Epistemic Processing of Communication and Openness to Diversity Preparing Students for a Global Society

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EPISTEMIC PROCESSING OF COMMUNICATION AND OPENNESS TO DIVERSITY PREPARING STUDENTS FOR A GLOBAL SOCIETY

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ABSTRACT
In this study, we examined the relationship between ways of knowing and students’ openness to cultural diversity. Two hundred and eleven Business majors completed measurements of Connected Knowing (CK), individuals try to understand other’s perspectives; Separate Knowing (SK), individuals play the devil’s advocate; and diversity appreciation. CK, SK, gender, cultural status, and age served as potential predictor variables in a series of regressions. CK, SK, gender, and cultural status predicted three indicators of openness to diversity including: (a) valuing diversity education, (b) interacting personally with different cultures, and (c) reacting to the concern that diversity education may diminish a sense of commonality among Americans and class time used to teach the basic core knowledge.

INTRODUCTION
Research on epistemological beliefs examines individuals’ beliefs about the nature of knowledge and learning. Initially the study of epistemic beliefs involved the study of students’ views about knowledge (e.g., the source, certainty, justification of knowledge), knowledge acquisition (e.g., the speed of learning, and the ability to learn), and epistemic processing of communication (e.g., judging the veracity of information with perspective taking or counter-arguing) (Schommer-Aikins & Easter, 2008; 2009). The preponderance of our research examined the relationship among epistemic beliefs about knowledge, knowledge acquisition, and students’ academic skills, which revealed the direct and indirect effects of epistemic beliefs on academic learning, such self-monitoring of one’s comprehension, and valuing of education (Schommer-Aikins, 2004). As important as these basic academic skills are in today’s society, it’s critical that students develop communication skills and the necessary competencies to interact in a diverse and global society (DelGuidice, 1997; Dembner, 1995).

Therefore, teaching cross-cultural competencies in International Business and Management education coupled with integrating diversity in the content, materials, and course curriculum, would better prepare students for global management (Ramburuth, Welch, 2005). Students need to be prepared to embrace a world beyond their town, beyond their state, and beyond their country. They need to negotiate, conduct business, and develop relationships with people that are very different from themselves. For these reasons we chose to focus on epistemic processing of communication and openness to diversity.
Perry (1968) was one of the first researchers to investigate epistemic beliefs. He interviewed Harvard undergraduates about the views of education. He found that as freshmen most of them assumed the knowledge was simple, certain, and handed down by authority. However, seniors believed that knowledge was complex, tentative, and derived from empirical research and sound reasoning. These contrasting views had important implications for student learning. Subsequent research revealed that these beliefs affected comprehension and the self-monitoring of one’s own comprehension (Schommer-Aikins, 2004). Students who believed knowledge is complex and tentative are better able to comprehend difficult text and are accurately estimated their understanding of challenging text (comprehension monitoring).

Thirty years after Perry’s work, another group of researchers took note that Perry’s work was conducted primarily with men (Belenky, Clinchy, Goldberger, & Tarule, 1986). Belenky, et al. (1986) conducted a seminal study of 100 women. They interviewed these women and generated a theory of ways of knowing. The purpose of this study was to investigate two different ways that individuals actively process and come to understand the communication of others. These two ways are Connected Knowing (CK), where individuals try to understand another’s perspective before making an evaluative judgment, and Separate Knowing (SK), where individuals challenge other’s perspectives before making an evaluative judgment (Belenky, Clinchy, Goldberger, & Tarule, 1986). Researchers have found that men tend to have higher SK scores and women have higher CK scores (Clinchy, 2002). Although an individual may have a propensity toward either SK or CK, both men and women are capable of both ways of knowing. Indeed, the most mature thinkers are assumed to use both ways of knowing by carefully balancing which way of knowing should be emphasized at any particular time. Much like a judge in a courtroom needs to listen and understand the perspective of the witness, yet carefully judge the veracity of the testimony (Schommer-Aikins, 2004).

