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Assessing Growth of Student Reasoning Skills in Honors

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INTRODUCTION

Assessment and evaluation practices within honors programs have attracted considerable attention within the honors academic community, e.g., the spring/summer 2006 volume of the *Journal of the National Collegiate Honors Council*. Calls for carefully created and constructed assessment activities within honors programs have met with mixed responses by directors who identify the difficulty in assessing decentralized, complex learning environments, noting that standard measures such as tests, surveys, or essays are not always applicable or appropriate in addressing honors assessment needs, especially in areas of social justice, service learning, and community engagement (Corley & Zubizarreta; Lanier). Acknowledging the hesitancy of honors directors about the need for assessment as well as their concern about the development of authentic assessment practices, Lanier nevertheless

encourages honors directors to embrace quality assessment activities as a way to demonstrate the value and importance of honors and its enhanced student learning. Lanier offers the following comments:

We now need to do the right thing in honors education and develop reliable assessment practices that will generate reliable data and demonstrate convincingly that honors does have the impact on students that we all assert as a matter of faith. “Trust me, honors is important and our students do very well” just doesn’t work anymore no matter how much we may want to fuss or drag our heels. (88–89)

The focus of this paper is to share one effective method for gathering evidence that indicates whether students advanced in their ability to think at a more complex level within a short-term honors service learning course. Grounded in Wolcott and Lynch’s Steps to Better Thinking Skills model, this augmented assessment tool identifies growth in critical thinking skills and areas of intellectual risk.

ASSESSMENT IN HONORS

Assessment has become an important component of program development and continuation in higher education. Legislators, alumni, parents, and students all demand accountability for the learning and skills developed in programs offered at universities and colleges. Honors programs are no exception. Toward that end, honors directors have increasingly been asked to offer evidence supporting the claim that honors programs have value, enhance student learning, and provide opportunities for personal growth and development. Creating assessment practices, however, can be difficult, and developing practices that faculty members can easily integrate into honors courses is even more of a challenge. As a result, many honors programs and colleges have struggled to provide evidence of the value that honors adds to students’ educational and personal development, and this is especially true for the growing number of programs that emphasize “high-impact educational practices” (HIP) such as study abroad and service learning (Kuh). Klos, Eskine, and Pashkevich note that “questions of social justice and civic engagement are an increasing focus of attention in honors education” (53), with honors programs offering more activities such as service learning, immersion experiences, and community-engaged research. Such experiential opportunities play an important role in developing students’ understanding of complex social issues in a global, national, and local setting as well as

developing students' ability to critically examine their personal assumptions as well as societal structures. However, assessing this kind of personal and academic growth in deep-immersion/high-impact programs is difficult.

In a 2009 survey of the assessment practices of 24 NCHC members and 14 non-members, Driscoll found that just over half of the honors programs conducted some sort of assessment. Reasons for not engaging in assessment practices included "newness of the program, newness of the administrator, insufficient time, philosophical opposition to assessment, and an assessment plan in process but not in place" (94). In those programs that have engaged in assessment, the data collected most often involved student satisfaction with honors courses, student satisfaction with the honors program, attrition rates from honors programs, causes of honors attrition, and attrition rates of the institution. For example, in a longitudinal study of 172 honors students from 2000 to 2004, Shushok found that honors students had a higher GPA than non-honors students at the end of the first year of college, that honors students had higher retention rates progressing into the sophomore year, and that honors students were more likely than non-honors students to meet with a faculty member during office hours, discuss career plans with a faculty member, or discuss political/social issues with a student outside of class. Cosgrove described a similar assessment program, examining the academic performance, retention, and degree completion rates of three groups: 1) honors students who completed the program; 2) honors students who did not complete the program; and 3) non-honors students who had similar pre-college scores, high school GPAs, and ACT scores as the honors college students. Results indicated that the honors students who completed the program earned higher GPAs, had higher graduation rates, and graduated in a shorter time period than honors students who did not complete the program and non-honors students.

While assessment programs that address the value of honors in relation to retention, time to graduation, and enhanced GPA are valuable, less data have been collected connecting program assessment to specific learning outcomes. According to Driscoll, "Course content and critical thinking were reportedly assessed by only 35% of the programs that conduct some assessment (18% of the entire sample)" (100). Driscoll's findings are consistent with previous literature reported by Seifert et al. indicating that "relatively little research has examined the extent to which honors program participation influences student learning" (58). Clearly, honors programs need assessment practices that address learning outcomes such as critical thinking skills.

