Research Article

Reflective Process and Intercultural Effectiveness: A Case Study

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Abstract

Despite the importance of reflection as a crucial element in stimulating successful student experience in study abroad, attempts to define and measure this construct have been fraught with difficulty. This article describes one approach to defining and validating a measure of the reflective process. University students who participated in a semester-long reflection course wrote weekly reflective essays. Four, multi-scale factor analyzed cognitive complexity factors derived from the Linguistic Inquiry and Word Count (LIWC) content analysis software formed key study variables: Immediacy, Interaction, Making Sense, Making Distinctions. These four factors aligned well with key components of reflection. The cognitive complexity factors were related to pre and post student intercultural effectiveness using the Intercultural Effectiveness Scale following a criterion validity framework. The LIWC cognitive complexity factor profiles fit well with student intercultural effectiveness scores when evaluated against reflection theory and previous research. The LIWC offers a measurement alternative that is objective, easy to use, and scalable to larger samples and more frequent administration. Thus, measurement may be harnessed in the service of formative evaluation and evidenced-based program development.

Abstract in Spanish

A pesar de la importancia de la reflexión como elemento crucial para estimular la experiencia estudiantil exitosa en el extranjero, los intentos de definir y medir

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este constructo han estado plagados de dificultades. Este artículo describe un enfoque para definir y validar una medida del proceso reflexivo. Los estudiantes universitarios que participaron en un curso de reflexión de un semestre de duración escribieron ensayos reflexivos semanales. Cuatro factores de complejidad cognitiva analizados en múltiples escalas derivados del software de análisis de contenido Linguistic Inquiry and Word Count (LIWC) formaron variables clave del estudio: Inmediatez, Interacción, Dar Sentido, Hacer Distinciones. Estos cuatro factores se alinearon bien con los componentes clave de la reflexión. Los factores de complejidad cognitiva fueron relacionados con la efectividad intercultural del estudiante antes y después del curso utilizando la Escala de Efectividad Intercultural siguiendo un marco de validez de criterio. Los perfiles de factores de complejidad cognitiva de LIWC encajan bien con las puntuaciones de efectividad intercultural de los estudiantes cuando se evalúan frente a la teoría de la reflexión y la investigación previa. El LIWC ofrece una alternativa de medición que es objetiva, fácil de usar y escalable a muestras más grandes y una administración más frecuente. Por lo tanto, la medición puede aprovecharse al servicio de la evaluación formativa y el desarrollo de programas basados en evidencia.

Keywords:

Introduction

Reflection has been identified as a crucial element in stimulating successful student experience in study abroad. Paige (2015) states that "Virtually every program identified in the research literature as being effective in helping students develop their intercultural competence embraces reflection as a key principle of learning" (p. 566). Two widely recognized theories of learning used in study abroad employ reflection as a key component of their approach: Experiential Learning (Kolb, 1984) and Transformational Learning (Mezirow, 1991). Thus, reflection emerges as a central factor in student centered study abroad learning (Vande Berg et al., 2012).

Despite reflection's importance, attempts to define and measure this construct have been difficult and fraught with ambiguity (Savicki & Price, 2020). Reflection is an internal, intrapsychic process that must be inferred since it cannot be observed directly. Yet, many prominent, extensively measured and researched psychological variables fall into this same category; such as self-esteem, introversion, and intelligence, among others. For the construct of

reflection, much work has yet to be done to reach a high standard of measurement. This article describes one approach to defining and validating a measure of the reflective process.

Beyond crafting a measure of reflection, the desired outcome is its application to design and deliver instruction, guidance, and support to study abroad students so that they can maximize their experiential and transformative learning. Accurate measurement can guide and evaluate our efforts on behalf of our students and for the larger vision we may have for study abroad. We will suggest ideas to this end based on the findings of our study.

Reflection Definition: Process or Product?

Often in study abroad settings and elsewhere, reflection has been broadly and generally defined; often seen as the product of queries such as "Reflect upon ..." some topic of interest. Measurement of the product of student reflection often assigns a number from a rating rubric indicating an estimate of the quality of the students' efforts but does not necessarily specify the processes used to produce the product. In general, more specific prompts for reflection have been more likely to elicit better quality reflections (Savicki & Price, 2015). Other approaches have been more structured, such as the DIE (Describe, Interpret, Evaluate) approach that walks students through three steps intended to elicit a critical thinking, reflective process regarding intercultural experiences (Bennet, Bennet, & Stillings, 1977). In many cases, the products of these requests for student reflection were not evaluated with regard to actual student reflective process or linked to outcomes relevant to student study abroad success (Savicki & Price, 2020). Generally, the relationship between reflection and study abroad success has been assumed based on theoretical principles. Overall, research which demonstrates that reflection products and processes can be linked to measurable student study abroad outcomes is desirable

To drill deeper into the reflective process, a crucial question to be addressed is whether more rigorously defined components identified in reflection actually relate to success in student study abroad experience. Previous writings have attempted to quantify reflection based on judgements of raters using unique rubrics (Brewer & Moore, 2015; Gillespie et al., 2015). Unfortunately, qualitative methods such as rubrics can be clouded by

subjectivity of the raters and ambiguity of criteria used to make ratings. The current case study addresses this potential limitation by exploring the link between quantitatively measured language patterns used in student reflections (Pennebaker et al., 2007) and the measured intercultural effectiveness of students upon completion of their sojourn abroad (Mendenhall et al., 2012). The goal is to clarify the relationship between how students engage in reflection and how well they meet the goal of intercultural effectiveness.