The nature of ways of knowing continues to be explored. For example, Ryan and David (2003) wanted to determine if ways of knowing were domain general (the same propensity in across all situation) or domain general (the degree of SK and CK varying depending upon the situation). They asked groups of students to either think of people very much like themselves (in-group priming condition) or very different from themselves (out-group priming condition). Then the students’ ways of knowing were assessed. When students had their in-group in mind, their CK was significant higher than their SK. When students had their out-group in mind, their CK scores were similar to the SK scores. These results were true for both men and women. Take note that this was a between-group design. Two different groups experienced either the in-group or out-group condition. Hence, this study did not necessarily reveal that students literally change their propensity of ways of knowing when the situations changed.

Schommer-Aikins and Easter (2014) tested the malleability of ways of knowing more rigorously by using a within-subject design. Students first experienced and in-group priming condition with a subsequent ways of knowing assessment. After completing a brief filler task, students experienced and out-group priming condition with subsequent ways of knowing assessment. Order of priming was counterbalanced so that half the
students received out-group priming first. The results replicated Ryan and David’s (2003) results. CK scores dropped to low levels in the out-group condition. SK scores remained the same in both priming conditions. Schommer-Aikins and Easter (2014) speculated that what they might be seeing was a withdrawal of perspective taking when students had out-groups in their mind. And if this speculation were accurate, it would have important implications as to how students work and live in a diverse, global society. The openness to diversity has important value in today’s higher education goals (Globetti, Globetti, Brown, & Smith, 1993).

Many academic institutions are embracing cultural diversity as a disposition to impress upon students (King, Perez, & Shim, 2013). Lewis & Nakagawa, 1995 projected that by the year 2020, 39 percent of all school-age children will come from minority groups. Many studies estimate that the White majority will become the minority (Mosley-Howard, Witte, & Wang, 2011; Moule, 2012) by 2050. The changing demographics are an impetus to develop a workforce who understands and appreciates diversity. Simply having a highly diverse student body, however, does not guarantee that students will learn global lessons or that they will engage with each other in a positive manor (Chang, Denson, Sa’enz, & Misa, 2006). It is important that students find value in interacting with people different from themselves (Mosley-Howard, et al., 2011).

Antonio, Chang, Hakuta, Kenny, Levin, and Milem (2004) and Levine and Ancheta (2013) argue that racial diversity in the college classroom enhances complex thinking, while Chang, et al., (2006) provide evidence that diversity interactions improve critical thinking, and problem solving. Potential contributors to diversity openness need to be identified. Ideally, these contributors can be taught in schools. Ways of knowing is a likely candidate. Openness to diversity requires a willingness to take someone else’s perspective relates to CK (Todd, Bodenhausen, Richeson, & Galinsky, 2011). Furthermore, as a motivation for individuals to be open to changing their own views of the world, a willingness to step back and examine ideas objectively helps individuals reevaluate their own thinking, which relates to SK.

Mosley-Howard, et al. (2011) designed the Miami University Diversity Awareness Scale (MUDAS) to assess the status quo of college students’ awareness and appreciation of diversity. They developed a 37-item survey through a series of analyses, e.g., exploratory factor analyses, instrument refinement, and faculty reviews. This instrument measures five factors that assess valuing diversity, seeking out general knowledge of diversity, having personally interacted with different cultures, seeing the need for social justice, and seeing the need for professors to have knowledge of diversity. In the third phase of their study, they found that first-year female students’ scored significantly higher on value/appreciation, learning/knowledge, intercultural interaction, and discipline practice. Additionally, diversity ratings were highest among students majoring in the Arts and Sciences and least among students majoring in Business. Diversity ratings were highest among Latino/Hispanic students, followed by Black, Asian American, multiracial, Native American, White, and international students. The question is what factors may contribute to the variability of openness to diversity among students?
The purpose of this study was to determine if CK and/or SK relate to students’ valuing diversity. Students completed measurements of ways of knowing and diversity awareness and appreciation. Ways of knowing, gender, cultural status, and age served as potential predictor variables in a series of regressions.