EFFECTIVE HONORS STUDENT LEARNING OUTCOMES (SLOS)

According to Lanier, the first question of good assessment is “What do we want our students to learn?” The second is “How do we know they learned it?” (90). Toward that end, Zubizarreta identified learning outcomes, or domains, for honors students on the NCHC listserv in September 2004, which are condensed as follows:

- Read, write, and think critically
- Employ an effective process to produce clear, persuasive writing
- Conduct effective research
- Develop analysis abilities
- Integrate active learning and be willing to take learning risks
- Promote interdisciplinary learning
- Incorporate community and service learning experiences
- Demonstrate aesthetic sensitivity
- Participate actively and effectively in large and small groups
- Assume multiple roles in groups
- Demonstrate responsibility outside the classroom and school
- Demonstrate cultural awareness and gender sensitivity
- Appreciate learning for its own sake
- Appreciate diversity
- Promote effective communication skills
- Demonstrate personal integrity
- Develop professional behavior/skills
- Develop leadership abilities
- Build moral values/integrity
- Promote project management and problem solving skills
- Promote active citizenship roles

- Incorporate international experiences
- Develop foreign language proficiency and
- Develop creative abilities

Lanier agreed with Zubizarreta's listing and added some additional possible domains that could be useful in honors assessment:

- Content (knowledge specific to a discipline or major as well as knowledge specific to interdisciplinary or cross-disciplinary activities)
- Communication (writing skills, oral communication skills, media/computer communication skills, numeric skills, etc.)
- Critical Thinking
- Analysis
- Project management (both group and individual work)
- Moral values/Integrity
- Problem solving
- Citizenship
- Leadership
- Diversity
- Creative ability
- Professional behavior/skills
- International experience
- Foreign language proficiency
- Active learning
- Interdisciplinary learning
- Service learning
- Community service
- Cultural awareness (90–91)

According to Lanier, the first step in the development of an honors assessment plan would be to consider which domains engage honors students in specific learning activities that are also central to the mission of the particular honors program. Lanier focused on the need for, and ability to develop, objective questions for assessing these student learning outcomes (SLOs) that include the following:

1. Do our honors programs and colleges actually provide educational opportunities and curricular structures that enhance our student's ability to attain these outcomes and goals?
2. What is the evidence that shows that our honors students have actually achieved these outcomes?

Beyond those two fundamental questions are matters of method and practice: How can an honors program consistently measure the outcomes such as “thinks critically” or “achieves strong analytic skills” given the breadth of a typical honors program (which is often quite unlike the sharp focus and coherence of the curriculum in a major)? What exactly do we mean by these outcomes? Where in the honors curriculum do honors students demonstrate these behaviors for faculty to gauge? The answers to these questions can provide evidence of honors students' academic achievement. The task then is to devise specific SLOs that lead to appropriate methods for gathering measurable data about whether students are actually learning and accomplishing the identified goals. (86)

CENTRAL MICHIGAN UNIVERSITY HONORS COLLEGE

The goals and values of a particular honors program play a crucial role in the development of its culture (Ford). The Central Michigan University (CMU) Honors Program is an active community of scholars that has been a campus organization since 1961 and has developed some clearly defined goals that include fostering diversity, commitment to academic excellence, intellectual engagement, and social responsibility. The program's mission statement emphasizes the need to provide high-ability students with unique educational opportunities and experiences; it challenges students to set high standards and to achieve academically, personally, and professionally for the greater good of our disciplines, our society, and our world. The primary values guiding the implementation of this honors program's mission include critical thought, scholarly inquiry, creative expression, respect and appreciation

for diverse people and ideas in a global society, high standards for integrity and personal aspirations, and active citizenship and service for the greater good. Students are encouraged to engage with faculty, staff, and fellow students through disciplinary and interdisciplinary coursework, seminars, philanthropic events, community engagements, and social activities (Central Michigan University Honors Webpage).

All of these criteria help to distinguish the honors student from the non-honors student at CMU. Honors is not a curriculum, a specific discipline, or a program of study. Honors courses are cross-disciplinary experiential learning contexts designed to connect academic study to broader, more complex environments such as service learning, study abroad, or similar events with the goal of fostering high-order critical thinking skills and promoting transformative learning.

