Full Issue: Journal on Empowering Teaching Excellence, Volume 2, Issue 1

Follow this and additional works at: https://digitalcommons.usu.edu/jete

Part of the Higher Education and Teaching Commons

Utah State University
MERRILL-CAZIER LIBRARY

THE JOURNAL ON EMPOWERING TEACHING EXCELLENCE

VOLUME 2, ISSUE 1

SPRING 2018

UtahStateUniversity
CENTER FOR INNOVATIVE DESIGN & INSTRUCTION

The Journal on Empowering Teaching Excellence is a bi-annual publication released in March and October. We accept articles and multimedia submissions from higher education professionals who have practical, experience-based insights to share with their peers. We value material that is up-to-date, proven, and easy to implement in today's teaching environments.

JETE is a publication from the Center for Innovative Design and Instruction, and Academic and Instructional Services at Utah State University. It is produced in connection with the Empowering Teaching Excellence faculty development program.

To submit, please visit http://digitalcommons.usu.edu/cgi/submit.cgi?context=jete

Editorial Board

Becki Lawver, Assistant Professor
College of Agriculture and Applied Sceiences, School of Applied Sciences, Techonology and Education, Utah State University, Logan UT

John Louviere, Executive Director
Academic and Instructional Services, Utah State University, Logan UT

Ed Reeve, Interim Vice Provost
Office of the Executive Vice President and Provost, Utah State University, Logan UT

Melissa Scheaffer, Senior Lecturer
College of Engineering, Department of Engineering Education, Utah State University, Logan UT

Robert Wagner, Vice President
Academic and Instructional Services, Utah State University, Logan UT

Table of Contents

About This Issue

By Michael A. Christiansen, Ph.D., Editor-in-Chief
Utah State University

Welcome Back

Volume two, issue one is here! With great enthusiasm, we welcome you back to the *Journal on Empowering Teaching Excellence,* or *JETE*.

For anyone new to this journal, *JETE* is a peer-reviewed, biannual, cross-disciplinary publication that runs in concert with Utah State University's Empowering Teaching Excellence (ETE) faculty development program. Though helmed by USU, we welcome submissions from *any* postsecondary institution and discipline. Our mission is to provide a peer-reviewed forum for impactful classroom and teaching innovations, where readers can encounter new data, ideas, and methods to facilitate positive and poignant changes to their curricula. Above all, we hope to encourage, catalyze, and energize faculty at every level to become the best educators they possibly can.

In This Issue

This issue brings three tech-centered articles to the fore:

- Savoie-Roskos and coauthors' paper on metrics for evaluating and designing blended-learning courses (2018)
- Larese-Casanova and Perkins's article on adapting field-based classes to online education (2018)
- Thurston's treatise on "gamifying" an introductory programming course (2018)

Beyond these, our issue also includes:

- A groundbreaking class redesign by Grant and MacLean that blends in-field experiences in national parks with cross-disciplinary university education (2018)
- Shvidko's seminal article on the impact of a new Intensive English Language and American Culture course on international students (2018)

We again welcome you back to the *Journal on Empowering Teaching Excellence* and anticipate that each of the five articles found in this issue will provide you with a wellspring of methodological designs, advances, tactics, and educational ideas to inspire, motivate, and energize you in your personal quest to become the best teacher you can.

Sincerely,

Dr. Michael A. Christiansen

Editor-in-Chief

References

Grant, J. B., MacLean, J. S. (2018). Semester in the Parks: Engaging Students with Common Intellectual Experiences. *Journal on Empowering Teaching Excellence, 2*(1). 53-65.

Larese-Casanova, M., Perkins, J. (2018). From Outside to Online: Unanticipated Directions for Utah Master Naturalist. *Journal on Empowering Teaching Excellence, 2*(1). 12-22.

Savoie-Roskos, M. R., Bevan, S., Charlton, R., Graf, M. I. (2018). Approaches to Evaluating Blended Courses. *Journal on Empowering Teaching Excellence, 2*(1). 3-11.

Shvidko, E. (2018). Promoting Second Language Socialization Through Course Projects. *Journal on Empowering Teaching Excellence, 2*(1). 66-81.

Thurston, T. N. (2017). Design Case: Implementing Gamification with ARCS to Engage Digital Natives. *Journal on Empowering Teaching Excellence, 2*(1). 23-52.

