directly and specifically to the intention questions.

Additional reflection sessions may be added in the middle of the learning experience if the overall time span of the experience warrants mid-point reflection and correction. For example, the international course noted in this research was five weeks long, and included one mid-point reflection to allow students the opportunity to refocus and adjust their learning outcomes accordingly.

As mentioned earlier, the researchers are continuing to identify the core structure and questions affiliated with I/R to create the optimal learning environment for students.

METHODS

The I/R practice was applied to a group of ten University of Minnesota Pharm.D. students during a five-week course involving international travel to Germany. This experiential course was part of the students' APPEs, during which students are placed in various pharmacies for 5-10 week rotations during their fourth and final year of school. Students must apply for the international rotation in Germany due to the limited spaces available. On average, each year, the university graduates 170 students. The selected students are responsible for their own transportation to the country. All other expenses such as room, board, and travel during the APPE are included in a student fee. This country was selected due to the involvement and interest of a pharmacy business-owner connected with the university.

Throughout this rotation, students worked closely with a licensed pharmacist, or preceptor, who shared with them the practice of pharmacy in Germany. Students also met with local government officials and collaborated with German pharmacy students. The

course objectives were: 1) to describe the structure of US/German pharmacy systems, international pharmaceutical markets and the relationship among health professionals, health service organizations and payers; 2) to recognize best-practice elements; and 3) to identify factors that facilitate and impede health policy change. Students explored the pharmacy practice in small towns as well as larger cities such as Berlin.

Three phases of I/R (pre-, mid-, and post-) were included in this APPE experience. The first was completed shortly before departure for Germany, the second occurred while they were in Germany, and the third phase was completed one week after arriving home. At each of these points in time, students were given an explanation of the purpose of these writing activities. The entire bank of questions from each phase is outlined in Boxes 1, 2, and 3.

Box 1: Phase 1 Pre-travel Intention/Reflection writing activity

- 1.1 Describe your previous domestic and international travel experiences.
- 1.2 What experiences have you had with cultures other than your own?
- 1.3 Why are you engaging in this international learning experience?
- 1.4 Identify at least 3 specific areas of interest you want to explore further while you're in the Germany APPE Rotation.
- 1.5 In what ways do you feel this experience will affect you in your future profession?
- 1.6 How can you best prepare yourself to be healthy during the international learning experience (physically, mentally, and emotionally)?
- 1.7 Share any additional thoughts/questions/revelations.

Box 2: Phase 2 Mid-travel Intention/Reflection writing activity

- 2.1 At this point in the Germany APPE Rotation, what experiences have provided the most value for you, personally and professionally?
- 2.2 What are some things that you didn't expect? What surprised you about yourself?
- 2.3 Based on the 3 specific areas of interest that you identified prior to departure that you wanted to explore, describe those you have currently experienced. What did you learn from those experiences?
- 2.4 If you haven't experienced them, why not? If you still would like to experience those learning opportunities, what are your plans for achieving that goal?
- 2.5 Describe any new areas of interest you would like to explore further while you are on this international journey. How will you achieve these?
- 2.6 How can you continue to keep yourself healthy during this international learning experience (physically, mentally, emotionally)?
- 2.7 Share any additional thoughts/questions/revelations.

Box 3: Phase 3 Post-travel Intention/Reflection writing activity

- 3.1 Based on the areas of interest you previously identified as important during the Germany APPE Rotation, describe how (or if) those experiences affected you.

- 3.2 What was the most influential thing you learned during your international experience? What are some things you didn't expect? What surprised you about yourself?
- 3.3 How will you apply the learning experiences from the Germany APPE Rotation in the future? Share how this course (readings, tours, presentations, travel, etc.) might influence you in your future profession.
- 3.4 What best practice elements from the United States and Germany would you introduce into the other countries pharmacy system? Please explain your position. Describe how this would be implemented in the respective country, according to the experience that you gained during the Germany APPE Rotation.
- 3.5 Describe how you kept yourself healthy during the international learning experience (physically, mentally, emotionally)? Identify additional ways that could have improved your well-being.

The researchers identified a subset of questions to analyze for the purposes of this study. This subset is outline in Box 4. These questions were selected for analysis because they represent (and potentially identify) a common thread throughout the experience. Also, they were specifically developed to help respond to the primary research question: Can the I/R practice capture facilitate a transformation in student learning during an international APPE?