COMPLEX THINKING ASSESSMENT INSTRUMENT

Wolcott and Lynch adapted King and Kitchner's seven developmental stages into five broad patterns of thinking, called "Steps for Better Thinking Skill Patterns," within which people form understandings and beliefs. *Level 0* represents pre-reflective thinking or unexamined assumptions. In *Level 1*, thinkers acknowledge the existence of multiple perspectives but fail to distinguish between evidence and personal opinion so that reasoning primarily consists of gathering information to support existing beliefs. *Level 2* thinkers can define the problem, identify personal biases, and evaluate multiple perspectives, but they lack clarity in defending a particular solution. *Level 3* people can formulate conclusions by comparing possible alternatives, but solutions generally lack meaningful connections beyond the immediate argument and fail to include implications and limitations. At *level 4*, complex thinkers formulate and contemplate viable solutions with well-grounded arguments and an awareness of implications and limitations over time.

To assist us in charting the levels of complex thinking in student writing, we adapted Wolcott and Lynch's thinking skill pattern descriptors to identify nuanced qualities of reasoning. As part of this process, we further expanded each level to qualify whether the participant demonstrated (a) weak or inconsistent reasoning skills; (b) pervasive, competent, or proficient thought; or (c) an awareness, readiness, or attempt to reason at a higher level of thinking as shown in Table 1.

TABLE 1. COMPLEX THINKING ASSESSMENT INSTRUMENT (CTAI): DESCRIPTIVE PARENTHELSICALS FOR IDENTIFYING LEVELS OF COMPLEX THINKING IN STUDENT WRITING

Goal of thinking	Level	Improvements over less complex thinking	Weaknesses or delimitations
Proceeds as if goal is to find the single, "correct" answer.	Zero		
	0a	<ul style="list-style-type: none"> • Pre-reflective thinking • Unexamined assumptions 	<ul style="list-style-type: none"> • Fails to realistically perceive uncertainties/ ambiguities • Recasts open-ended problem to one having a single "correct" answer • Insists that the experts should provide "correct" answer • Expresses futility • Uses blame, excuses, or illogical arguments • Concludes based on unexamined authorities' views or what "feels right"
Proceeds as if goal is to stack up evidence and information to support conclusion.	0b	<ul style="list-style-type: none"> • Expresses confusion • Recognizes need for substantiating evidence 	<ul style="list-style-type: none"> • Cannot evaluate or appropriately apply evidence • Inappropriately cites textbook, "facts," or definition
	One		
	1a	<ul style="list-style-type: none"> • Acknowledges existence of enduring uncertainties and multiple perspectives 	<ul style="list-style-type: none"> • Jumps to conclusions • Confuses evidence and unsupported personal opinion • Insists that all opinions are equally valid, but discounts others' opinions • Views experts as being opinionated or as trying to subject others to their personal beliefs

	1b	<ul style="list-style-type: none"> Reaches own conclusion without relying exclusively on authority 	<ul style="list-style-type: none"> Stacks up evidence quantitatively to support own viewpoint and ignores contrary information Inept at breaking problem down and understanding multiple perspectives
	1c	<ul style="list-style-type: none"> Defines problem and builds coherent argument on verifiable evidence 	<ul style="list-style-type: none"> Understands multiple perspectives, but privileges obvious, personally relevant aspects of problem
	Two		
<p>Proceeds as if goal is to establish a detached, balanced view of evidence and information from different points of view.</p>	2a	<ul style="list-style-type: none"> Presents coherent and balanced description of a problem and the larger context in which it is found 	<ul style="list-style-type: none"> Reluctant to select and defend a single overall solution as most viable Jeopardizes class discussions by getting stuck on issues such as definitions
	2b	<ul style="list-style-type: none"> Identifies issues, assumptions, and biases associated with multiple perspectives 	<ul style="list-style-type: none"> Selects a solution but unable to express adequate support for its superiority over other solutions
	2c	<ul style="list-style-type: none"> Attempts to control own biases Logically and qualitatively evaluates evidence from different viewpoints 	<ul style="list-style-type: none"> Writes overly long paper in attempt to demonstrate all aspects of analysis (problems with prioritizing)
	Three		
<p>Proceeds as if goal is to come to a well-rounded conclusion based on objective comparisons of viable alternatives.</p>	3a	<ul style="list-style-type: none"> Conclusion based on qualitative evaluation of experts' positions or situational pragmatics 	<ul style="list-style-type: none"> Conclusion doesn't give sufficient attention to strategic issues
	3b	<ul style="list-style-type: none"> After thorough exploration, consciously prioritizes issues and information 	<ul style="list-style-type: none"> Inadequate arguments for objectively assessing and choosing options

