An Examination of Undergraduates Using Kolb's Nine Learning Style Patterns

Cele Stone
Doctoral Graduate Assistant
Department of Agricultural Education and Communications
Texas Tech University
Box 42131
Lubbock, TX 79409
(806) 241-3644
Cele.stone@ttu.edu

John Rayfield
Associate Professor
Department of Agricultural Education and Communications
Texas Tech University
Box 42131
Lubbock, TX 79409
(806) 742-2816
John.rayfield@ttu.edu

Rudy Ritz
Assistant Professor
Department of Agricultural Education and Communications
Texas Tech University
Box 42131
Lubbock, TX 79409
(806) 742-2816
Rudy.ritz@ttu.edu

An Examination of Undergraduates Using Kolb's Nine Learning Style Patterns

Introduction / Need for Research

It is well known that Kolb's Learning Style Inventory (KLSI) describes the way a person learns and how that person deals with ideas and day-to-day situations. Everyone learns in different ways. Knowing and recognizing one's learning style is linked to improved meta-cognition, personal growth, job choice and satisfaction, better work-place relationships, and can even nurture personal relationships (Baker et al., 2012; Kolb & Kolb, 2009; Kolb, 2014). Using the KLSI Gemmell (2017) found, preference for Kolb's Active Experimentation dimension was a strong predictor of entrepreneurs adopting key innovation behavior. He also noted, those who scored high on the opposite end of the spectrum, Reflective Observation, exhibited negative effects on entrepreneurial performance. This example demonstrates the impact a particular learning style can have on an individual's ability to succeed in certain settings. Thus, the question must be asked, can educators at the university level still impact a student's placement in the learning cycle, potentially propelling them to be more balanced or well rounded? Without knowledge of where one lands in the Kolb continuum, change would be difficult.

Theoretical Framework

The theoretical framework used to guide this study is based on Kolb's learning styles inventory. Kolb's learning styles are defined by an individual's relative preference for the four modes of the learning cycle described in experiential learning theory: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. These learning styles can be assessed by the KLSI (2005). Nine distinct learning style patterns have been observed: experiencing, diverging, reflecting, assimilating, thinking, converging, acting, accommodating, and balancing.

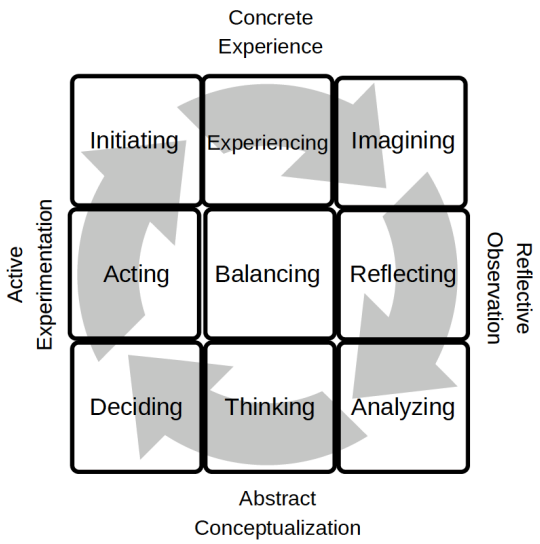

Figure 1. Adaptation of Kolb's nine learning style patterns as they relate to the four major learning style dimensions.

Methods

This study was designed to describe learning styles of undergraduates and it is part of a larger, longitudinal study. Data were collected from students enrolled in the course titled Introduction to Agricultural Education during the 2020 spring semester (n = 47) at Texas Tech University. The instrument used was the KLSI version 4.0. The KLSI 4.0 maintains the high scale reliability of the KLSI 3.1 which has been well established within the field of educational research. KLSI 4.0 has a higher internal validity than its predecessor. Scores on the KLSI 4.0 are highly correlated with scores on the previous KLSI 3.1 thus maintaining the external validity (Kolb, 2014). All data were analyzed in IBM SPSS version 25.0.

Results/Findings

The majority of students surveyed were in their first two years of college with 31.9% freshmen (n = 15) and 44.7% sophomore (n = 21). Respondents were largely female consisting of 72.3% (n = 34) of the population surveyed. For the learning styles portion of the assessment, we found that 68.1% of students fell within the three learning style patters that make up the dimension Concrete Experience, 27.7% initiating (n = 13), 23.4% imagining (n = 11), and 17.0% experiencing (n = 8). Conversely, only 8.6% of students scored on the opposite end of the model in the Abstract Conceptualization portion (n = 4), with no students scoring in the thinking pattern. The portions of the Kolb model representing how learners deal with an experience were more balanced with 38.4% of students scoring in Active Experimentation (n = 18) and 36.2% in Reflective Observation (n = 17). Of the students examined, 85.1% were college of agriculture majors at Texas Tech University (n = 40), leaving 14.9% of students with majors other than agriculture *(*n = 7). Specifically, 90.0% of all agricultural majors surveyed were classified as “in department,” meaning, they were agricultural education, communications, or leadership majors (n = 36).

Conclusions/Implications/Recommendations

This study shed light on the types of learners that might gravitate toward agricultural education, communications, and leadership fields of study at Texas Tech University. The results from this study as well as continuing efforts reflected in the larger study could help provide an understanding of what portions of the learning cycle those students typically fall. Knowing students’ learning style is simply a stepping-stone.

Identifying learning style is the first of many steps in affecting change. Kuh (2008) surmised, high impact experiences (HIEs) can drive change and provide growth for an individual. Considering the large percentage of students from the Department of Agricultural Education and Communications enrolled in Introduction to Agricultural Education and the percentage of freshmen and sophomores enrolled, it is conceivable to impact and improve student learning style from within the department. The department provides well known HIEs through student teaching and internships, but Smith and Rayfield (2017) suggested, students need to be prepared for the potential effects of HIEs on their learning preferences. Therefore, in continuing to provide HIEs as educators of future teachers, communicators, and leaders, how can we make those

experiences more relevant to our students and how can we better prepare them for such an impactful experience?

References

Baker, M. A., Robinson, J. S., & Kolb, D. A. (2012). Aligning Kolb's experiential learning theory with a comprehensive agricultural education model. *Journal of Agricultural Education*, *53*(4).

Gemmell, R.M. (2017). Learning syles of entrepreneurs in knowledge-intensive industries. International Journal of Entrepreneurial Behavior & Research, 23(3), 446-464.

Kolb, A.Y., Kolb, D.A. (2005). The Kolb Learning Style Inventory version 3.1 2005 technical specifications. Philadelphia, PA: HayGroup. Retrieved from http://learningfromexperience.com/media/2010/08/tech_spec_lsi.pdf

Kolb A.Y., Kolb, D.A. (2009). Essays on adult learning inspired by the life and work of David O. Justice. Learning Never Ends. CAEL Forum and News 2009. 5-13.

Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development*. FT press.

Kuh, G.D. (2008). High impact educational practices: What they are, who has access to them and why they matter. Washington, DC: Association of American Colleges and Universities.

Smith, K. L., & Rayfield, J. (2017). Student teaching changed me: a look at Kolb's learning style inventory scores before and after the student teaching experience. *Journal of Agricultural Education, 58*(1), 102-117. https://doi.org/10.5032/jae.2017.01102