METHOD PARTICIPANTS

Two hundred and eleven business majors with an average age of 25 (SD = 6.02) participated in this study. There were 117 men and 94 women. Five participants did not report their gender. The students were Euro-American (n = 69), Asian American (n = 70), Hispanic (n = 42), Middle East (n = 15), African American (n = 11), Mixed, (n = 4), Native American (n = 1). The majority of students were upper division undergraduates (freshmen = 3; sophomore = 11, junior = 125, senior = 61, graduate student = 1). Students were given class credit for participating in this study.

MEASUREMENTS

Ways of Knowing were measured with the Galotti, et al. (1999) 20-item questionnaire, Attitudes Toward Thinking and Learning Survey (ATTLS). Separate scores for SK and CK were obtained, 10 items each. Students responded to SK and CK statements such as: “It’s important for me to remain as objective as possible when I analyze something.” and “I try to think with people instead of against them.” On a Likert scale from 1 (strongly disagree) to 7 (strongly agree), Inter-item correlations from each scale are .83 (CK) and .77 (SK). Details of psychometric properties and instrument development can be seen in (Galotti et al., 1999).

The 37-item Miami University Awareness Scale (MUDAS) (Mosley-Howard, et al, 2011) measured awareness and appreciation of diversity. Students responded on a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree) to statements such as: “I seek to learn about different cultures.” Value/Appreciation; “I would welcome the opportunity to work in an urban community.” Learning/Knowledge; “I seek opportunities to interact with people from different countries.” Intercultural Interactions; “I realize that if I commit to promoting social justice, I too must change.” Social Justice; and “Professors should receive training in working with students that have diverse needs.” Professional Practice.

PROCEDURE

Students completed the ATTLS, MUDAS, and basic demographic questions with online surveys. The order of measurements was counterbalanced resulting in half the students taking ATTLS first and the remaining students completing MUDAS first. At the end of the survey, basic demographic questions were completed.

RESULTS

Scores for each measure were calculated by summing items that composed each measure and obtaining the mean. Examination of Cronbach alphas indicated that the measures of
ways of knowing were acceptable (CK alpha = .75; SK alpha = .71). However, MUDAS factors varied in acceptability, i.e., alphas ranged from .46 to .75. Exploratory factor analyses were conducted to identify the MUDAS factors most meaningful to students in this study. Examination of eigenvalues, scree plots, and meaningfulness generated three MUDAS factors; *Diversity Education is Important* (DEI) (9 items, alpha = .88), *I Seek Diversity Interactions* (SDI) (5 items, alpha = .73), and *Diversity Education Diminishes Basic Education* (DEDB) (2 items, alpha = .66). The items in the DEDB factor expressed concern that diversity education can diminish important core knowledge and a sense of commonality among Americans. Specifically, the items were, “The American public school system’s curriculum should concentrate more on our common American identity rather than on specific ethnic groups.” And “Stressing different cultural customs and traditions tends to reduce learning the basics (reading, writing, and mathematics) in schools today.” Descriptive statistics of these measures are shown in Table 1. Zero order correlations among key variables are shown in Table 2.

Table 1: Descriptive Statistics for Overall Scores

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK</td>
<td>5.38</td>
<td>0.78</td>
</tr>
<tr>
<td>SK</td>
<td>4.74</td>
<td>0.91</td>
</tr>
<tr>
<td>Diversity Ed. Important</td>
<td>4.90</td>
<td>0.77</td>
</tr>
<tr>
<td>Seek Diversity Interactions</td>
<td>4.78</td>
<td>0.75</td>
</tr>
<tr>
<td>Diversity Ed. Diminishes Basics</td>
<td>3.00</td>
<td>1.25</td>
</tr>
</tbody>
</table>

Table 2: Zero-Order Correlations Among Key Variables

<table>
<thead>
<tr>
<th></th>
<th>CK</th>
<th>SK</th>
<th>DEI</th>
<th>SDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK</td>
<td>.30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversity Educ. Imp.(DEI)</td>
<td>.49</td>
<td>.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek Diversity Inter. (SDI)</td>
<td>.49</td>
<td>.29</td>
<td>.41</td>
<td></td>
</tr>
<tr>
<td>Div. Ed. Dim. Basics (DEDB)</td>
<td>-.19</td>
<td>.13</td>
<td>-.38</td>
<td>-.16</td>
</tr>
</tbody>
</table>

Note. Correlations of .16 or higher are significant at p < .05.