	<ul style="list-style-type: none"> ● Inadequately identifies and addresses solution limitations and “next steps” 	
3c	<ul style="list-style-type: none"> ● Articulates well-founded support for choosing one solution while objectively considering other viable options 	
Four		
4a	<ul style="list-style-type: none"> ● Prioritizes and addresses limitations effectively ● Interprets and reinterprets bodies of information systematically and over time as new information becomes available 	<ul style="list-style-type: none"> ● Lacks long-term vision; fails to anticipate future implications and plan for change
4b	<ul style="list-style-type: none"> ● Exhibits a practical, long-term vision ● Spontaneously considers possible ways to generate new evidence and solutions to a problem 	
<p>Proceeds as if goal is to construct knowledge, to move toward a better conclusion or greater confidence in conclusions as the problem is addressed over time.</p>		

Our research focused on the nature and evidence of transformative learning, especially critical thinking skills. The complexity of arguments from student writing could easily be placed within the clear affordances and limitations of thinking described in the ascending levels.

IMPLEMENTATION/ASSESSMENT PROCESS

We tested our adapted instrument by examining multiple reflective writings generated over the duration of an honors service learning course. Specifically, the goal was to ascertain shifts in thinking, subtle changes in perspective, a strengthening of process, or a broadening of vision emerging in later reflections as indicators of growth.

Sixteen traditional honors students were enrolled in a service learning course that required them to read and write responses to articles on the dynamics of service and civic engagement; do research and present topics of social concern; participate in daily group reflections; and organize and lead a series of community service events and projects. Students partnered with agencies that addressed issues of environmentalism, cultural preservation, rural and alternative education, and elder care. In addition to service activities, students completed a series of writing assignments, e.g., a pre-course paper, daily journals that connected their assigned readings to their service experiences, and a final reflection paper due approximately two weeks after the conclusion of the experience. As a way to begin the course and to start integrating reflection and knowledge into the service experience, the first writing assignment required students to think about the learning expectations they had for the course as well as their interest in and knowledge of an issue specific to the community. When discussing the issue, students were cautioned to note the complexity of the issue and, if appropriate, various perspectives on it as well as to identify possible courses of action to address it.

Writing assignments required students to reflect on the service experience, readings, interactions with community members, and their classmates. Reflections consisted of two parts: (1) the response that was guided by the question posed by the instructors and (2) the student's personal thoughts that might or might not be prompted by the instructors. The reflection provided a venue for personal synthesis as students interpreted their experiences through readings and daily discussions about entering and exiting a community, insider/outsider perspectives, and leadership development. In addition to the traditional "What?" and "Now What?" and "So What?" questions, the prompts addressed situations such as the following:

- Why is it important to enter a community effectively? What steps are we taking to ensure that we are respectful of this community?
- How does your insider/outside status impact how you engage in service with the island community?
- How does your insider/outsider status affect how you engage in service with this community?
- What struggles did you encounter and how did you address them?

A final reflection paper that encouraged students to integrate course readings, service experiences, and future civic engagement activities was due two weeks after the conclusion of the course. In the summative writing assignment, students were asked to respond to the following prompts:

1. Utilize at least 7 of the readings assigned throughout the course, then reflect upon what constitutes effective and meaningful service. What are the assumptions upon which you have constructed your definition of effective service? What elements/ideas need to be incorporated into your definition of effective/meaningful service? Please integrate the articles carefully into the final paper.
2. Choose one issue that our service projects have addressed. Think about what you initially thought about this issue, what you currently think about the issue, and what you have learned about the issue. Integrate the role that the service projects played in your understanding of this issue.
3. Finally, explore what it means personally to be an active citizen and the lessons you've learned about service and yourself as a result of your experiences on the island. Be specific; offer a careful analysis of the ideas you offer. What service role will you play when you return home?

In assessing student reflective writings, we bracketed out common terminology from the course readings and familiar phrases from group discussions. Instead of knowledge of course content, we looked at how students thought about these concepts and experiences as evidenced in opinions, explanations, justifications, and other arguments written during the week. Participant reflective writings identified four aspects of the course as disorienting: student perceptions of community members, the unfamiliar community culture, personal leadership roles, and the meaningfulness of service, which Cress et

al. describe as disequilibria common to service learning experiences. We highlighted unique observations, incongruences, contradictory remarks, and shifts in understanding (Daloz 1999), especially when framed within imaginative, intuitive, or exceptionally emotive responses to their experiences (Cranton; Dirkx; Mezirow). Because we were investigating evidence of growth in critical thinking skills, we examined how students cognitively processed these sites of dissonant experience.