Approaches to Evaluating Blended Courses

By Mateja R. Savoie-Roskos, Ph.D., MPH, RD, Stacy Bevan, MS, RD,
Rebecca Charlton, MPH, RD, and Marlene Israelsen Graf, MS, RD
Utah State University

Abstract

Blended learning, sometimes referred to as hybrid or flexible learning, is becoming increasingly common in higher education. Unfortunately, many instructors receive limited training on how to effectively evaluate blended courses, and as a result, commonly rely solely on end-of-semester evaluations. Due to the more complex nature of how blended courses are designed and implemented, instructors should consider utilizing a variety of course evaluation methods. This article includes researched-based approaches for evaluating blended courses based on feedback from students, peers, and instructional designers. This combination of formalized feedback is offered as one strategy to ensure instructors achieve course learning objectives and meet student learning needs. Most importantly, feedback gathered through these various evaluation methods can be used for continued course improvement.

Introduction

Blended learning, sometimes referred to as hybrid or flexible learning, is becoming increasingly common in higher education. Although the overall layout and structure of blended courses can vary considerably, all blended learning courses consist of both synchronous and asynchronous instruction (Wengreen, Dimmick, & Israelsen, 2015). Synchronous instruction occurs in real-time and typically describes instructor-led face-to-face interaction in a classroom. Contrastingly, asynchronous learning usually occurs in an online environment where students and the instructor are not all present or online at the same time (Wengreen et al., 2015).

Flipped, or inverted learning, is a specific form of blended learning. While various definitions of flipped learning exist, it is generally a learning format where (a) students complete pre-class work individually before coming to class and engage in group work or collaborative learning activities during class; (b) lectures are recorded as videos for students to view outside of class and class time is used for discussion, application, and problem-solving; and/or (c) the learning environment during class time is student-centered instead of instructor-focused (Honeycutt, n.d.). For the purpose of this paper, blended learning will be used to refer to all of the aforementioned terms and forms of blended learning.

There are many benefits to using a blended learning model. Oftentimes, students demonstrate improved in-class engagement, attendance, and overall academic achievement in blended courses, as compared to traditional face-to-face courses (United States Department of Education [USDE], 2010; Wengreen et al., 2015). The combination of different learning environments, as seen in a blended model, minimizes the limitation of meeting one specific learning style, which can occur when one form of delivery is used (Wengreen, et al., 2015). For example, face-to-face courses foster learning through interaction and connection with an instructor and peers. Online courses, on the other hand, offer flexibility to students by expanding options on what, when, where, and how students learn (USDE, 2010). A blended course can offer the advantages of both of these learning formats and free up time for more student-centered learning in the synchronous setting (Moskal, Dziuban, & Hartman, 2013; O'Flaherty & Phillips, 2015; USDE, 2010; Wengreen et al., 2015). Most students appreciate the flexibility of the asynchronous component while also valuing the interactions with students and faculty offered in the synchronous component (Moskal et al., 2013). At USU, any course in which 21% to 79% of the time is spent in an asynchronous format can be designated as a blended course, once approval is obtained from a campus administrator. This application process is outlined on the Center for Innovative Design and Instruction (CIDI) website (http://cidi.usu.edu/requestforms/ blendedlearning).

Although blended courses are becoming more mainstream at USU and in higher education in general, many instructors receive limited training on how to effectively develop and evaluate blended courses. Determining the quality of blended courses requires comprehensive feedback from students, faculty, and instructional designers. Feedback provided through these evaluations helps determine the quality of in-class content, in addition to the online methods used, to ensure course objectives and

student educational needs are being met (Smythe, 2012). The purpose of this article is to discuss blended learning resources and evaluation methods available to instructors at USU and other higher educational institutions.

Student Evaluation and Assessment

Student evaluation of teaching (SET), typically conducted at the end of each semester, is the most common way courses are evaluated in higher education (Dzuiban & Moskal, 2011). This form of evaluation, often referred to as summative evaluation, can help instructors improve overall course effectiveness and determine whether course objectives are being met. Student ratings are particularly well-suited in determining if a teacher has sufficient clarity, student-teacher connection, and commitment to the course to be an effective educator (Benton & Cashin, 2009). Furthermore, high student ratings of the instructional dimensions listed above are moderately correlated with higher exam scores and student achievement in the course being evaluated (Benton & Cashin, 2009).

However, student evaluations alone are not adequate for guiding course design and presentation of blended courses, as students are not trained in effective pedagogical methods (O'Flaherty & Phillips, 2015). For example, a review of 28 studies found that although student grades, attendance, and perceived development of skills increased, student reactions towards the course were negative (O'Flaherty & Phillips, 2015). It is possible that a students' internal locus of control, including a willingness to take risks and engage innovative approaches, which are vital to the success of flexible learning environments, may impact summative evaluation results (Drennan, Kennedy, & Pisarski, 2005).