Components of Reflection

To measure the process of reflection, aspects of that process must be identified and quantified. Savicki and Price (2017) identify eight possible components of reflection based on theories (Fosnot & Perry, 2005), approaches to learning (Mezirow, 1991) and methodologies (Bennet et al., 1977) that have gained recognition in their contribution to describing reflection (see Table 1). For the current study, we will focus on measures of the first four components in Table (1). According to this framework effective reflection is Contextual, Integrative, Perspective shifting, and Disaggregated/Differentiated (Savicki & Price, 2017).

Reflection Components	LIWC language types	Example words from dictionaries
Contextual	Interaction	Group, person, role, past tense -ed verbs,
Integrative	Immediacy	I, me, mine, present tense -ing verbs
Shifted perspective	Making Sense	Accept, insight, realize, because, change, depend, imply, infer
Disaggregated/Contextual	Making Distinctions	Either, except, rather, cannot, haven't
Descriptive/Well differentiated	Prepositions	After, around, beside, during, near, toward
Integrative/Shifted perspective	Conjunctions	Also, and, or, then, until, when
Integrative	Positive Emotion	Agree, appreciate, better, care, glad
Integrative	Negative Emotion	Afraid, alone, boring, outrage, pity

TABLE (1): Components of reflection linked to LIWC measures and dictionary language examples

The indicators of components of reflection are derived from a computer-based linguistic content analysis of student language which avoids reliability and subjectivity concerns presented by judges using rubrics. It relies on objective observation of the actual language used by students who are

examining their study abroad experiences. We attempt to operationalize cognitive processes, including reflection, as the use of specific patterns of language that students employ in recounting their study abroad experiences. Overt use of language may imply internal thought processes: "Thinking can vary in depth and complexity; this is reflected in the words people use to connect thoughts" (Tausczik & Pennebaker, 2010, p. 35). Language is the most common and reliable way for people to translate their internal thoughts and emotions into a form that others can understand. The Linguistic Inquiry and Word Count (LIWC) method developed by Pennebaker et al. offers a fresh look at processes that may be involved in study abroad students' attempts to construe their experiences (Pennebaker et al., 2007; Pennebaker et al., 2007). The LIWC is a well-established research approach that has spanned 20 years with 117 publications listed in the LIWC manual (Pennebaker et al., 2007). LIWC is a content analysis software program that counts the words that students write according to specific dictionaries formed to tap various assumed cognitive and emotional processes.

Table (1) associates specific LIWC dictionaries and factor analyzed factors to the reflection components. We have labelled the first four LIWC variables listed (Interaction, Immediacy, Making Sense, and Making Distinctions) as cognitive complexity indicators. They were developed as a result of a factor analysis (Pennebaker & King, 1999). The factors incorporate both cognitive and affective language to describe higher order functional language usage. They help with the process of "differentiating and integrating constructs in more complex ways" (Bennett, 2012). As Bennett states "things become more real as we perceive them in more sensitive (i.e., more highly discriminated or complex) ways" (Bennett, 2012, p. 103). They are indicative of cognitive complexity in that higher proportions of such language requires more elaborate, in-depth thinking (Pennebaker & King, 1999).

Criterion Validity

A basic standard for evaluating a measure of a construct such as reflection is validity. Briefly, validity evaluates how well a measure actually measures what it proports to measure. Assessing the validity of a measurement is an ongoing process that requires multiple iterations. The validity of the LIWC scales as a measure of reflection has just begun to be addressed. Savicki and Price (2021) address issues of construct validity. The pattern of LIWC scales seem

to act consistently with underlying theory and related research on reflection. The current study addresses criterion validity, the degree to which the LIWC scales relate to an independent measure of reflection or a related variable. In this case, we predict that the LIWC reflection components will relate in expected ways to intercultural effectiveness as measured by the Intercultural Effectiveness Inventory (IES, Mendenhall, et al., 2012). In the simplest example, a single predictor scale is correlated with a single criterion scale. Given the multiple LIWC scales used, and the multiple scales of the IES, the interpretation of criterion validity will be more complex.

Methods

To evaluate the validity of the LIWC as a measure of reflection, we conducted the following research-based process.

Participants

Nineteen undergraduate students from an international education program in the Pacific Northwest U.S. studied abroad for an academic semester in Thailand, Peru, or Italy, and ranged in age from 19 to 23 years of age. Eighty percent were female.