Although we were aware of comprehension of course content as evidence of learning, the research focused instead on how students arrived at their conclusions in their reflections. We found evidence of partial or incremental steps toward transformative understandings in which students reinforced or rethought many of their assumptions during the course. By comparing student responses to experienced disequilibria with descriptions in the complex thinking assessment model, we were able to locate the students' range of critical thinking within specific parameters—even in brief reflective statements.

STUDENT EXAMPLES

Although all students and course instructors actively participated in the service learning project and advanced in their understanding of course content, not everyone was successful in critically assessing new, disquieting experiences in a way that was transformative. Four of the participants were unable to process the different points of view and continued to dismiss, discount, or ignore what they did not understand. Arguments in their reflections offered illogical evidence, expressions of confusion and futility, inappropriate application of information from course readings, and reassertions of personal experience and opinions as evidence, as described in CTAI Level 0.

For example, most of the service projects consisted of working with elderly community members, and misperceptions of the age group dominated the bulk of initial reflective writings. Most participants contended with their misperceptions of the elderly population's interests, needs, capabilities, and values. In their writings, students rethought their original assumptions, which ranged from the lack of physical acumen, life experience, knowledge, and self-sufficiency to preconceptions about being stubborn, unenthusiastic, lonely, senile, and narrow-minded. Participant II's initial response, however, quoted a course reading—"The outsider clearly does not have the direct experience with the everyday conditions and oppression faced by the community members" (Staples 28) [inappropriately applied quote from text to express futility of understanding (CTAI 0a)]—and went on to state:

The lack of understanding of personal issues a community faces can sometimes lead to ignorance among outsiders, and this is a massive problem that can lead to ineffective service. Although not always the case, actually going through a problem helps a person to become truly passionate about a specific issue. This is saying, for example, that someone who lived in poverty when he/she was younger is more likely to be very dedicated to fighting and ending poverty than someone who has been well-off their whole life [illogical argument (CTAI 0a)]. . . . Not only do us student volunteers have a good reputation on the island because of past classes and the work they have done, but we were also very organized and dedicated throughout the week. We were respectful volunteers, doing whatever was asked of us, and were very hard workers. We had a solid understanding of the issues we were working with, and didn't necessarily need to adjust as much as might be needed in other areas [justification of personal behavior; discounting of need to understand elderly (CTAI 0a)]. We all spoke the same language, we were all from the same state, and our cultures weren't very different from one another. There's not much we needed to do that we didn't do [failure to "acknowledge existence of enduring uncertainties and multiple perspectives" (Lynch, Wolcott, & Huber) that would indicate logic at Level CTAI 0a].

Participant II indicated little or no growth in critical thinking here or in subsequent reflections.

Other participants demonstrated a shift or elevation in their thinking as the course proceeded. Most, when confronted with disequilibria in their service-learning experience, were able to identify personal stereotypes or unfounded assumptions and made an effort to control biases and evaluate evidence from a different perspective. We were able to locate their initial writings within the descriptors of CTAI Levels 1 and 2. Writings by Participant I exemplify how the CTAI evidenced a dramatic shift in a student's critical thinking skills by the end of the course. Reflecting on experiences with the elderly in her final paper, she stated:

Hearing the stories and rich history the elderly told us really changed my original stereotype that almost all elderly adults are senile and have some sort of dementia. In fact, I even got to hear somewhat of the love story regarding how Joe and Lois found each other at low moments in their lives. My previous volunteer work with the elderly

was in a dementia center, so I had assumed that almost all of the elderly would be that way eventually [a previous unexamined assumption; “failure to realistically perceive uncertainties/ambiguities” (CTAI 0a)]. I was practically ashamed of myself for having thought such things because these individuals had such an incredible amount of experience with their lives, and one of the things that I took away from this was to understand that these people had so much to offer [two arguments from personal observation; “reaches own conclusion . . .” (CTAI 1b)]. Therefore, it’s clear that I have learned a great deal about this issue. More specifically, I’ve learned that ageism is just as bad, if not worse, than racism or sexism. It can make people who are elderly feel useless or incompetent, which is the opposite of what they should be feeling since they have attained the accomplishment of making it so far in life [“presents coherent and balanced description of a problem and the larger context in which it is found” (CTAI 2a)]. I’ve also learned the classic lesson of never judging a book by its cover. It’s easy to look at someone and make so many assumptions about them, but this is incredibly unfair because that person is never given the chance to explain their story or show what they are capable of [identifies issue and cause of bias (looks), and qualitatively evaluates the unfairness (CTAI 2c)].

