Integrating and Assessing Essential Learning Outcomes: The Syllabus and Formative Feedback

Susan Cydis
Associate Professor of Literacy
School of Education
MaryLou Galantino
Distinguished Professor of Physical Therapy
School of Health Sciences
Carra Leah Hood
Associate Professor and Assistant Provost
Mary Padden
Associate Professor of Nursing
School of Health Sciences
Marc Richard
Associate Professor of Chemistry
School of Natural Sciences and Mathematics

all of
Stockton University
Pomona, New Jersey

ABSTRACT

This article describes the results of a follow-up investigation to a study in which researchers proposed a model for implementing a college-wide initiative in which ten essential learning outcomes students acquire from curricular and extra-curricular learning experiences were developed and implemented at the university. Using descriptive and correlational statistics, and an analysis of qualitative data researchers identified pedagogical factors that supported student competence with essential learning outcomes. This follow-up study investigated the role of the syllabus as a tool for promoting ELO competence, and the results of this study also serve as further evidence of the pedagogical practices that support ELO competence in students.

Collectively, the data from this second study reveal that intentional practices on the part of faculty and professional staff, enhanced student ELO competence (Cydis, Galantino, Hood, Padden, and Richard, 2015). When researchers compared the results of the pre and post student self-perception questionnaires, an increase of 0.25, ($p \leq 0.05$) was found in round one of data collection, and an increase of 0.34 ($p \leq 0.05$) in round two indicating an increase in students' self-perception of their ELO competence from the beginning to the end of the semester. In the second iteration of the learning community and data collection, researchers further analyzed the content of participant syllabi using an adapted version of The Syllabus Rubric (Palmer, Bach and Streifer, 2014) and found that while explicit and intentional efforts to effectively integrate ELOs did in fact promote student perceived ELO competence, a learner-centered syllabus alone, did not necessarily correlate with increases in student perceived competence in the essential learning outcomes targeted in respective courses.

INTRODUCTION

The discussion that follows focuses on 1) a model for ELO integration, 2) the role of syllabus design in supporting student learning, 3) student perceptions of competence with essential skills and 4) how syllabus design, the integration of essential learning outcomes as defined by LEAP (2005) and AAC&U and a focus on high impact pedagogical practices support student achievement. The discussion will include consideration of formative assessment and closing the feedback loop to support student learning. Most importantly the role of the syllabus and its value as well as limitations to promoting competence in

students is considered. Thus, we explore the relationship between syllabus design and faculty and student perception of ELO achievement.

BACKGROUND

Through the scholarship of teaching and learning faculty participate in a collaborative, meaningful, and energizing dimensions of professional development in higher education. Focusing on the scholarship of teaching and learning is not only an opportunity to reflect on pedagogy and redesign opportunities for student learning, but also advances institutional agendas in higher education. Through faculty development and the cycle of feedback and assessment, the scholarship of teaching and learning can be recognized and rewarded as an important contribution to the institution's educational mission (Hutchings, Huber, and Ciccone, 2005). Faculty learning communities create opportunities to support program development and create more ambitious expectations for student learning (Hutchings, Huber, and Ciccone, 2005). Through this research project, faculty focused on the integration of essential skills to promote student competence, inspired by a growing initiative entitled, Liberal Education and America's Promise (LEAP). The LEAP initiative, identified by the Association of American Colleges and Universities (AAC&U) has been influential in promoting academic development and student learning in higher education. The collaborative effort among colleges and universities to promote essential skills and learning outcomes students need for success in the 21st century known as the LEAP initiative is an excellent illustration of opportunities for faculty collaboration and cause for engagement in the scholarship of teaching and learning. Through meaningful opportunities for scholarly work, faculty can focus on the integration of Essential Learning Outcomes (ELOs) and promote student competence with essential skills. The faculty learning community in this project aligns with the LEAP initiative includes a focus on the integration of Essential Learning Outcomes.

Essential Learning Outcomes

The LEAP (2005) initiative provided research and resources for authentic assessment of the essential learning outcomes (ELOs) students acquire as a result of high-impact instructional practices and performance-based opportunities for students to demonstrate achievement of targeted outcomes. These practices include engaging students in meaningful, authentic learning that capitalizes on a constructivist approach and yields opportunities for students to gain greater metacognitive understandings about their own learning (McDermott, 1991). Through this approach, students develop competence through opportunities to build capacities for life-long learning by applying learning to its intended purposes (Schneider, 2013). As higher education's purpose evolves from providing general knowledge to building competencies (Lozano, Boni, Peris, Hueso, 2012), this approach aims to support student competence with essential skills. Recognizing the need to identify an effective model that includes key features for supporting ELO integration, researchers relied on a framework for faculty to integrate ELOs into their courses, developed in a previous research study. This model for ELO integration focused on six themes to support student learning of essential skills identified in the discussion that follows (Authors, 2015).

ELO Integration

Model for ELO Integration. The cycle of teaching, learning, and assessment, as identified by the Middle States Commission on Higher Education (MSCHE), identifies a process for meaningful instruction. This process begins with clearly articulating learning outcomes, then providing purposeful opportunities for students to achieve those learning outcomes, and thirdly, assessing the effectiveness of the process to further enhance and drive instruction. Using an approach based on the process identified by MSCHE, the authors focused on a purposeful approach for integrating essential learning outcomes into the curriculum and proposed a model for ELO integration. This model focuses on six themes: facilitation, integration, utility, connection, awareness, and reflection, identified and further described in Figure 1.