Measures

Cognitive complexity and intercultural effectiveness were measured using the following methods. For cognitive complexity, the Linguistic Inquiry and Word Count (LIWC) content analysis software (Pennebaker et al., 2007) analyzed student reflection essays for characteristics of the writing task and research-based "dictionaries" tapping aspects of thinking and feeling (Tausczik & Pennebaker, 2010). In addition, factor analyzed cognitive complexity indicators (Pennebacker & King, 1999) were computed using relevant language categories. These factors measured Making Sense, Making Distinctions, Immediacy, and Interaction. All factors were comprised of several language categories based on a principle components factor analysis with varimax rotation. Making Sense combines seeking insight into events, looking for causes for observations, and withholding negative judgement. Making Distinctions combines looking for differences, being tentative in one's conclusions, being open to counter examples, and a willingness to look for and find exceptions. Immediacy measures making statements that include the self in thinking about experiences, expressing oneself in simple, straight forward, non-intellectualized language, and being alert to discrepancies between the self and others.

Interaction measures descriptions of social events that occur in the present and in the past in an objective, descriptive manner.

For intercultural effectiveness, we used the Intercultural Effectiveness Scale (Mendenhall, et al. 2012), a self-report inventory that focuses on measuring competencies required for intercultural effectiveness. It measures overall intercultural effectiveness as well as several sub-scales. For the current study, we used the inventory's tripartite formulation of intercultural effectiveness which includes Continuous Learning, Interpersonal Engagement, and Hardiness as key elements. Continuous Learning "assesses the degree to which individuals engage the world by continually seeking to understand themselves and also learning about activities, behavior, and events that occur in the intercultural environment" (Mendenhall et al., 2012, p. 7). Interpersonal Engagement measures a student's "interest in learning about people from other cultures, their customs, values, etc.," (Mendenhall et al., 2012, p. 9). Hardiness measures a predisposition to be "open to differences in a positive cognitive/emotional way and avoid being judgmental" (Mendenhall et al., 2012, p. 11). By combining these elements, the IES can develop student profiles that describe openness to, and approaches toward intercultural experience. For example, a profile in which a student scores high in all three elements is labeled Globalist; while a profile in which a student scores low in all three elements is labeled Traditionalist (Feedback, 2017). Table (2) describes the profiles and the configuration of the elements of intercultural effectiveness of the profiles used in this study. We will especially emphasize the contrast between the two extreme profiles: Globalist and Traditionalist.

Profile Name and Description	Configuration of IES Elements	
Globalists enjoy learning about foreign places and people, easily initiate relationships with those who are different from them, and find such experiences rewarding (p. 10).	Continuous Learning	High
	Interpersonal Engagement	High
	Hardiness	High
Detectives are interested in learning about people more than they care about actually engaging people and developing quality relationships with them. They are also quite resilient in the face of challenges (p. 10).	Continuous Learning	High
	Interpersonal Engagement	Low
	Hardiness	High
Intellectuals are interested in analyzing others behavior more than they are in forming	Continuous Learning	High
	Interpersonal Engagement	Low

relationships. They generally avoid challenges because of the stress it creates (p.12).	Hardiness	Low
Traditionalists are satisfied with the status quo preferring familiar people and places, and they are apprehensive when placed in new situations where they need to learn or develop new associations (p. 13).	Continuous Learning	Low
	Interpersonal Engagement	Low
	Hardiness	Low

TABLE (2): INTERCULTURAL EFFECTIVENESS SCALE PROFILES AND CONFIGURATION OF IES ELEMENTS (FEEDBACK REPORT, 2017)

Procedures

Students engaged in study abroad classes also participated in a required semester long reflections class in which they responded weekly to reflective prompts that attempted to meld theoretical content from coursework with current cultural experiences prominent in study abroad student life. Students responded to faculty reflection prompts via email. The faculty gave feedback to students concerning their reflective essays, primarily focused on academic understanding of required assignments. Cognitive Complexity was calculated seven times over the study abroad semester based on these student reflections. Semester averages were used in the data analysis. Before departure and upon reentry, students completed the IES online. Both predeparture and reentry scores were calculated for the data analysis.