Box 4: Analyzed questions

- 1.4 Identify at least 3 specific areas of interest you want to explore further while you're in the Germany APPE Rotation.
- 1.5 In what ways do you feel this experience will affect you in your future profession?
- 2.3 Based on the 3 specific areas of interest that you identified prior to departure that you wanted to explore, describe those you have currently experienced. What did you learn from those experiences?
 - 2.4A If you haven't experienced them, why not?
 - 2.4B If you still would like to experience those learning opportunities, what are your plans for achieving that goal?
- 2.5A Describe any new areas of interest you would like to explore further while you are on this international journey.
 - 2.5B How will you achieve these?
- 3.2A What was the most influential thing you learned during your international experience?
- 3.2B What are some things you didn't expect?
- 3.2C What surprised you about yourself?
- 3.3 How will you apply the learning experiences from the Germany APPE Rotation in the future? Share how this course (readings, tours, presentations, travel, etc.) might influence you in your future profession.

Questions 2.4, 2.5, and 3.4 were broken into 2 parts (A and B), and item 3.2 was broken into 3 parts (A, B, and C). Splitting these questions was done to ensure the discreet pieces of information from each part were reflected accurately during analysis.

Responses to each of these items were de-identified, and analyzed using NVivo 10 software. Each student response could include several distinct topics (health care, communication, professionalism, etc.). Because of this, each response was broken down and analyzed by coding similar words or phrases, and then grouping those coded words/phrases. A researcher reviewed these for accuracy and to make sure the software program interpreted individual words and responses appropriately. The number of codes within each question ranged from seven to 53, with a total of 306. After the responses were coded, they were put into larger groups or themes. Themes represent a broad topic, such as “Health Care” or “Pharmacy.” The number of themes that emerged from each question ranged from three to ten.

RESULTS AND CONCLUSIONS

The questions used in the analysis of this study included a subset of the entire field of I/R questions used during the travel experience. A subset of questions was chosen primarily because only certain questions can help determine whether or not students were engaged (and how much) as a result of this practice. For example, questions 1.6, 2.6, and 3.5 asks students to identify ways they are going to stay physically and emotionally vibrant during the experience. While these questions add to the total picture of student learning, they are not directly connected to assessing student knowledge gains. Related to this is the size of the data field. To analyze every word in every response would be unnecessarily burdensome, and would draw resources away from analyzing the primary question at hand. For the purposes of this study, the researchers chose to analyze only those questions that would provide the most accurate depictions of student engagement (or lack thereof): questions 1.4, 1.5, 2.3, 2.4, 2.5, and 3.3.

Questions 1.4 and 2.3 (pre-travel) were based on students’ interests prior to, and during, the experience. Out of the 53 coded responses provided by the ten students attending the rotation, 14 (26%) statements made by six of the students were focused on exploring healthcare, primarily the differences between the US and Germany. An example of these responses is, “I hope to take away the key aspects that can be applicable to the US healthcare system.”

Nine responses (17%) from four different students focused their responses on pharmacists, specifically the way they practice inter-professionally, dispense medicines, and work with patients. The third highest number of responses (7 or 13%) pertained to pharmacy in general. These comments, made by seven students identified overall general practice, formulary and advocacy.

When asked again, midway through their experience, if they had experienced these and what they learned, the responses again focused primarily on health care and pharmacy with seven comments each, and that the questions prior to departure had been answered. Students’ ability to track their knowledge gains, from pre-travel to at least the mid-point of the journey suggests involvement and investment in the learning process. Additionally, it highlights that students were indeed receiving their intended knowledge gains during the experience, or recommitting themselves if they hadn’t achieved their intended goals.

Questions 2.4 and 2.5 (mid-travel) yielded 19 distinct coded responses from all students related to the students' perceptions about what they achieved and/or learned at the mid-point of the experience. These questions also were meant to help the students identify ways to accomplish their learning goals if they hadn't already done so, and to reveal new learning interests. Six students mentioned that these knowledge gains were achieved and/or the student would like to experience even further. A representative statement from one student was, "I believe I have experienced all of the areas of interest but I want to build on them and gain more experience in each area." The other four students who had not achieved their intended outcomes identified ways to achieve them. One student commented: "I will take more time to reflect . . . during my train ride to Prague to really dive into what I have already gotten from this rotation, and to assess what else I would like to get from this rotation."

During mid-point reflection, all students documented additional areas of interest that they would like to explore further. Of the seven students who responded to how they would achieve that, six described working in some capacity with the faculty preceptor. One student described the mid-point reflective experience as playing a key role: "I will be reflecting on my journal entries and compiling a list of things I may have mentioned that I still wanted to explore during this rotation."

The responses to questions 2.4 and 2.5 highlight two benefits of the I/R practice. First, students displayed a heightened level of self-interest in the learning process, as well as specific areas of related content. The propensity of some students to mediate and monitor their learning suggests commitment to specific learning practices, and indicates a trend toward successful lifelong learning, which is necessary in any health care related field in which periodic professional development is a requirement of licensure. Second, students displayed a strong interest in identifying additional (previously unknown) content areas they would like to explore further. This benefit of the I/R practice helps students identify hidden learning opportunities and knowledge gains. In other words, it can help students recognize what they don't know, or what they lack, in their experience and education.