The first of these themes emphasizes the role of the instructor in creating opportunities for students to develop confidence with essential skills. This can include planning meaningful learning experiences and acting as an adviser while students engage in the experiential learning task. As they participate in this learning experience, it becomes an opportunity for students to develop an awareness of the utility of a particular essential learning outcome. Utility is identified as a second feature that supports ELO integration. As faculty members facilitate the integration of ELOs and meaningful ways for students to learn, utility serves as an illustration of an intentional stance on the part of faculty in promoting student competence with ELO's. Intention is identified as the third feature of ELO integration. Through this intentional integration of ELO's, faculty can promote opportunities for reflection, which is identified as another feature of ELO integration. Engaging in the process of reflection on the part of the faculty member, as well as the student, promotes awareness of the ELO competence being developed. This awareness is identified as another feature of ELO integration. Finally, through integrating an ELO into a meaningful

Figure 1
Features of ELO Integration

Six Themes Found to be Features of ELO Integration that Support Student Competence with ELOs

(Cydis, Galantino, Hood, Padden, Richard, 2015)

Facilitation. This theme includes a reference to faculty members' comfort level or knowledge about ELO instruction and the role that teaching plays in supporting student competency with ELOs. This theme might also identify the need for faculty to guide or facilitate ELO acquisition in students through planned or incidental advising.

Intention. Faculty participants identified a need or value for explicit emphasis of ELOs on the part of instructors to support student understanding. References to this theme include statements regarding repeated presentations of ELOs to students, revisiting the ELOs with students and/or providing continuity in discussing the ELOs with students.

Connection. This theme includes instances in which students connect one of the ELO to either another ELO or possibly connect one ELO intellectually or experientially over time. For example, appreciating ELO knowledge from the beginning of the semester to the end of the semester. It might also include students recognizing continuity or a recursiveness in one or more ELOs. Finally, this theme included statements referring to linking concepts in a manner that demonstrates one or more ELOs. These concepts might also include course content or concepts learned in pragmatic experiences.

Utility. In regard to this theme, faculty referred to the intended use of the ELO, a value for the authentic purpose of the ELO in the future. It might also refer to preparation of and/or application of the ELO beyond the scope of the classroom. This theme included references to the ELOs and life-long learning.

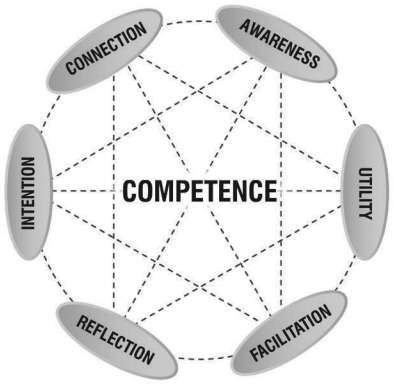
Reflection. According to Boud, Keogh, and Walker (1985, p. 19), "reflection in the context of learning is a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations". For this reason all references that coincide with this definition were identified within the theme of reflection. Additionally, references to this process of reflection and documentation of the behavior were also considered references to this theme.

Awareness. This theme emerged from statements that illustrated students' ability to identify one or more ELOs through a learning experience or a life experience, which heightened or contributed to recognition of ELO competence. This experience was interpreted as one that illuminated students' abilities as it related to ELO competence.

learning experience, students have the opportunity to connect the ELO to other areas of their learning, either within their courses or to real-world experiences. The researchers note that the relationship among the themes is synergetic in nature and they co-exist interdependently, supporting effective ELO integration and student development of ELOs. The researchers report that the synergetic relationship of these themes as shown in Figure 2, contributes to an effective model of ELO implementation and supports ELO competence on the part of the students (Author, et al, 2015).

This proposed model integrated the use of Significant Learning Experiences (Fink, 2013) which focuses on the integration of foundational knowledge that is meaningful to students and supports their ability to and awareness of how to apply this knowledge to relevant real-world experiences. Similarly, to facilitate the intentional focus on ELO integration, researchers identified six themes that emerged from a focus on ELO integration as shown in Figure 2 (Author, et. al, 2015). The model offers a method for accomplishing objectives through meaningful learning experiences and supports student competence through the application of skills and foundational knowledge. Students learn to apply the knowledge and skills they acquire in order to connect the learning to real world experiences. Students develop an understanding of key concepts, ap-

Figure 2
Interdependence of ELO Themes



Formative assessment is defined as,

> "a process in which teachers and students engage in during instruction and which ongoing teaching and learning is adjusted through feedback for the purpose of improving student achievement and competence with instructional outcomes," (Council of Chief State School Officers, 2014).

The use of formative assessment techniques offers opportunities to further support ELO integration. The authors argue that formative assessment is essential to successfully supporting student achievement of these 21st-century competencies and has a central role in creating a culture of learning (Council of Chief State School Officers, 2014). Techniques for formative assessment are identified by Angelo and Cross (20014), as Classroom Assessment Techniques (CATs), in which faculty can administer a chosen technique and garner information to support students' awareness, as well as feedback. The use of a formative assessment technique such as those identified by Angelo and Cross, offers opportunities for supporting ELO integration. While the use of formative assessment techniques serves as an intentional strategy for ELO integration, so too does the articulation of ELOs explicitly stated as part of the design of the course syllabus.

Syllabus articulation

Researchers identify the syllabus as a tool for facilitating integration through clear, intentional, and explicit articulation of the essential skills and competencies students will acquire though meaningful learning experiences in a given course. Instructors should use course syllabi not only to outline the content of the course and provide assignment descriptions, but also to articulate the general competencies students gain from engaging in the course (Parkes & Harris, 2002). Students report that syllabi should be comprised of essential items including competencies acquired from the course (Appling, Gancar, Hughs & Saad, 2012). Parkes and Harris (2012) report that the syllabus can serve as a learning tool and a well-designed syllabus can facilitate student learning beyond the scope of the information that is intended for the course. Syllabi often omit important information related to what students will learn and the learning strategies students will secure as a result of the course (Singham, 2007). On the contrary, researchers report that a syllabus can potentially help students develop professional skills and knowledge relevant to future careers (Parkes and Harris, 2012).