Results

There was no significant improvement from predeparture to reentry in either the broadest measure of intercultural effectiveness, Overall Intercultural Effectiveness, or the three major subscales used for computing student profiles, Continuous Learning, Interpersonal Engagement. Yet the cognitive complexity scores of Immediacy and Interaction showed significant positive correlations with an increase in the IES scale of Hardiness (r= .558, p<.05; r= .472, p< .10 respectively). The lack of scale score changes from pre to post is due, in part, to the changes illustrated in Figure (1). While some students did improve from pre to post, others changed in the opposite direction, thus averaging scores such that no significant change was shown. Such a result is not desirable, yet not unusual (Paige, 2015). The study abroad experience does not guarantee a positive result. In this case, averaging scores of those who improved and those that did not wiped away effects that might be seen more clearly by organizing the data differently.
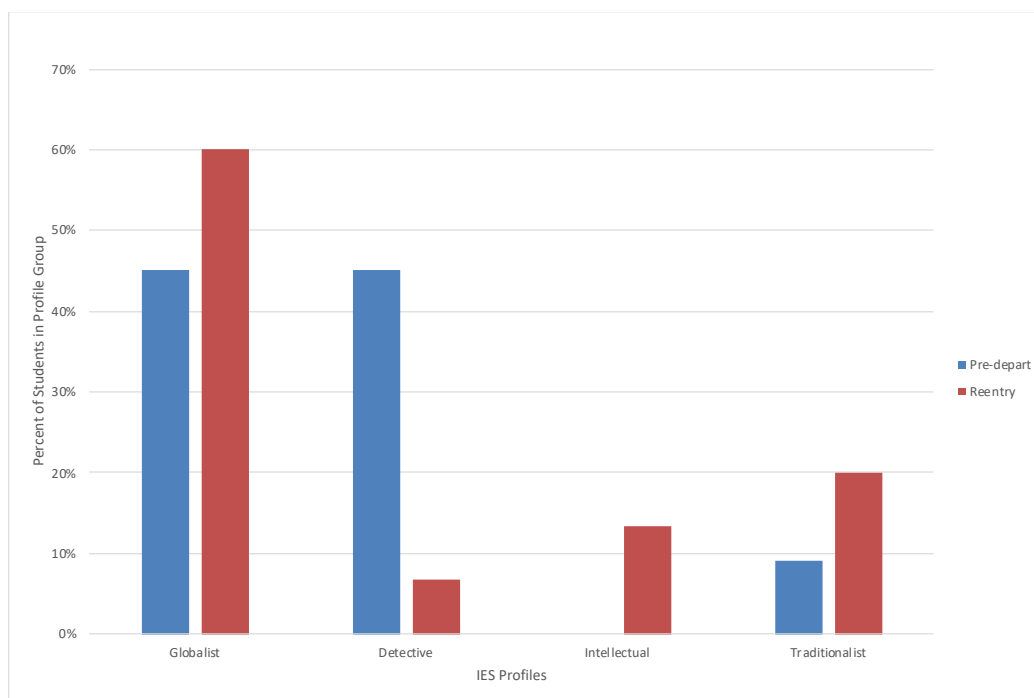
FIGURE (1): PERCENT OF STUDENTS IN IES PROFILES AT PREDEPARTURE AND REENTRY

Luckily, the IES strategy of combining the three major elements of intercultural effectiveness into a profile allowed for an analysis that preserved differences that were masked by using scale averages. Both predeparture and reentry IES profiles were computed using the methods outlined in the student IES feedback report (Feedback, 2017). Although the IES describes eight different profiles, for comparison in the current study, only profiles that appeared both pre and post were graphed: Globalist, Detective, Intellectual, and Traditionalist. The Globalist profile was the most ethnorelative, and the Traditionalist the most ethnocentric, with the Detective and Intellectual profiles falling between. Figure (1) shows the changes from predeparture to reentry for the four profiles.

The reflections class and the study abroad experience had contributed to positive outcomes since the Globalist profile increased by 15%. In contrast, the Traditionalist profile also increased by 11%. Both ethnorelative and ethnocentric increases following study abroad is not unusual (e.g., Altshuler et al., 2003). The increase of Traditionalist and Globalist profiles tended to cancel each other out when looking at the global, overall score (t=.586, p=ns).

A more detailed look at what language usage in reflective essays occurred in each profile may clarify the processes underlying how reflection was used by students who fell into each profile. First, in terms of average words

used in their reflective essays, Figure (2) shows that students with Globalist and Intellectual profiles wrote longer essays than did Traditionalists and Detectives. Students in the Intellectual profile used the most words.
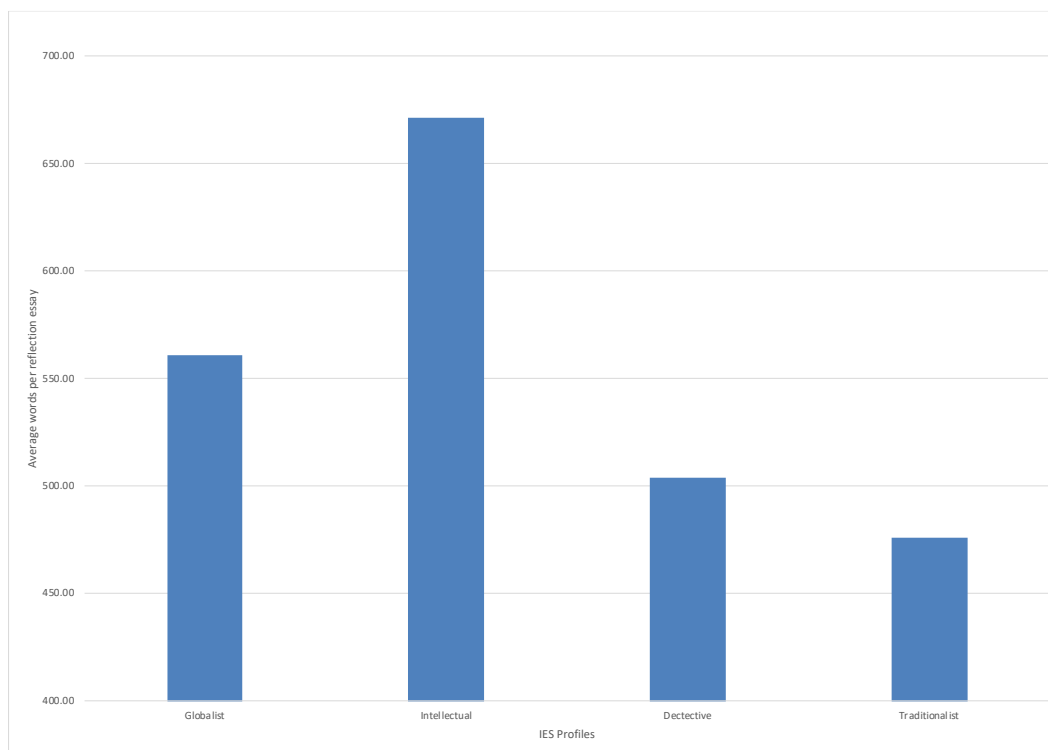