However, most participants experienced moderate shifts in their thinking, and the complex thinking assessment instrument was able to identify gradual assimilation of understanding or shifts in thinking or changes in perspective. Participant XIII is an example of this more subtle growth. At the beginning of the course, her reflective response to interacting with the elderly began with a guarded perspective but articulated why she might not understand:

[B]eing a younger and physically more able person, it is hard for me to not only understand the community’s perspectives, since I have grown up in a different time and not lived nearly as long, but grasp obstacles associated with age, since I have not yet experienced it [“expresses confusion” and “cannot evaluate or appropriately apply evidence” (CTAI 0b)]. I have an advantage in this area, because I have at least some knowledge on most of the issues that we have been working to solve, which include the environment, health, and care for the elderly.

In her final paper, after further work with the elderly during the course and participating in group discussion, Participant XIII rethought these issues in relation to prior experience and how she might engage others in the future:

We also noted that we don't go and help our grandparents with yard work very often either. This whole experience and reflection as a group taught me how important it is to keep an open mind, because you never know how much someone might need the help. I think this will transfer over into my future service, because I will be more willing to keep an open mind of new activities and listen to whatever the person I'm working with needs done ["reaches own conclusion without relying exclusively on authority;" defines problem and shifts argument based on evidence from "personally relevant aspects of problem" (CTAI 1c)].

These small, evolutionary statements acknowledge the existence of multiple perspectives, identify personal assumptions and control biases, and reach personal conclusions that represent a subtle elevated change in Participant XIII's critical thinking skills. By changing what she thought and how she arrived at those conclusions, she demonstrated an awareness and willingness to think at a more complex level (CTAI 2a).

By reading for argument rather than content and comparing the quality of thinking to CTAI descriptors, we could identify positive and negative attributes at each level that became clear parameters within which to place patterns of thinking. Pre-assessment practice and discussion clarified the process, and frequent double-checking between raters maintained consistency and inter-rater reliability.

When using this instrument, it is important to notice that few adults reach levels 3 and 4 without college training, that there should be little expectation to witness dramatic transition within the confines of a single course, and that the four ascending levels of reflective thinking develop over an adult's lifetime (Dirkx; Wolcott & Lynch).

IMPLICATIONS

The use of the Complex Thinking Assessment Instrument can allow an honors program to shift the focus of assessment away from solely retention percentages, grade point averages, numbers of individuals participating in service experiences, and graduation rates, to critical thinking skills and

student learning outcomes, thus providing a better mechanism for describing growth in complex thinking as well as understanding in the context of honors. The development of a qualitative assessment instrument that identifies qualities and levels of complex thinking can document that Student Learning Objectives are met within courses and within the honors program as a whole by showing growth in complex thinking skills. Students benefit from this assessment because they are more likely to develop their thinking skills if they understand the goal(s) and receive explicit feedback on their performance (Lynch & Wolcott). The use of this tool has benefits for faculty as well as students. The challenge facing honors faculty members is how to acquire the ability to produce desirable honors educational practices, construct knowledge relative to the distinctive nature of honors education, and use reliable, verifiable assessment practices to enhance honors pedagogy, honors curricular and instructional design, and honors educational experiences to generate reliable data and credibly demonstrate that honors does have an impact on students (88–89). In order to assure that faculty get the training and resources necessary to improve their ability to do this kind of assessment, institutional support and commitment are needed (Molee).

The honors curriculum is an effective place to promote enhanced critical thinking, and faculty members play a crucial role in guiding students toward increasingly complex thinking. The willingness of honors faculty to engage in a dialogue that increases their ways of knowing enhances their understanding of these challenges, informs curriculum development, increases understanding of what makes the honors student unique, and enhances a successful honors experience.

Lanier extended an appeal for help in developing assessment tools that show the gains by honors students (1) as compared to their non-honors counterparts and (2) as a result of their shared educational enrichment practices. Use of this tool can assist in providing evidence that critical thinking skills develop not just in one course but throughout the honors students' university experience; it can be used to measure the changes in levels of complex thinking from enrollment in college to graduation. Used properly, the tool can (1) demonstrate the development of higher-order thinking skills among honors students over their entire academic experience, 2) indicate gains that honors students make in comparison to their non-honors peers, and 3) document the success of enrichment practices—i.e., cultural trips, international education, campus leadership, citizenship, active learning experiences, service learning, and community service—that characterize successful honors programs.

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