To determine if ways of knowing and demographic variables predict openness to diversity, a regression for each of the three MUDAS factors as dependent variables was conducted. CK, SK, age, gender, and cultural status (dominant versus non-dominant) served as predictor variables in step-wise regression. Only variables that were significant at the .05 level were allowed to enter the equation. Summary statistics for these regressions are shown in Table 3.

Table 3: Summary of Regressions for Significant Variables Predicting Openness to Diversity

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Predictor Variable</th>
<th>b</th>
<th>B</th>
<th>R² Change</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity Imp.</td>
<td>Ed.CK</td>
<td>.48</td>
<td>.48</td>
<td>.23</td>
<td>60.88</td>
<td>.001</td>
</tr>
<tr>
<td>Cultural Status</td>
<td></td>
<td>.42</td>
<td>.26</td>
<td>.06</td>
<td>17.94</td>
<td>.001</td>
</tr>
</tbody>
</table>
Overall CK was the strongest predictor of all MUDAS variables. CK, cultural status, and gender predicted valuing diversity education. The more students in this study adhered to CK ($R^2 = .23$), the culturally non-dominant students ($R^2 = .06$), and female students ($R^2 = .05$), were more likely to value diversity education. CK, gender, and SK predicted seeking diversity interactions. Female students were more likely to seek intercultural interactions ($R^2 = .03$). In addition, the more students adhered to CK ($R^2 = .23$) and SK ($R^2 = .03$), the more likely they were to seek intercultural interactions. CK and SK predicted opposing reactions to the concern that diversity education would diminish time spent on basic education and commonalities among Americans. The more students adhered to CK ($R^2 = -.04$), the less they agreed that diversity education is problematic. In contrast, the more students adhered to SK ($R^2 = .04$), the more they agreed that diversity education could diminish time spent on basic education.

**DISCUSSION**

These results provide evidence that epistemic communication issues, in particular CK, appear to be an important component of valuing diversity. Higher scores in CK predicted valuing diversity education and actively seeking interactions with others who are different from themselves. Higher SK scores predicted actively seeking interactions with diverse populations as well. Women had a stronger belief than men that diversity education and interactions with diverse populations are important. Cultural and gender difference findings are similar to previous research (Mosley-Howard, et al., 2011) in which women and culturally non-dominant students had more intercultural interactions and saw the need for social justice and diversity being taught in the classroom.

Factor analyses replicated two of Mosley-Howard, et al.’s (2011) factors, which are importance of diversity education and seeking diversity interactions. However, for students in this study, a third factor emerged which expressed concern that diversity education takes away from teaching fundamental concepts, such as reading and mathematics and a sense of commonality among Americans. Interestingly, both CK and SK significantly predicted these concerns, with strong CK students disagreeing with the concerns and strong SK students agreeing with the concerns. These results suggest that students with a strong propensity to CK are open to diversity education and interactions. Nevertheless, if students have a strong propensity to SK, they may have concerns or fears that a sense of common national identity is being lost and important class content is not being provided.
What remains difficult to interpret is the concern that strong SK believers have over the potential negative effects of diversity education. Recall, that strong SK believers did indicate that they seek diversity interaction. So the question remains, is the link between SK and concern about diversity education simply healthy skepticism, or is it failure to embrace the perspectives of people different from themselves? Future research with more proximal measures would enhance our understanding of this finding.

The overall findings are important for several reasons. First, simply having a diverse campus, does not guarantee a positive ambience (Chang, et al., 2006). It is important to determine what factors will facilitate valuing of diversity and positive interactions among a diverse student body. Second, research indicates that classroom diversity enhances critical thinking, complex thinking, and problem solving (Antonio et al., 2006; Chang, et al., 2006; Levine & Ancheta, 2013). These results suggest the indirect effects of CK and SK on learning. Third, with the uncovering of the concern of potential negative implications of diversity on education, campus administration and faculty should consider policies, procedures, classroom activities, and extracurricular activities that prevent potential pitfalls.

REFERENCES