Garavalua, Hummel, Wiley & Huitt found that faculty members and students prefer a more comprehensive syllabus (1999). Students consider specific goals and objectives to be important factors, more so than faculty. As a result, faculty should be reflective about their syllabi and recognize the importance of fully explaining components necessary for successful performance in the course (Garavalua, Hummel, Wiley & Huitt, 1999). This appears to support the value of reflection and intention as it relates to ELO integration and suggests further consideration for supporting student competence, as well as students' perceptions of learning. Just as articulating relevant ELOs in the syllabus as an intentional focus on ELO integration, considering the self-perceptions students possess regarding ELO competence further serves as an opportunity for ELO integration.

Student perceived competence

Walker (2008) found that student reflection and perception of learning promoted deeper understanding of intended student learning outcomes. Through opportunities to reflect on learning and develop awareness, students demonstrate competence with learning outcomes. This serves as a prudent alternative to other assessment measures that offer opportunities to gather knowledge about how students receive, interpret, and apply concepts, thus offering insight into multiple realms of learning (Walker, 2008). For example, students' perceptions of assessment have been shown to have an indirect effect on students' competence and learning outcomes through students' self-efficacy as a result of the reflective process. Walker (2008) found that students perceive the most important learning as the essentials not directly taught in the classroom, but those that align with activities or experiences outside the classroom. Study findings highlight which assessment characteristics, in particular meaningful, high quality feedback, positively influence students' learning, and contribute to the effectiveness of competence-based education (Dinther, Dochy, Segers & Braeken, 2014).

Hence, the purpose of this study was to examine the syllabus as a tool for supporting ELO integration and determine the impact on faculty and student perception of ELO achievement. The features of the syllabus for consideration included articulation of targeted goals including ELOs, a focus on significant learning experiences, assessment measures and the tone of the syllabus.

THE RESEARCH STUDY (METHODOLOGY)

Study Design

A mixed methods approach included the use of multiple methods of analysis to gather and analyze various data sets relevant to this investigation. Using content analysis, a method aimed at examining features of a body of material, (Leedy and Ormrod, 2005), and a researcher created instrument adapted from *The Syllabus Rubric* (Palmer, Bach and Streifer, 2014), researchers analyzed the learner-centered features of faculty syllabi. Using thematic analysis, researchers explored the presence of themes identified in a previous study, known as "phenomena", present in the experiences and explanations of faculty who designed syllabi to facilitate course competencies. (Authors, 2015). Using a descriptive analysis, researchers examined the pre and post student perceptions of ELO competence developed by the university (*Insert university hyperlink*, Appendix A).

Setting/Participants

The setting of the study included a mid-sized state university with a student population of approximately 8,674. The university is a public, liberal arts university offering undergraduate and graduate degrees in liberal arts and professional studies. The student population is 59% women and 41% men. Seventy-three percent of the student population are Caucasian, 10% Hispanic, 6% African American, and 5% Asian. Thirty-six percent of the undergraduate students are identified as low-income. The faculty includes 315 members, 45% male and 55% female, with 90% holding terminal degrees. Twenty-two percent hold professor status, 42% associate professor,34% assistant professor, while 2% are instructors. Faculty participants in this study were selected using criterion-based, non-probability sampling which "requires that one establish the criteria, bases or standards necessary for units to be included in the investigation, one then finds a sample that matches these criteria" (Merriam, 1998, p. 48). Procedures for soliciting participants included a call for faculty via the university email system and required submission of a letter of interest for participation in the collaborative learning community. The goals of the learning community included collaboration among participants regarding strategies for supporting ELO competences in students. This included a focus on ELO integration into courses, assignments, and co-curricular activities. More specifically, collaboration focused on redesigning participant syllabi to reflect ELO integration, creating significant learning experiences (Fink, 2013), the use of formative assessment, and a focus on the six themes that emerged and were identified in the research study conducted during the first round of this learning community (Author, et al., 2015). Facilitators reviewed letters of interest and selected faculty based on the goals of the project and the level to which they aligned with the goals identified in their respective letters of interest. Fourteen faculty members and professional staff were selected as participants of this learning community which was referred to as the ELO Study Group – Round Two. As members of the Study Group, participants consented to this University Institutional Review Board (IRB) approved research study.

Prior to data collection, faculty read and discussed relevant research and participated in a four-hour workshop relating to the pedagogical goals including meaningful learning experiences, formative assessment techniques, as well as syllabus and course design. Faculty administered student ELO self-perception surveys at the beginning and end of each semester. They also participated in collaborative meetings throughout the 2014-15 academic year. As the spring semester progressed, the study group met to discuss progress with supporting ELO competence in students and providing formative feedback. Additionally, faculty engaged in focus groups at the end of the semester, completed surveys to articulate their experiences, and partook in individual interviews with the facilitators. In addition to student survey data and faculty focus groups, researchers collected faculty syllabi at the end of the semester and administered surveys to faculty to gather faculty perspectives regarding their experiences.

Data Collection Instruments:

ELO Student Perception Survey

Data was collected from students using the ELO Student Perception Survey Appendix B, where students rated themselves based on their perceived level of competence with each ELO. Using a 3-point Likert scale, student participants indicated whether they were (1) aware, (2) competent or (3) skilled with each respective ELO at baseline and the end of the semester.

Faculty Participant Syllabi

Faculty members at the institution in this research setting are not required to utilize any specific format, however faculty participants were presented with various suggested models for articulating ELO integration within the syllabus and several sample syllabi were provided to serve as examples of ELO integration. After the workshop and readings, faculty submitted an updated syllabus that included changes made to support student competence with ELOs.