The benefits outlined above are consistent with findings and learning models proposed by many other educational researchers, including Brookfield (2000), Knowles (1980), and Mezirow (1991). Brookfield (2000) said adult learners benefit from self-assessment and reflection practices because it stimulates a desire and confidence in their ability to continue to learn new information. Knowles (1980) proposed that adult learners are often most engaged when they have a specific interest in the content. When students are able to identify future learning needs through their own exploration, the continuous cycle of lifelong learning is strengthened.

These findings are also consistent with the concept and benefits of heutagogy, in which learning is monitored and mediated by the learner (Hase & Kenyon, 2007). While heutagogy is a recently devised model, it is essentially based on the work of early 20th century educators Helen Parkhurst, Maria Montessori, John Dewey, and others who assert that learning is most efficient and effective when learners self-identify learning outcomes and methods.

Questions 1.5 and 3.3 focus on how students feel the APPE rotation would affect their future profession. Question 1.5 was asked before departing on the trip. Out of the 36 coded responses to question 1.5, ten (28%) responses from seven students were focused

on improving intra/interpersonal issues, including communication skills, comfort zone, and pride. One student commented, “This experience will help me grow as a person, and help me develop my communication skills.” Eight responses (22%) from five students related to pharmacy in general, chiefly focusing on advancing the profession, practicing pharmacy, and being active in the profession. A comment related to this theme was, “I think my experience in Germany will help me to be able to better understand why there are differences between pharmacy practice in different countries.” Responses related to health care comprised the third highest number with six (17%), from five students. Developing a greater understanding of the health care process was the primary focus of these remarks. The final 33% of responses were a mix of comments related to culture changes, awareness of unexpected/unknown future events, and networking/contacts.

Question 3.3 (post-travel) asked students to identify how the experience might benefit them in their future profession. Of 27 coded responses, 16 (59%) responses from eight students were related to how this rotation will help them develop professional skills (e.g., speaking skills, advocacy, networking). One student commented on this by saying they will be “less apprehensive about taking on positions or joining teams that require more political attention, or on taking on more leadership roles.” Six responses (22%) from five students were related to their future practice, specifically in the areas of patient care and understanding health systems. One student commented that this experience “will help me as a future pharmacist to be more open to different ways of practice and more empathetic toward patients.” The remaining 19% of responses were a mix of comments related to cultural awareness, international travel, facilitating change, and other topics. Of particular note is that six out of ten students mentioned a measurable gain specifically in their ability and confidence related to public speaking.

Question 3.3 (how they will use what they’ve learned) shows the diverse interests of students. This diversity highlights a difficulty for educators in trying to identify specific learning outcomes for all students. The comments below show the importance of allowing students to self-identify their own learning interests:

- “I think because of these language and cultural barriers/differences, it will help me be more empathetic towards future patients and perhaps be able to relay important medical information to them.”
- “All of the presentations we gave as a group have helped my public speaking skills, and my ability to describe the specific learning process I went through in order to be proficient in providing pharmaceutical care.”
- “[d]eveloping a healthcare system to benefit every party involved is extremely challenging and nearly impossible.”
- “[t]he power of professional advocates” and “to not be passive in our profession.”
- “[t]he ability to interact in groups and with others freely . . . this experience has really helped me with my public speaking skills.”

The responses to questions 1.5 and 3.3 are perhaps best analyzed as a comparison to note differences and similarities. Half of the students connected their learning intentions from the pre-travel questions to the post-travel reflections. This self-monitoring of learning outcomes, as identified above, can foster and maintain a personal connection to the overall learning process. The other half of students identified new or previously unknown

things they learned during the experience, and highlighted how they will use these knowledge gains in their future profession.

Overall, the results of this group of student responses in the I/R practice indicate several noteworthy conclusions. First, it appears to help students discover a personal connection to the educational experience and specific knowledge gains. Especially in a course on foreign soil during which students' attention can easily be diverted, helping them understand how their learning relates to them personally can be a challenge. This practice seems to encourage that connection by incorporating formal assignments which document, and track improvements and gains related to specific learning goals. This heightened interest may ultimately improve student motivation and engagement, especially during difficult or challenging periods over the course of a program. Second, students self-identified new areas of interest they had learned, or would like to explore further. These new learning outcomes—related to, but distinct from instructor-identified outcomes—seem to help develop a level of metacognition in the learning process. In other words, students seem to become more aware of their own unique learning preferences and abilities. This self-monitoring activity is important to long-term knowledge retention and motivation in the overall learning process.