Because end-of-semester evaluations of blended courses have limitations, instructors should consider utilizing other student evaluation methods. For example, mid-semester evaluations can be used to get feedback on course content, teaching methods, and learning activities to help improve teaching and learning. One of the main benefits of mid-semester evaluations is the ability of the instructor to apply feedback to the course immediately (Bullock, 2003). Students' attitudes about courses and instructors have been found to improve when instructors implement changes based on mid-semester evaluations, which may influence their overall learning experience in the course (Keutzer, 1993).

In addition to student evaluations, student assessment data can be used for course evaluation and improvement. For example, pre/post assessments can help determine changes in knowledge or skills that are aligned with course objectives, and have been found to be a valuable addition to evaluating teaching and course effectiveness (Stark-Wroblewski, Ahlering, & Brill, 2007). Because blended courses often utilize skill-based learning, assessments should incorporate the demonstration of these skills, in addition to changes in knowledge and understanding. Reviewing other course assessment data can also help instructors understand what course objectives and course content need revising for improved understanding.

Peer Evaluations

In addition to SET, instructors should consider scheduling regular peer evaluations for their blended courses. Peers can provide an added perspective in areas of course design and teaching approaches that students lack the ability to provide. To ensure desired information of the course effectiveness is obtained, the instructor should consider the following before initiating a peer evaluation: (1) the type and purpose of the peer evaluation, (2) the evaluator's training or knowledge related to assessing blended courses, and (3) the evaluation rubric that will be used.

Peer evaluations may be summative or formative. Summative evaluations are comparative to a final grade or overall score, such as a course evaluation letter written from peers as part of the promotion and tenure process (Duke AHEAD, 2015; Vega Garcia, Stacy-Bates, Alger, & Marupova, 2017). Limitations of summative peer faculty evaluations include feedback not being communicated well, not being relevant, or not being applicable (Iqbal, 2014; Smith, 2012). Some of these drawbacks result from lack of formal training on how to conduct peer evaluations, lack of objective standards for comparing teaching, and not wanting to negatively impact the promotion and tenure progress of a colleague (Iqbal, 2014). In addition, one classroom observation may not be typical of overall teaching or provide enough context to fully assess teaching (Iqbal 2014; Smith 2012,).

Formative evaluations are found to be more appropriate to utilize when wanting specific feedback for course improvement or professional growth. They are initiated voluntarily by the instructors and benefit both parties by promoting active discussion and insights into effective teaching (Iqbal 2014; Smith, 2012; Vega Garcia et al., 2017).

Ideally, a formative evaluation includes a pre-observation meeting to discuss areas the observed faculty wants assessed, the actual observation, and then a follow-up meeting to discuss specific insights into what was observed (Iqbal, 2014; Smith, 2012; Vega Garcia et al., 2017). The evaluation form or letter received following a formative evaluation may be added to promotion and tenure documentation to show improvements in teaching, or remain private and used solely for professional growth.

Peer evaluation of blended courses need to utilize an evaluation tool that focuses on both the course design, teaching in the online component, and the face-to-face classroom instruction. There should be a focus on how well each of these blends to meet the course objectives. Many evaluation rubrics to assess teaching have been based on the Bloom's taxonomies of learning objectives and Chickering and Gamson's Seven Principles of Good Practice in Undergraduate Education (Baldwin et al. 2017; Bloom, 1956; Chickering and Gamson, 1987, Yang et al., 2009). Some rubrics focus primarily on learner effectiveness, but Yang et al. acknowledged the importance of evaluating instructional design as well (Yang et al., 2009). Baldwin et al. reviewed 28 higher education online course evaluation instruments and found most rubrics only assessed student-faculty contact, cooperation among students, and active learning, while failing to assess prompt feedback, time on tasks, high expectations, and diverse talents and ways of learning (Baldwin, 2017). Bowyer et al. recognized the importance of acknowledging all aspects of teaching and learning, and then developed their own framework for evaluating blended courses (Bowyer et al., 2017).

Overall, the greatest benefits will come from peer evaluation when adequate planning, pre- and post-observation meetings, and training of peer evaluators takes place, and an appropriate evaluation tool for blended courses is utilized (Bowyer et al., 2017).