Faculty Interviews

Researchers conducted post interviews with each faculty member. Interview questions (Appendix C) were designed to investigate various features of instructional pedagogy aimed at creating a learner centered environment and promoting ELO competence in students.

Faculty Survey

Faculty completed an electronic post-survey (Appendix D) to investigate additional measures used to promote ELO competence in students that were not explicitly stated in either the faculty member's syllabus or post interview. Six statements described various techniques that might have been used to promote ELO competence and faculty were asked to indicate any or all that were used to promote ELO competence. Each of the six statements related to one of the six themes (Figure 1) identified as those that promoted ELO competence in the conceptual model. (Author. et al., 2015).

Data Analysis

ELO Student Perception Survey

Using Microsoft Excel (2016), a quantitative analysis of pre and post student perception survey scores determined mean differences for each ELO. A paired t-test identified the level of significance of the difference measured for each and was performed to determine the level of significance in ELO integration (Social Science Statistics, 2016).

Faculty Syllabi

Using the syllabus rubric shown in Appendix E, researchers analyzed various features of the syllabi to identify low, moderate, or strong levels of a learner-centered approach to instruction. These features included articulation of *ELOs, Goals & Objectives, Assessment Activities, Significant Learning Experiences,* and the *Tone of the Syllabus*. The instrument used to analyze faculty syllabi was adapted from *The Syllabus Rubric* (Palmer, Bach & Streifer, 2014). The adaptations made to the *Syllabus Rubric* included adding an indicator for ELO integration and replacing the indicators that assessed the classroom environment with those indicators that assessed the tone of the syllabus. The purpose for these changes were to ensure better alignment with the goals of the ELO study group and the evaluation instrument used to assess the revised syllabi. The adapted rubric resulted in a criterion-based instrument that researchers used to evaluate syllabi. The process was a multi-step analysis in which each researcher initially scored five sample syllabi by rating the indicators as either (3) strong, (2) moderate, or (1) low/no evidence. Researchers then discussed individual scores as part of a norming process. Syllabi then received a total score by each researcher applying the same procedure used during the norming process. The scores were collated and the researchers discussed each indicator to ensure consistency among scores and inter-rater reliability of scores. An analysis of the level of agreement among raters was conducted and a Cohen Kappa coefficient was determined to affirm inter-rater reliability and validity of scores. Overall, rubric scores indicated either a Content-Centered, Transitional, or Learner-Centered syllabus. A learner-centered syllabus (Bain, 2004) is defined as one that clearly communicates the learning students will gain and what is required to achieve that learning, along with a syllabus that scores between 35 and 45 is identified as a learner-centered syllabus. A syllabus that scores between 25 and 34 is considered transitional, while a score of 15 to 24 is identified as content-centered.

Faculty Interviews Content Analysis Procedure

Researchers conducted a content analysis process to explore faculty interviews and identify the presence and frequency of the six themes identified by Author et al. (2015) as those that promote ELO competence in students. This process included first transcribing the interviews and then reading the interviews to glean a collective sense of overall content. In the third phase, researchers used HyperRESEARCH (2014) to code faculty statements that included references to one of the six themes. The researchers then reviewed the data to ensure a consensus and finally, the data was represented visually to reflect the frequency of faculty references to the themes found to promote ELO competence in students.

Faculty Survey

Responses to the faculty survey were tallied to identify the percentage of respondents used to promote ELO competence in students not explicitly stated in either the faculty

member's syllabus or the faculty post interview. Each of the six statements describes a technique that might have been used to promote ELO competence. The percentage was determined for each technique by comparing how many respondents identified the technique used to promote ELO competence to the total number of thirteen respondents. The survey asked respondents to identify the frequency with which they intentionally addressed ELOs and also to identify any and all additional techniques used to promote ELO competence. The survey allowed respondents to select as many theme related statements that applied to their experiences. Therefore, the researchers did not intend to develop a data set that was discrete in nature, but rather this data was intended to be continuous and inclusive, representing all strategies used by faculty participants to promote ELO competence in students.

Content Analysis

Researchers determined a Pearson product-moment correlation coefficient to assess the relationship between the integration techniques reported in the faculty survey and the frequency with which faculty referenced the themes identified as those that support student ELO competence. A second Pearson product-moment correlation coefficient was computed to assess the relationship between the syllabus ratings determined to identify the learner-centered nature of the syllabi and the mean increases identified in the student survey of ELO competence.

Results

After researchers presented participants with IRB informed consent forms, data was collected from fourteen faculty participants and 323 students. In the **ELO Student Perception Survey** overall scores on the post-test were higher with a mean difference of Ø.23 ($p \leq .Ø5$) (Figure 4). These results show an increase in student perceived ELO competence over the course of the semester. The differences in the means for the ELOs in each course showed increases ranging from Ø.Ø9 to Ø.34 (Table 1). Further analysis revealed the mean difference of the ELOs targeted by faculty for integration into their respective courses showed an increase of Ø.34 ($p \leq .Ø5$).

Figure 4
Outcome of Student ELO Survey.