FIGURE (2): WORD COUNT FOR REFLECTIONS OF IES PROFILES

Figure (3) indicates that Traditionalists generally used less of all cognitive complexity factors than other profile types. The key feature of their language usage, according to the components of reflection described earlier is the lack of Immediacy, which indicates a lack of personal involvement. Likewise, lower Interaction and lower Making Distinctions indicates a detachment from their study abroad experience or at least a tendency to keep discussions of their personal reactions out of the essays. It is unclear whether this overall detachment or disengagement preceded the study abroad sojourn or was exacerbated by it. In any case, it seems that these students required more attention, and encouragement. Feedback encouraging self-referenced introspections in their reflective essays would provide a natural avenue for such attention and encouragement.
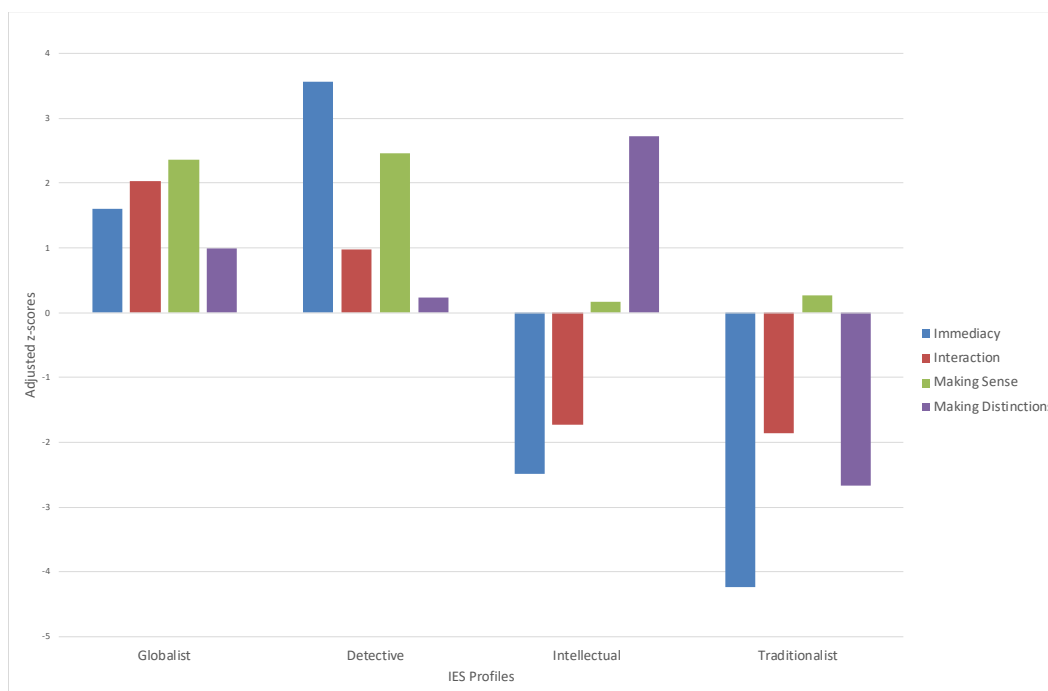
FIGURE (3): IES POST PROFILES BY COGNITIVE COMPLEXITY ADJUSTED z-SCORES

Globalists, on the other hand, showed above average use of all cognitive complexity factors. In addition, in comparison to the Intellectual and Detective profiles, Globalists showed a relative equity in their use of language factors. It may be this balance of cognitive complexity factors allows these students to incorporate a more complete and sophisticated mode of reflection that may facilitate an integrated response to their study abroad experiences. Intellectuals seem to step back from their experience with low Immediacy (introspection) and high external focus (Making Distinctions). Detectives may have over emphasized internal responses with both high Immediacy and high Making Sense. The balance that Globalists demonstrate may hold the key to effective reflections.

In summary, language factors from the LIWC were associated with IES measures of intercultural effectiveness consistent with theory and previous research on the process of reflection. As Kane (2001) suggests, all validity studies can be construed as construct validity studies. Although the current research followed a criterion validity framework, it also demonstrated that the LIWC factors can be seen as valid measures of the construct of refection as related to intercultural effectiveness. The pattern of results supports a nomological net in which the variables under study support one another in a rather reciprocal

fashion; measurement highlights the construct of reflection at the same time as the process of reflection highlights the approach of measurement.