Instructional Design Evaluations

With blended courses, it is important not to forget the value of course development, instructional design, and use of various technologies (Smythe, 2012). "Good instructional design is vitally important to the success of a blended learning course, perhaps even more so than in a traditional classroom or in fully online courses." (Glazer, 2012 p. 5) Oftentimes, these vital components of course quality are missed through the more common evaluation methods, such as those discussed

above (Smythe, 2012). Working with instructional designers during the development of blended courses and throughout course improvement can help ensure the online learning environment is conducive to student engagement and success. More specifically, instructional designers help ensure course objectives are aligned with assessments and activities, the online course content complements the in-class instruction, and that the course is developed with intentionality. In addition, instructional designers can provide feedback and assistance with layout and design of online course content, developing or improving assessment rubrics, and ensuring materials are accessible, for example. Before a blended course is made available to students, instructors should strongly consider having an instructional designer evaluate the online portion of their course using a standardized course design rubric. Many universities, including USU, have such resources available for instructors.

Furthermore, course development trainings provided by instructional designers allow an opportunity for faculty to get continued feedback while the course is being developed. While it is not an official evaluation, this formative evaluation process can ensure the upfront time and resources spent developing a blended course are utilized efficiently and effectively. Utilizing on-campus course development support provided by instructional designers helps to ensure that the course and instructor adequately incorporate student engagement and assessment, which allow for optimal student outcomes (Moskal et al., 2013). If a course is already designed and implemented, instructional designers can be an excellent resource for continued course improvement. At USU, CIDI has a variety of resources for instructors, including a course mapping worksheet, course development assistance, seminars and workshops, and course evaluations. These resources can be especially beneficial for instructors new to blended or online learning.

Conclusion

Although blended courses are becoming more mainstream in higher education, many instructors receive minimal training on how to effectively develop and evaluate them. Due to the more complex nature of how blended courses are designed and implemented, instructors should consider a variety of course evaluation methods. A combination of formalized feedback from students, peers, and instructional designers before, during, and after the course has been offered is one strategy to ensure courses achieve learning objectives and meet student learning needs. Most importantly,

feedback gathered through these various evaluation methods should be used for continued course improvement.

References

Baldwin, S., & Trespalacios, J. (2012). Evaluation instruments and good practices in online education. *Online Learning, 21*(2). doi: 10.24059/olj.v21i2.913.

Benton, S, & Cashin, W. (n.d.) Student ratings of teaching: a summary of research and literature. Retrieved from http://www.ideaedu.org/Portals/0/Uploads/Documents/ IDEA%20Papers/IDEA%20Papers/PaperIDEA_50.pdf.

Bloom, B. S. (1956). Taxonomy of Educational Objectives. *Vol. 1: Cognitive Domain.* New York: McKay.

Bowyer, J., & Chambers, L. (2017). Evaluating blended learning: Bringing the elements together. *Research Matters, 23*, 17-26.

Bullock, C.D. (2003). Online collection of midterm student feedback. *New Directions for Teaching and Learning,* 95–102.

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin, 3*, 7.

Drennan, J., Kennedy, J., & Pisarski, A. (2005) Factors affecting student attitudes toward flexible online learning in management education, *The Journal of Educational Research, 98*(6), 331-338, doi:10.3200/JOER.98.6.331-338.

Duke AHEAD.(2015). Assess and Evaluate Learning. Retrieved from https://dukeahead.duke.edu/educator-competencies/assessment.

Dzuiban, C., & Moskal, P. (2011). A course is a course is a course: Factor invariance in student evaluation of online, blended and face-to-face learning environments. *Internet and Higher Education, 14*, 236-341. doi:10.1016/j.iheduc.2011.05.003.

Glazer, F. S. (2012). *Blended learning: Across the disciplines, across the academy*. Steerling, VA: Stylus Publishing.

Honeycutt, B. (n.d.) Defining the flipped classroom and finding flappable moments. Retrieved from http://barbihoneycutt.com/defining-flipped-classroom-flippable-moments/.

Iqbal, I. (2014). Don't tell it like it is: Preserving collegiality in the summative peer review of teaching. *Canadian Journal of Higher Education, 44*(1),108-124.

Keutzer, C. (1993). Midterm evaluation of teaching provides helpful feedback to instructors. *Teaching of Psychology, 20*(4), 238-240.

Moskal, P., Dziuban, C., & Hartman, J. (2013). Blended learning: A dangerous idea? *Internet and Higher Education, 18*, 15-23. doi.org/10.1016/j.iheduc.2012.12.001.

O'Flaherty, J., & Phillips, C. (2015). The use of flipped classrooms in higher education: A scoping review, *The Internet and Higher Education, 25*, 85-95. doi: 10.1016/j.iheduc.2015.02.002.

Smith, H. (2012). The unintended consequences of grading teaching. *Teaching in Higher Education,17*(6),747-754. doi: 10.1080/13562517.2012.744437.