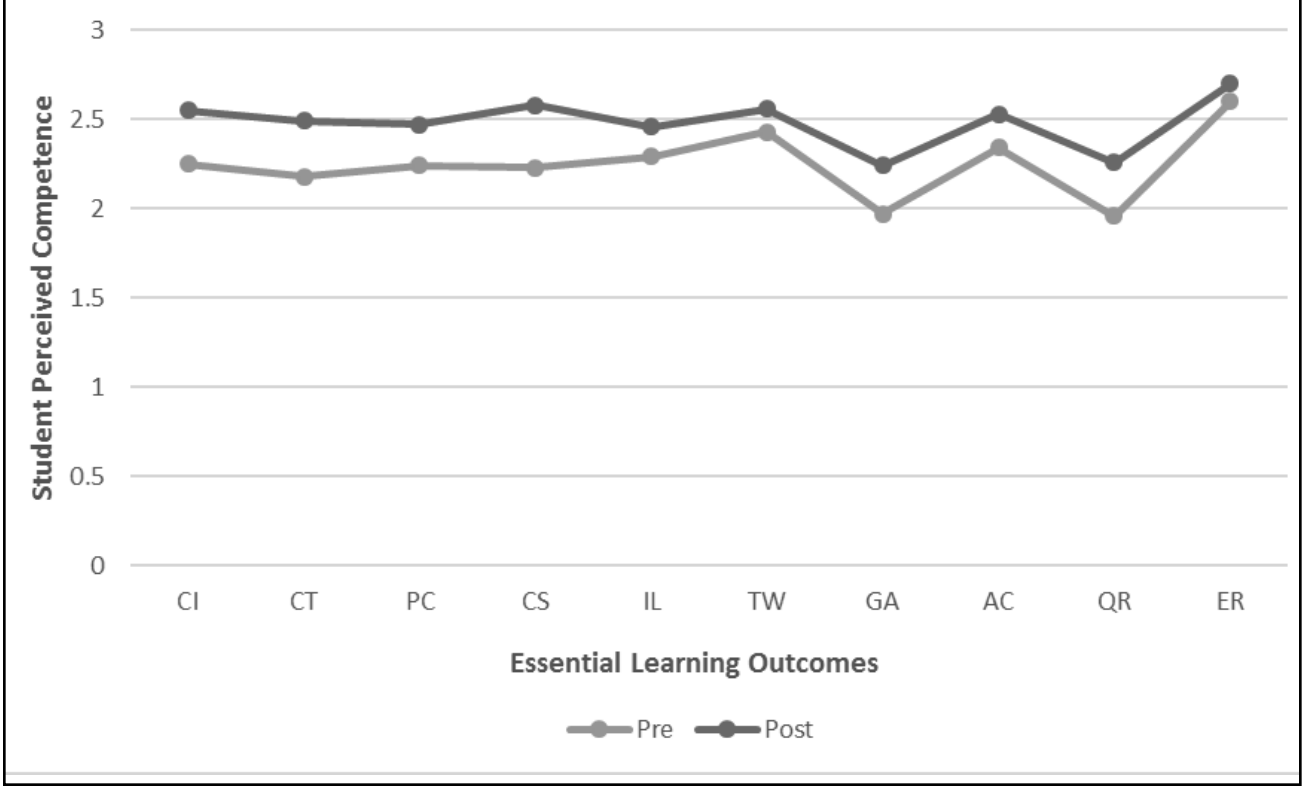


Table 1
Difference in Pre and Post Means for each ELO

	Creativity and Innovation (CS)	Critical Thinking (CT)	Program Competence (PC)	Communication Skills (CS)	Information Literacy (IL)	Teamwork (**TW**)	Global Awareness (**GA**)	Adaptation & Change (**AC**)	Quantitative Reasoning (**QR**)	Ethical Reasoning (**ER**)
Mean Diff	0.30	0.31	0.23	0.34	0.17	0.13	0.27	0.19	0.30	0.09
t	7.63	7.30	5.86	8.53	4.28	3.21	5.23	4.51	7.81	2.45
p	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0015	<0.0001	<0.0001	<0.0001	0.0147

Faculty Syllabi

The content analysis of syllabi using the adapted syllabus rubric revealed a mean total score that ranged from 21.4 to 43 on the sixteen existing indicators (Appendix E). Scores ranging from zero to twenty-five reflect a content-centered focused syllabus as determined by the instrument, while scores ranging between twenty-five and thirty-five indicates the transitional stage in terms of a content-centered versus a learning-centered syllabus. Moreover, scores between thirty-five and forty-five reflect a learning-centered syllabus. Based on the means established for each syllabus, one of the faculty participant syllabi was identified as a content-centered syllabus, six were recognized as transitional and nine were classified as learning-centered syllabi (Table 2).

Faculty Interviews

The content analysis of faculty interviews revealed the presence of 101 instances of faculty references to one of the six themes identified as those that promote ELO competence in students. (Figure 1). All six themes were referenced by faculty during the interviews and the frequency of references to each of the six ranged from four to twenty-eight as shown in Table 3. The themes of *Intention* and *Facilitation* were most frequently referenced by faculty, making up 28% and 29% respectively, while *Connection* had the fewest references, equaling 4% of the total references. Other themes included *Utility*, encompassing 10% of the references, *Awareness* with 11% and *Reflection* with 17% of the references made by faculty.

Faculty Survey

Faculty survey data revealed that all eleven respondents identified one or more additional measures to promote ELO integration during the course of the semester. All

Table 2
Learner-Centered Ratings of Course Syllabi

Syllabus	Mean Syllabus Rating (n=5)
A	21.4
B	27.8
C	30.2
D	30.6
E	31.2
F	34.4
G	35
H	36.4
I	36.6
J	38.4
K	38.8
L	40.2
M	40.2
H	42.6
I	43
J	43.4

Content-Centered	Transitional	Learner-Centered
15-25	25-35	35-45

Table 3
Faculty References to Themes of ELO Integration and Features of ELO Integration

	Intention	Intent 1-2 x	Intent 3-5 x	Intent >5 x	Connection	Reflection	Utility	Facilitation	Awareness
Interview Coding	28%				4%	17%	10%	28%	11%
n=101 codes	28				4	17	10	29	11
Faculty Survey	100%	27%	46%	27%	18%	56%	73%	91%	67%
n=11 responses	11	3	5	3	2	6	8	10	7

respondents (100%) indicated *intention* as one of the techniques used. The data collected via this prompt further identified the frequency with which faculty utilized *intention* to integrate ELOs. For example, 27% reported that they were intentional at least one or twice over the course of the semester, 46% of respondents reported that they were intentional between three to five times, and 27% of respondents reported that they were intentional more than five times during the semester. Facilitation was also reported as a technique used by 91% of respondents, while utility was reported by 73% of respondents, awareness by 67%, reflection by 56% and connection by 18% of respondents.

