

Integrating Critical Thinking into Extension Programming #5: Using Critical Thinking Styles to Enhance Team Work¹

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Introduction

The ability to think critically has been identified time and time again as a cognitive style needed for success in the 21st century. Critical thinking is the process by which we receive and organize information in order to make informed decisions (Gorham, Lamm & Rumble, 2014; Myers & Dyer, 2006; Torres & Cano, 1995). Extension programs can be strengthened by proactively planning ways to use critical thinking styles to engage learners (Lamm, Harder, Irani, Roberts, & Snyder, 2011). The University of Florida Critical Thinking Inventory (UFCTI; Lamm & Irani, 2011) offers a way to measure an individual's critical thinking style through a survey instrument offered online. For more information about the UFCTI, please visit www.ufcti.com. This EDIS document is the fifth and final document in a series on integrating critical thinking into Extension programming. While the other documents introduced critical thinking, the development of critical thinking skills, the difference between skill and style, and the UFCTI, this document discusses how individual cognition and critical thinking style, in particular, influence the way we work in groups and teams. The entire series includes the following EDIS documents:

1. Critical Thinking Defined (<http://edis.ifas.ufl.edu/wc206>)
2. Developing Critical Thinking Skills (<http://edis.ifas.ufl.edu/wc207>)
3. Critical Thinking Style (<http://edis.ifas.ufl.edu/wc208>)
4. Measuring Critical Thinking Styles Using the UFCTI (<http://edis.ifas.ufl.edu/wc209>)
5. Using Critical Thinking Styles to Enhance Team Work (<http://edis.ifas.ufl.edu/wc210>)

Working in Teams

Due to the structural components of today's workplace, skills associated with being able to work collaboratively and lead teams are highly sought after (Gokhale, 1995; Lamm, Shoulders, Roberts, Irani, Unruh Snyder, & Brendemuhl, 2012). Well-formed working groups allow members to "share their conceptual and procedural knowledge in the joint construction of a problem solution, so that all are actively engaged in the problem-solving process and differences of opinion are resolved in a reasonable manner" (Heller & Hollabaugh, 1992, p. 637). Diversity in knowledge and experiences is known to contribute to group learning (Gokhale, 1995); however, cognitive differences between the individuals in a group can greatly affect their ability

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to solve problems and develop creative solutions (Kirton, 2003).

Influence of Cognition on Teamwork

The level of success that groups experience is known to depend upon the level of functionality of the group (Heller & Hollabaugh, 1992). Functionality is largely attributed to group makeup, including demographic characteristics (e.g., age, gender, race/ethnicity) and perceptions of leadership, but also can be attributed to individual cognitive traits such as personality profile, problem solving tendencies, and critical thinking style (Lamm, Carter, Settle, & Odera, 2016). Research has shown that when working collaboratively on simple, straightforward tasks, a team will be more effective when their attributes are similar (Kirton, 2003; Lamm, Rhoades, Snyder, Irani, Roberts, & Brendemuhl, 2011). We appreciate those who are like us and are more comfortable coming to consensus with those who do not challenge our specific critical thinking process. However, when presented with a complex task that is not easily solved, groups that are diverse in their approaches, offering a variety of perspectives, will take longer to go through the decision-making and critical thinking process, but will ultimately be more successful and creative in their solutions (Kirton, 2003; Lamm et al., 2011).

Using Group Work in Extension Programming

The world of education has adopted group problem solving as a teaching technique that not only prepares individuals to be successful in their careers, but also reaps cognitive benefits (Gokhale, 1995; Heller, Keith, & Anderson, 1992; Lamm et al., 2012; Phipps, Osborne, Dyer, & Ball, 2008) and can lead to broader societal benefits, including shared governance and consensus-building around contentious issues (Lamm et al., 2016). Collaborative group work allows participants to wrestle with diverse viewpoints and can result in broad interpretations and solutions brought forth by group members, thereby enhancing perspectives and activating critical thinking styles (Bruner, 1985; Heller et al., 1992; Vygotsky, 1978).

Since individual critical thinking styles differ in levels of engagement and seeking behavior (for more information on the attributes of critical thinking styles see the third EDIS publication in this series titled *Integrating Critical Thinking into Extension Programming #3: Critical Thinking Style*, <http://edis.ifas.ufl.edu/wc208>), forming either homogenous

or heterogeneous groups intentionally during Extension programming can further activate critical thinking and assist participants in reaching a deeper level of understanding. In turn, using this technique to teach subject matter and then following up with discussion and reflection on the team process can assist participants in gaining both the skills needed to work in a team as well as the knowledge and skills being taught as part of the program. Doing so would require knowing participants' critical thinking style, which can be measured using the UFCTI (for more information on using the UFCTI, please see the fourth EDIS publication in this series titled *Integrating Critical Thinking into Extension Programming #4: Measuring Critical Thinking Styles Using the UFCTI*, <http://edis.ifas.ufl.edu/wc209>). Should identification be a difficult or even unreasonable task given the scope of the Extension program, it can be assumed all groups are heterogeneous when randomly assigned. Therefore, discussion about diversity in approach and thought can be framed in terms of the group dynamic, rather than in terms of the spectrum between similar and different critical thinking styles. The added reflection could assist in transferring team-building skills to participants in this manner.

Conclusions

Extension programs are essential for transferring knowledge from the land-grant institution to the broader society. However, there is also a need to improve the leadership skills, critical thinking ability, and team-building capacity of our clientele. The two can be symbiotic. By intentionally reflecting on the impact our critical thinking style has on our actions, we can assist our clientele in building their personal skills and subject matter expertise. For more information about critical thinking styles and the UFCTI, please visit www.ufcti.com or visit the UF/IFAS Center for Public Issues Education in Agriculture and Natural Resources website at www.piecenter.com.

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