Discussion

The current study is one early iteration of validity studies regarding the LIWC as a measure of reflection. Savicki and Price (2021) illustrate another such study; much more needs to be done with regard to operationalizing reflection and examining the utility of measuring it via the LIWC. Yet, this small study points toward a way of operationalizing reflection that taps many of the key features of the reflection process. Merely labeling a student essay as having X amount of reflection as a product does not help to describe what reflection is, what its component behaviors are, how those components interact, and, of course, how they may be measured. To harness reflection systematically and purposefully, we need to be able to describe and measure it. Vague definitions and abstract theories are forerunners of more rigorous approaches. We hope that findings in the current study spur larger and more comprehensive research studies.

Although the results of this study suggest a synergy between the LIWC language factors used, we will discuss each separately to consider its contribution to the overall effect of reflection. Ultimately, we hope that more precise findings can be incorporated into study abroad program design in order to facilitate student reflection.

The Immediacy language factor operationalizes an approach to reflection that includes the student's own premises, expectations, assumptions, and beliefs (Hunter, 2008). Based on an axiom of constructivist theory, it is both the object observed and the observer, the known and the knower, that powers deep reflection (Fosnot & Perry, 2005). The meaning students make of their experiences hinges on what they bring to the experience as well as the details of the experience itself. Including oneself in a reflection by means of Immediacy language increases the probability of awakening shifts in perspective and expanding meaning frameworks.

Making Distinctions language shows students' grappling with cultural differences as well as other comparisons and unexpected experiences. Much that students learn from in study abroad are differences large and small. How they react to those differences forms a basis for intercultural sensitivity (Bennett,

1993), a key feature of intercultural effectiveness. Denying, rejecting, or minimizing differences form the ethnocentric end of the developmental model of intercultural sensitivity (DMIS). Thus, the Making Distinctions language factor is crucial in conceptualizing effective reflection. In concert with Immediacy, students can sort and evaluate their own premises as well as the events that unfold in front of them thus aiding them to accept, adapt to, and integrate with their host culture.

The Interaction language factor highlights social interchange both observed as a bystander and experienced as a participant. Social interaction is the medium through which culture is revealed. An inattentive observer would miss key features of the host culture. Surprises, irritations, frustrations, excitement, anxiety, and other intense emotions that may be provoked by social interaction provide content and motivation to make sense of interactions. Discussions of students' own reactions set the stage for including themselves in the process of making meaning.

Making Sense language reveals the students' efforts at explaining what they have observed and lived. Humans strive to make meaning of their lives. Study abroad students face a more intense motivation to make meaning because many meanings that are predictable at home are now fraught with uncertainty while in a foreign culture. What conclusions students draw from their meaning making will depend, in large degree, on how well they have considered the interaction they experience, the differences they define, and the self-awareness they express.

Results of this study suggest that some balance in the four language factors may be related to higher intercultural effectiveness. All of the language factors working in concert are more likely to enhance intercultural effectiveness. The effect of synergy of the language factors is supported by theoretical and applied approaches to reflection. In contrast, lower levels of these language factors may be related to behavioral and emotional disengagement, and to lower intercultural effectiveness.

Implications and Recommendations

Findings of the current study suggest both specific and general implications for program design. We will start with specific suggestions for the specific course that the students in the current study attended.

Reflections: Course-specific Recommendations

Students were enrolled in a three-credit, on-line reflections course that began predeparture and concluded after return home. Throughout the course, they completed bi-weekly readings and reflection assignments such as the following:

- Predeparture: prior to departure to their placements, students read several articles and then were prompted to ". . . discuss your anticipations and expectations for service in dialogue with the assigned reading."
- Arrival: on arrival, students read articles about cultural adjustment and challenging perception. The reflection essay assignment was "to discuss the readings in regard to your overall transition to (name of country)."
- Mid-sojourn: each week thereafter, students were assigned articles to read and/or films to watch and asked to write a reflection essay. They did not receive any specific prompts for the rest of these reflections.
- Reentry: for the final reflection essay, students were asked to "evaluate your service holistically and describe ways you intend to remain or reconnect with your host culture, service area, or connections made during your experience."

Students received instructor feedback on submitted essays, though the feedback mostly stressed understanding of academic concepts rather than personal awareness of the epistemological sources of student interpretations and evaluations.

Course Critique

Though this was a reflections course, students frequently wrote their reflection essays in the same manner as they would any standard academic essay. They often wrote in third person, included sources and references, etc. When they wrote in first person, they usually demonstrated only superficial reflection, writing from the perspective of an observer rather than as someone looking inward.

Because this was an academic course, it was important to maintain the

academic mission of the course and to have relevant academic assignments. However, it was equally important, and in some ways even more important, to expand the reflective mission of the course by using well-developed guided questions at the seven points that were used for analysis. The lack of these was a weak point of the course.

For example, the predeparture essay asked students to discuss their anticipations and expectations. If written differently, this prompt would have been more effective, e.g., as you think about departing for your program, how do you feel—curious, excited, apprehensive? What preconceived notions do you have about your destination and what are you expecting on arrival? Why?