Correlations Among Data Sets

There was a strong positive correlation between ELO integration techniques used by faculty and the references to these themes made by faculty (n = 6) interviews (r = 0.844, p = 0.035). See Scatterplot Representing ELO Integration Techniques Used Reported by Faculty and Corresponding References to These Themes from Faculty Interviews (Figure 5).

However, there was little correlation between the learner-centered nature of the syllabus and increases in student-perceived (n = 16) ELO competence. Slight correlation was found between the two variables, (r = 0.350, p = 0.184) represented by the scatterplot shown in Figure 6.

Figure 5
ELO Integration Techniques Used by Faculty and Faculty Interview References to Themes

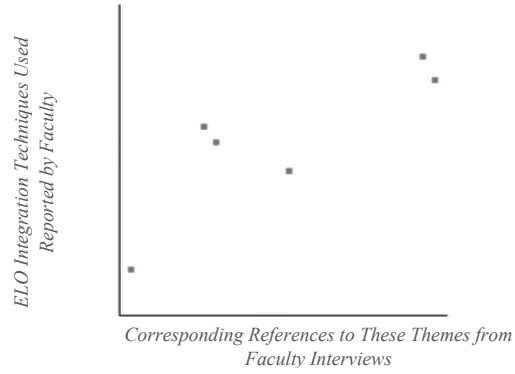
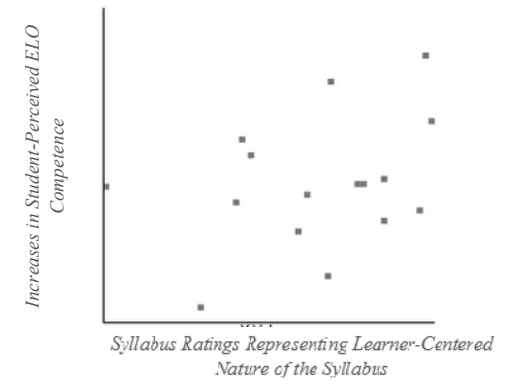


Figure 6
Scatterplot Representing Correlation between the Learner-Centered Nature of the Syllabus and Increases in Student-Perceived ELO Competence.



Findings

The results of this research study revealed that several themes of ELO integration support ELO competence in students. The use of intention and facilitation were found to be ELO integration themes identified and referenced by faculty as those that were used to support student competence with ELOs. In this study, students demonstrated growth in self-perceived competence with all six? ELOs

over the course of the semester. Little to no correlation was found between learner-centered syllabi and student reported ELO competence.

DISCUSSION

Faculty awareness of ELOs may be the first step in ELO integration. Integration and syllabus articulation may indicate intentional support for ELO competence, but it is necessary to go beyond this step to effectively promote competence in students. Since the syllabus targets multiple audiences, such as faculty colleagues, program coordinators or chairs, Deans, faculty evaluation committees, accrediting agencies, in addition to students, this may be one of the reasons why little correlation was found between content-centered syllabi and student reported gains in ELO competence.

What does this mean for instructors of students in higher education? Simply stated, integrating essential learning outcomes into the teaching and learning experiences that make up the design of our courses should be a seamless process. While the content of a course is always most important, we can support student understanding on a deeper level by promoting students' metacognitive awareness through making connections between what they are learning and the essential skills and competencies they need for success in the real world.

We can begin to facilitate the connection between student learning and essential competencies by intentionally articulating how essential learning outcomes emerge as a natural outgrowth of the content we teach in any given course and include this information explicitly in our syllabi. Doing so, helps to facilitate student awareness of their own competence as it relates to these essential skills. Furthermore, providing students with the opportunity to reflect on the confidence they develop, deepens and enhances awareness of how they possess these essential skills.

Although there should be a clear connection between course outcomes and what students are expected and advised to do in order to attain them, the results of this study show that this may not be enough to promote student learning. The instructor needs to go beyond simply including course outcomes in the syllabus (Habanek, 2005). This research supports a process in which instructors may need to articulate intended outcomes, making stated outcomes accessible and public, and use assessment results to improve and align instruction (Driscoll and Wood, 2007). While research supports the notion that students need to have clear expectations and understanding of the purpose of instruction and have progress determined by achievement of learning outcomes, this study also suggests that communicating those outcomes via syllabi is an important first step in focusing on ELO integration, but does not alone adequately support students' developing ELO competence. The syllabus alone did not appear to communicate to students in a substantial way. Although instructors might make assumptions about the role of syllabi in relation to pedagogy and learning, these assumptions might not be as certain as initially thought. This study supported the notion that the relational dynamics and formative experiences of the classroom carry the most weight in student learning. Although syllabi might be quite significant when communicating to other audiences, it may not be as substantial for students or supporting the development of essential learning outcomes.

CONCLUSIONS

Supporting students' competence with essential learning outcomes can be accomplished through a focus on ELO integration. As faculty engages in practices that intentionally integrate ELOs into the curriculum students have the opportunity to develop competence. The intentional practice of ELO integration is more likely a combination of factors including an intentional stance on the part of the instructor, and facilitation of ELO experiences. However, doing so does not mean that this intentional stance and facilitation happens solely in the form of the design of the syllabus. It might actually be an interdependent dynamic of various features. These features include not only intention on the part of the instructor and facilitating the learning process, but also supporting awareness on the part of students, creating utility of the essential skills, and creating opportunities for reflection as those features that actually promote competence. It isn't necessarily the simple articulation of ELOs in the syllabus that promotes student competence, but rather it may be a synergetic dependent relationship including a focus on meaningful learning experiences and opportunities formative assessment that are key components.