FUTURE FINDINGS

The I/R practice described herein was designed to improve student engagement in specific course content, as well as the learning process as a whole. While it appears it may positively affect students in this way, substantial work can be done to further prove its legitimacy as a method, and further define the gains that may result from this practice. Possibilities for future research include a comparative study of two or more groups of students engaged in a similar course of study. Also noted by the researchers is that this research project only captures student data from a relatively small period of time. A longitudinal study may reveal or refute the long-term efficacy of this practice. The students could be sent their original intention and reflection responses and follow-up questions could be asked to determine how their thoughts or viewpoints have altered since participation. The value of capturing the students' thoughts in the moment during the I/R process creates the ability to monitor how each student evolves when they are in practice and if their perceptions of certain situations begin to change when they look at it one, five, or ten years after it takes place. Additionally, other factors such as class size, length of course, content, and instructional methods may affect how students respond. These possibilities, and more, exist to further study the effect of this practice on students overall knowledge.

REFERENCES

- Adler, P. (1975). The transitional experience: An alternative view of culture shock. *Diary of Humanistic Psychology*, 15, 13–23.
- Bers, T. H., & Smith, K. E. (1991). Persistence of community college students: The influence of student intent and academic and social integration. *Research in Higher Education*, 32(5), 539-556.

- Braskamp, L. A., Braskamp, D. C., & Merrill, K. C. (2009). Assessing progress in global learning and development of students with education abroad experiences. *Frontiers: The Interdisciplinary Journal of Study Abroad*, 18, 101-118.
- Brookfield, S. (2000). Adult cognition as a dimension of lifelong learning. In J. Field & M. Leicester (Eds.), *Lifelong learning: Education across the lifespan*. London: Routledge/Falmer.
- Boenink, A. D., Oderwald, A. K., DeJonge, P., VanTilberg, W., & Smal, J. A. (2004). Assessing student reflection in medical practice. The development of an observer-rated instrument: Reliability, validity and initial experiences. *Medical Education*, 38, 368-377.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process (Revised edition)*. Boston: D.C. Heath and Company.
- Duckett, H. (2002). Smoke and mirrors? Evaluating the use of reflective practice as a management learning technique. *Education-line database*, December 23.
- Hase, S. & Kenyon, C. (2007). Heutagogy: A child of complexity theory. *Complicity: An International Journal of Complexity and Education*, 4(1), 111-118.
- Hawkins, M. D. (2012). International educational experiences for rural nursing students in Kentucky. *Kentucky Nurse*, (October, November, December) 6-7.
- Ingraham, E. C., & Peterson, D. L. (2004). Assessing the impact of study abroad on student learning at Michigan State University. *The Interdisciplinary Journal of Study Abroad*, 10, 83-100.
- Institute of International Education. *Open Doors tool kit: Fast facts Open Doors 2014*. Retrieved from <http://www.iie.org/research-and-publications/open-doors>.
- Knowles, M.S. (1980). *The modern practice of adult education: Andragogy versus pedagogy*. New York: Association Press.
- Leijen, A., Valtna, K., Leijen, D. A. J., & Pedaste, M. (2012). How to determine the quality of students' reflections? *Studies in Higher Education*, 37(2), 203-217.
- Lenz, W. & Wister, J. (2008). Short-term abroad with long term benefits. *International Educator*, 17(3), 84-87.
- Lindsey, E. (2005). Study abroad and values development in social work students. *Journal of Social Work Education*, 41(2), 229-250.
- Lucas, P. (2012). Critical reflection: What do we really mean? Proceedings ACEN (Australian Collaborative Education Network) National Conference, Melbourne /Geelong.
- Maloney, S., Hong-Meng Tai, J., Lo, K., Molloy, E., & Ilic, D. (2013). Honesty in critically reflective essays: An analysis of student practice. *Advances in Health Sciences Education*, 18, 617-626.

- Mamede, S. & Schmidt, H.G. (2004). The structure of reflective practice in medicine. *Medical Education*, 38, 1302-1308.
- Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education*, 14, 595-621.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.
- National Center for Education Statistics (NCES). (2002). Teaching undergraduates in US postsecondary institutions: Fall 1998 (NCES 2002-209), by X. Chen. Project Officer: L. J. Zimble. US Department of Education, Washington, DC: 2002.
- Piaget, J. (1969). *The mechanisms of perception* (G. N. Seagram, Trans.). New York: Basic Books, Inc. (Original work published 1961).
- Schon, D. A., (1983). *Reflective practitioner: How professionals think in action*. Basic Books, Harper Collins.
- Sobral, D. T. (2000). An appraisal of medical students' reflection-in-learning. *Medical Education*, (34), 182-187.
- von Glasersfeld, E. (1984). *The invented reality*. New York: Norton. (Original work published in 1981).
- Ward, C., Bochner, S., & Furnham, A. (2001). *The psychology of culture shock*. Hove, UK: Routledge.
- Williams, R.M., & Wessel, J. (2004). Reflective journal writing to obtain student feedback about their learning during the study of chronic musculoskeletal conditions. *Journal of Allied Health*, (33:1), 17-23.