And in the arrival assignment, revising the assignment to focus on their feelings would help students to reflect more personally and more deeply: Some examples: When you arrived in your host country, how did you feel? Did you feel bewildered, overwhelmed, curious, delighted, frightened? What made you feel this way? Have your feelings changed now that you have had a week or so to settle in? In what way have they changed and how do you feel now? Why do you think this is?

In addition to well-crafted reflections questions, students also need to receive ongoing feedback about their reflective writing. The feedback does not need to be extensive—just a question or two asking them to clarify something they wrote or a question that will help them begin to reflect more deeply on the sources of their reactions and begin to build meaning.

General Implications

The goal in asking students to reflect on their study abroad experience is to request, directly or implicitly, that they think and write in ways that engage Immediacy, Interaction, Making Sense, and Making Distinctions. The vehicle for these requests is the reflection prompt. Several implications for crafting such prompts stem from the results of this study. In addition, general characteristics of reflection suggest a context for refection prompts. The following is a list of such practical implications:

- Include emotions, values, beliefs, attitudes, assumptions, premises, and other affect laden variables in the prompt. As illustrated above, many study abroad events provide an opportunity to ask students about emotions, etc. in a way that directs them to introspectively scan their

interior landscape. Students are reacting to such events; the key is to help them weave their reactions into a reflection.

- Ask "how" students arrived at their understanding of the event they are reflecting upon. The process of making sense of events is built upon a personal history of perceptions and experiences. Pulling these to awareness facilitates an understanding of how the student "knows" what he or she understands about the event.
- Make contrasts and similarities pop to the foreground. In most cases students will have examples of distinctions that they have observed. These are grist for discussion about why the distinctions exist, where they come from, what they mean, and how the student feels about them. Instructors may seek to highlight specific expected differences relevant to other course objectives; and those that students may not have considered.
- Seek to find how host culture is expressed through human interaction. What did natives of the culture do? What would you do in that situation? How does what you observed illustrate the host culture? It is important when focusing on interaction to request detailed, non-evaluative, descriptive information as a starting point.

Understanding how reflection functions provides a context for reflection prompts. First, reflection is not a "one and done" process. It works better when students receive feedback on their reflections and when they have multiple opportunities to engage in the process of reflection. Program design incorporating feedback and iterations will lead to deeper reflections (Savicki & Price, 2018). Second, meaningful insights and transformation require preparation. Students are not likely to have an "aha" experience with every reflective writing. Effective prompts and feedback can point the student on their way, but only they can arrive at the destination. Finally, students present different levels of readiness for reflective insights. Prompts and feedback must allow for individual facility with reflection and individual willingness to accept the conclusions reflections may induce. For some students, moving too fast may give rise to opposition. Gradualism works well.

Conclusions

The current study, though revealing, is called a case study because its most salient limitation is its sample size. Nineteen students from one study

abroad program is not a large enough sample to make broad generalizations about the validity of the LIWC as a measure of reflection. More students from more programs of different durations and configurations across more settings will be required. Also, a variety of methodologies of quantitative measurement should be employed to evaluate how well the LIWC functions. The IES is but one of many possibilities for criterion validity studies. Different criterion measures will emphasize different advantages and disadvantages of the LIWC as an operational measure of the process of reflection. Future research might also employ a multi-trait, multi-method approach to clarify how reflection is similar to and different from other key variables such as critical thinking (Robinson, 2021). and psychological mindedness (LeBoutillier & Barry, 2018). The lack of comparison to such constructs forms another limitation of the current case study.

Nevertheless, under the constraints of the current study, we feel confident in saying that the LIWC measures key components of the reflective process. The findings fit with what we know about reflection based on theory and previous attempts at assessment. Reflection components behave as expected in relation to the IES measures of intercultural effectiveness.

In addition, the LIWC overcomes some of the inherent problems with qualitative measurement such as inconsistency and subjectivity. Once deployed, the LIWC can be employed with a minimum of effort and scaled to larger samples, so that repeated measurements can be undertaken without undue burden. If students submit their reflective writing electronically, no transcription is necessary. Thus, measurement is more likely to be applied across multiple times and circumstances.

With more frequent, less onerous assessments comes the possibility of formative evaluation in which changes in curriculum and programming can be adjusted and tested in real time, thus promoting ongoing evidence-based program design and continuous improvement.

Finally, the LIWC or any measurement method has utility for study abroad only if the data provided are used for program improvement. A continuous improvement cycle may include the following steps--read the data, review the reflective prompts, rewrite them, make changes to the syllabus using the new prompts, and then do that all over again after receiving the next set of data. In contrast, using the same prompts over and over will simply lead to

similar results. Without applying assessment findings to program improvements, it is difficult to evaluate the effectiveness of the prompts and of the LIWC results. Ongoing assessment is necessary to increase our effectiveness as education abroad practitioners.

References

Altshuler, L., Sussman, N. M., & Kachur, E. (2003). Assessing changes in intercultural sensitivity among physician trainees using the intercultural development inventory. *International Journal of Intercultural Relations, 27*,387-401. https://doi.org/10.1016/S0147-1767(03)00029-4

Bennett, J. M., Bennett, M. J., & Stillings, K. (1977). *Description, interpretation, and evaluation: Facilitators' guidelines*. http://intercultural.org/training-and-assessment-tools.html#DIE

Bennett, M. J. (1993). Towards ethnorelativism: A developmental model of intercultural sensitivity. In R. M. Paige (Ed.), *Education for the intercultural experience* (2nd ed., pp. 21–71). Yarmouth, ME: Intercultural Press.