LIMITATIONS

While the results of the analysis of syllabi showed that the learner-centered nature of the syllabus did not appear to directly support ELO competence in students, the researchers considered whether faculty participants provided students with additional materials to support student awareness of ELOs such as a handout outlining additional explanation of the assignments to be completed in class. Likewise, instructors may be using a classroom server such as Blackboard to post additional information about learning outcomes and assignment. This might be an important limitation of the results of this research. Researchers recognize that faculty may not have included assignment task descriptions with their syllabi, but they might be

providing this information to students via other avenues. These descriptions could have more meaning in relation to student learning than the syllabus itself.

Programs at (the university) do not require the use of any specific syllabus template, therefore each instructor may create his or her own overview of the course. As such, this study did show some variation in what types of information syllabi included and communicated to students. As a result, there could be an important consideration with regard to the factors that may have impacted student ELO competence.

FUTURE RESEARCH

Opportunities for future research include collection and further analysis of the additional materials instructors may or may not be using to support ELO awareness and competence in students. Thus far the researchers have collected data from two successive semesters and have found similar results reported by students on the ELO self -perception survey. Plans for future research include collecting data in each academic year to further explore the results longitudinally. Additionally, further research might include faculty using syllabi with common components and comparing results to the results of this study. Furthermore, consideration of the role of a classroom server for sharing information which might promote student competence of ELOs would be an important focus for further research. Additionally, researchers seek to further investigate direct measures of student learning to identify the presence of ELO competence present in artifacts collected as representations of tasks that promote ELO competence.

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Haley Baum
Assistant Director 2, Student Development

Johanna Deane
Adjunct Instructor of Writing

Elizabeth Elmore, Ph.D.
Professor of Economics

Anna Evans
Adjunct Instructor of Writing

Luis Garcia, Ph.D.
Assistant Professor of Health Science

Priti, Haria, Ph.D.
Associate Professor of Education

Nazia H. Kazi, Ph.D.
Assistant Professor of Anthropology

Kelly Keenan, Ph.D.
Associate Professor of Chemistry

Manish Madan, Ph.D.
Assistant Professor, Criminal Justice

Irene Sanders, Ed.D, CCC-SLP
Assistant Professor of Health Science

Amee P. Shah, Ph.D. CCC-SLP
Associate Professor of Health Science

Kerri L. Sowers, Ph.D. (c), DPT
Assistant Professor of Health Science

Chelsea P. Tracy-Bronson, M.A., ABD
Faculty Member/Instructor

Catherine A. Tredick, Ph.D.
Assistant Professor of Environmental Studies

Joseph Trout, Ph.D.
Associate Professor of Physics

Beverly Vaughn, D.M.A.
Professor of Music

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Appendix B
Essential Learning Outcomes Survey

Creativity and Innovation

Level 1	Level 2	Level 3
Recognize the importance of creative pursuits and processes within and across disciplines.	Capacity to generate new ideas and express them to others within and across various fields.	Independently, or collaboratively, synthesize ideas, knowledge, and experiences to devise innovative solutions to complex problems.

Critical Thinking

Level 1	Level 2	Level 3
Knowledge and Comprehension Recall, summarize, reason logical explain, locate and evaluate sources.	Application and Analysis: Apply, analyze, collaborate, research and integrate sources.	Synthesis and Reflection: Create, translate, synthesize, reflect, identify and question assumptions.

Program Competency

Level 1	Level 2	Level 3
You will be able to recognize and/recall theories and concepts.	You will be able to draw from previous knowledge to apply and integrate new concepts and skills; connecting the old with the new.	You will be able to use your acquired knowledge to evaluate and contribute to the body of knowledge in your field of study.

Communication

Level 1	Level 2	Level 3
You will be able to discuss concepts and convey ideas with accuracy.	You will be able to communicate ideas with clarity, organization and language appropriate to the audience.	You will be able to communicate ideas with organization and cohesiveness using compelling language choices and poise.

Information Literacy and Research Skill

Level 1	Level 2	Level 3
Identify, locate, and evaluate information on a basic level.	Identify, locate, and evaluate information on a basic level and synthesize information into their own work.	Identify, locate, and evaluate information synthesize information into work and generate original information.

APPENDIX B (CONTINUED)
ESSENTIAL LEARNING OUTCOMES SURVEY

Teamwork and Collaboration

Level 1	Level 2	Level 3
Understand communication, diversity, consensus building, team goal setting, team process, peer pressure/conflict avoidance and collaboration.	Explain/describe communication, diversity, consensus building, team goal setting, team process, peer pressure/conflict avoidance and collaboration.	Display/lead/adopt communication, diversity, consensus building, team goal setting, team process, peer pressure/conflict avoidance and collaboration.

Global Awareness

Level 1	Level 2	Level 3
Demonstrate knowledge of worl geography and cultures. Show awareness of cultural and ethnic diversity in practices and beliefs. Communicate across cultures wit sensitivity. Participate in curricula or co-curricular experiences that support global awareness.	Actively inform yourself about global issues. Interact at a significant level with individuals and/or institutions from other cultures. Demonstrate willingnes to learn from others with flexibilit and responsiveness.	Have an analytical awareness that the world is an interconnected system of complex processes. Demonstrate that your own world view and the dominant ideas in you culture are not shared by all people and cultures.

Adapting to Change

Level 1	Level 2	Level 3
Exposed to the process of change.	Participate in activities that will lead to adapting to change.	Demonstrate independence and critical thinking that will initiate and complete the change cycle.

Quantitative Reasoning

Level 1	Level 2	Level 3
Define, explain and properly use fundamental math and numeracy concepts and prepare for more advanced coursework.	Show a consistent ability to solve multi-component problems, using both linear methods and creative techniques.	Create new information and ideas by utilizing math and numeracy skills; summarize and judge complex issues containing multiple variables related to your intended profession.

Ethical Reasoning

Level 1	Level 2	Level 3
Recognize an ethical dilemma an understand your role in it.	Reach a decision based on ethical reasoning.	Explain how you reached a decision and why you deemed it a better choice than alternatives.

APPENDIX C
FACULTY POST-INTERVIEW PROTOCOL

Introduction	Welcome and thank participants for participation in the interviewing The interview will focus on student learning outcomes and will help us learn more about how to best support students with the ELO initiative. Your responses will be kept confidential and your name or any other information that could identify you will be redacted to protect your privacy in any reports we write as a result of this research. Concepts discovered will facilitate the research of strategies for supporting ELO integration.
Procedures	Engage participants in discussion using the questions presented below. Explain that the discussion will be audio recorded and notes will be recorded to document information collected. Prompt participants as appropriate using the additional prompts provided and invite interviewees to respond with information they prefer to share.
Topic 1: Goals	Q1. What are your goals for student learning in this course? Q2. How aware do you think students are about the goals your have for the student learning in this course? Q3. What factors do you think support student awareness of the goals of this course?
Topic 2: Assessment to Guide Student Learning	Q4. What assessment techniques have you used to support student learning in this course? Q5. How helpful do you think these have been in supporting student learning? Q6. Describe any assessment techniques that guide instruction/student learning in this course.
Topic 3: Student Engagement	Q7. How would you describe students' level of engagement/motivation for the learning/assessment tasks in this course? Q8. Describe any factors that contribute to student engagement/motivation for the learning in this course.
Topic 4: Student Perception of Learning	Q9. How effectively do you think students perceive learning in this course? Q10. What factors do you think contributes to student perception of learning in this course?
Topic 5: ELO Competence	Q11. How aware do you think students are about the ELOs they acquire from experiences both in and out of the classroom while at Stockton? Q12. Which ELOs did you address in this course? Q13. Which assessments in this course require students to demonstrate ELOs? Q14. Please describe those learning and/or assessment tasks. Q15. What opportunities do students have to build awareness about the ELOs they have acquired while at Stockton (from both in and out of the classroom)? Q16. What importance do you think student self-awareness of ELO competence has overall on student learning?
Conclusion	Invite participants to share final thoughts. Thank participant for interviewing.

Appendix D
Faculty Survey

ELO Study Group Faculty Survey

1. Your Name:

2. How often did you intentionally discuss with your students the ELOs you integrated into your course?

- ◯ I didn't discuss ELOs with students.
- ◯ 1 or 2 times over the course of the semester.
- ◯ 3-5 times over the course of the semester.
- ◯ More than 5 times over the course of the semester.

3. Which of the following techniques did you use to support student competence with the ELOs you focused on in your course? (Please select all that apply.)

- ☐ I helped students **connect the ELOs** to other disciplines, courses or to other ELOs.
- ☐ I required/supported students with the practice of **reflecting** on their ELO competence.
- ☐ I helped students recognize **how the ELOs are utilized** in real world or practical settings.
- ☐ I identified specific learning tasks, assignments or activities to **support students' ELO competence**.
- ☐ I focused on developing **students' awareness of the ELOs** and how they integrated into the learning tasks.

Comments:

APPENDIX E
SYLLABUS RUBRIC

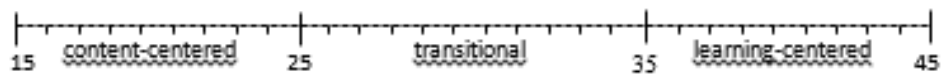
Syllabus Rubric: Scoring Sheet

ADAPTED FROM *A SYLLABUS RUBRIC* (PALMER, BACH, & STREIFER, 2014)

Definitions of 'Strength of Evidence'

- **Strong** evidence indicates that many (but not necessarily all) of the characteristics of the component are present in the syllabus and match the descriptions closely.
- **Moderate** evidence indicates that only some of the characteristics of the component are present in the syllabus and/or only partly match the descriptions.
- **Low** evidence indicates that very few or none of the characteristics of the component are present in the syllabus and/or don't match the descriptions.

Criterion	Component	Strength of Evidence		
		Strong	Moderate	Low/No
ELOs, Goals & Objectives	1. Essential Learning Outcomes are clearly identified			
	2. Course level learning objectives are clearly articulated and use specific action verbs			
	3. Learning goals encompass full range of Fink's dimensions of significant learning			
Assessment Activities	4. Objectives and assessments are aligned			
	5. Major summative assessment activities are clearly defined			
	6. Plans for frequent formative assessment with focus on discussion and/or evidence of use of CATs			
	7. Assessments are adequately paced and scaffolded			
	8. Tool for assessment is aligned with ELOs, objectives and assessments			
Significant Learning	9. Classroom activities, assessments, and objectives are aligned			
	10. Learning activities are derived from evidence-based practices			
	11. Learning activities likely to actively engage students			
Tone of Syllabus	12. Positive, respectful, inviting, includes the use of pronouns such a "you" to convey positive tone.			
	13. Fosters motivation for meaningful engagement, value of course in post-course life, promotes content as a vehicle for learning			
	14. Communicates high expectations, projects confidence of success			
	15. Syllabus is well organized, easy to navigate, requires interaction			
	subtotals	(x3) =	(x2) =	(x1) =
			TOTAL	/45



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