Bennett, M. J. (2012). Paradigmatic assumptions and a developmental approach to intercultural learning. In M. Vande Berg, R. M. Paige, & K. H. Lou (Eds). *Student Learning Abroad: What our students are learning, what they're not, and what we can do about it* (pp. 90-114). Sterling, VA: Stylus Publishing.

Brewer, E. & Moore, J. (2015). Where and how do students learn abroad? In V. Savicki & E. Brewer (Eds.). *Assessing Study Abroad: Theory, Tools, and Practice* (pp. 145-161). Sterling, VA: Stylus Publishing.

Feedback Report: *The intercultural effectiveness scale*, pp 8-13, (2017). https://www.kozaigroup.com/wp-content/uploads/2017/11/IES_IndividualReport_Jun2017.pdf

Fosnot, C. T. & Perry, R. S. (2005). Constructivism: A psychological theory of learning. In C. T. Fosnot (Ed.) *Constructivism: Theory, Perspectives, and Practice, 2nd ed.* 8-38. Teacher's College Columbia University.

Gillespie, J., Ciner, E & Schodt, D. (2015). Engaging stakeholders in assessment of student learning in off-campus programs. In V. Savicki & E. Brewer (Eds.). *Assessing Study Abroad: Theory, Tools, and Practice* (pp. 262-276). Stylus Publishing.

Hunter, A. (2008). Transformative learning in international education. In V. Savicki, (Ed.). *Developing Intercultural Competence and Transformation: Theory, Research, and Application in International Education* (pp. 92-107). Stylus Publishing.

Kane, M. T. (2001). Current concerns in validity theory. *Journal of Educational Measurement, 38*, 319-342. https://doi.org/10.1111/j.1745-3984.2001.tb01130.x

Kolb, D. (1984). *Experiential learning as the science of learning and development.* Prentice Hall.

LeBoutillier, N. & Barry, R. (2018). Psychological mindedness, personality and creative cognition. *Creativity Research Journal, 30*, 78-84. https://doi.org/10.1080/10400419.2018.1411440

Mendenhall, M. E., Stevens, M. J., Bird, A., Oddou, G. R. & Osland, J. (2012). Specification of the content domain of the Intercultural Effectiveness Scale. *The Kozai Monograph Series, 1(3)*, 1-26.

Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass.

Paige, R.M. (2015). Interventionist models for study abroad. In J.M. Bennett (Ed.), *SAGE Encyclopedia of Intercultural Competence*. (pp. 563-568). SAGE Publications.

Pennebaker, J. W., Booth, R. J., & Francis, M. E. (2007). Linguistic Inquiry and Word Count: LIWC [Computer software]. LIWC.net.

Pennebaker, J. W., Chung, C. K., Ireland, M., Gonzales, A., & Booth, R. J. (2007). *The development and psychometric properties of LIWC2007* [LIWC manual]. LIWC.net.

Pennebaker, J. W. & King, L.A. (1999). Linguistic styles: Language use as an individual difference. *Journal of Personality and Social Psychology, 77*, 1296-1312. https://psycnet.apa.org/doi/10.1037/0022-3514.77.6.1296

Robinson, L. Jr. (2021). Investigating critical thinking disposition, self-efficacy, self-regulation, and self-identity amongst online students. *College Student Journal, 55*, 325-337.

Savicki, V. & Price, M. V. (2015). Student reflective writing: Cognition and affect before, during, and after study abroad. *Journal of College Student Development, 56,* 587-601. http://doi.org/10.1353/csd.2015.0063

Savicki, V. & Price, M. V. (2017). Components of reflection: A longitudinal analysis of study abroad student blog posts. *Frontiers: The Interdisciplinary Journal of Study Abroad, XXIX*, 51-62. https://doi.org/10.36366/frontiers.v29i2.392

Savicki, V. & Price, M. V. (2018). Guiding reflection on cultural experience: Before, during, and after study abroad. In S. L. Pasquarelli, R. A. Cole., & M. Tyson, (Eds.) *Passport to Change: Designing Academically Sound, Culturally Relevant Short Term Faculty-Led Study Abroad Programs*. Stylus Publishing.

Savicki, V. & Price, M. V. (2021). Reflection in transformative learning: The challenge of measurement. *Journal of Transformative Education: Special Issue on Assessment of Transformative Learning. 19*, 366–382. https://doi.org/10.1177/15413446211045161

Tausczik, Y. R. & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology, 29*, 24-54. https://doi.org/10.1177/0261927X09351676

Vande Berg, M., Paige, R. M., & Lou, K. H. (2012). Student learning abroad: Paradigms and assumptions. In M. Vande Berg, R. M. Paige, & K. H. Lou (Eds). *Student Learning Abroad: What our students are learning, what they're not, and what we can do about it.*, (pp. 90-114). Stylus Publishing.

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