Smythe, M. (2012). Toward a framework for evaluating blended learning. *Proceedings of ASCILITE - Australian Society for Computers in Learning in Tertiary Education Annual Conference 2012*. Australasian Society for Computers in Learning in Tertiary Education. Retrieved from https://www.learntechlib.org/p/42695/.

Stark-Wroblewski, K., Ahlering, R., & Brill, F. (2007). Toward a more comprehensive approach to evaluating teaching effectiveness: supplementing student evaluations of teaching with pre-post learning measures. *Assessment & Evaluation in Higher Education, 32*(4), 403-415. doi.org/10.1080/02602930600898536.

U.S. Department of Education, Office of Planning, Evaluation and Policy Development. (2010). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. Retrieved from https://www2.ed.gov/rschstat/ eval/tech/evidence-based-practices/finalreport.pdf.

Vega Garcia, S., Stacy-Bates, K., Alger, J., & Marupova, R. (2017). Peer evaluations of teaching in an online information literacy course. *Libraries and the Academy, 17*(3), 471-483. Retrieved from https://preprint.press.jhu.edu/portal/sites/ajm/ files/17.3garcia.pdf.

Wanner, T., & Palmer, E. (2015). Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course. *Computers & Education, 88*, 354-369. doi 10.1016/j.compedu.2015.07.008.

Wengreen, W., Dimmick, M., & Israelsen, M. (2015). *Evaluation of a blended design in a large general education nutrition course.* NACTA.

Yang, JF., Hsiano, CM., Liu, HY., & Chao-Ming Lin, N. (2009). Modes of delivery and learning objectives in distance education. *International Journal of Instructional Media, 36*(1):55-71.

From Outside to Online: Unanticipated Directions for Utah Master Naturalist

By Mark Larese-Casanova and Jennifer Perkins
Utah State University

Abstract

Utah Master Naturalist is an award-winning Utah State University Extension program that promotes stewardship of Utah's natural world through place-based, experiential field courses across the state. Although successful in eliciting positive short- and long-term impacts, Utah Master Naturalist's traditional five-day field courses were unavailable to many students and instructors due to constraints of time and location. This case study examines Utah Master Naturalist's first hybrid course, Desert Explorations, and describes the positive results from our pilot study, how a hybrid course solves accessibility issues, and how field-based learning theories can be adapted to online education through careful design.

Environmental education is most successful when students engage with nature in experiential, place-based learning that develops their scientific understanding and connection to the natural world. For ten years, Utah Master Naturalist (UMN), a Utah State University Extension program, has successfully engaged adult students in science-based field courses using experiential, place-based education. While we recognize UMN's successes, we are aware that its place-based design has inherent accessibility issues. As a result, we have developed hybrid courses based on UMN's successful field course model. The first hybrid course, Desert Explorations, serves as a case study, demonstrating how a hybrid course design solves accessibility issues while teaching effective environmental education.

Traditional five-day field courses

The mission of UMN is to develop well-informed citizens who provide education, outreach, and service, promoting stewardship of natural resources within their communities. Traditionally, Utah's major biomes—watersheds, deserts, and mountains—have been the focus of five-day field courses entitled: Watershed Investigations, Desert Explorations, and Mountain Adventures. Field courses have been delivered across Utah, with the focus of immersing students in nature.

The geographic locations of UMN field courses have ranged as far north as Logan to as far south as Kanab. In addition to providing lecture-style teaching, expert instructors have facilitated learning by guiding students on outdoor adventures, such as exploring, hiking, canoeing, and camping, encouraging them to share their own knowledge with the group. This place-based, field-learning approach successfully created a community of inquiry as students connected, both kinesthetically and experientially, with natural environments in a learning vacation atmosphere.

A variety of students have participated in UMN field courses, often in conjunction with volunteer or professional work at schools or nature organizations. Approximately 21% of past participants have been Utah K-12 teachers, 18% environmental educators, and 61% volunteer or amateur naturalists. Students who participated in five-day field courses demonstrated a persistent connection to nature and a commitment to improving Utah's natural world and the issues facing it. They felt courses were "fun and informative," that the learning community was "interested and interesting to be with," and that afterward, they felt "a much deeper understanding and appreciation for our natural places" (Larese-Casanova, 2011; Larese-Casanova, 2015; Larese-Casanova, 2018).

Limitations of traditional five-day field course delivery

Although highly successful in its mission to promote stewardship of Utah's natural world, traditional UMN courses remained inaccessible to many students and instructors because of time and location constraints. Rural Utah students were underserved and unreachable because field course attendance required costly travel and time investments. Additionally, K-12 educators who could enroll for professional

development were limited to attending only summer field courses. Over the years, several people expressed interest in attending a field course, but were unable to take five or more days off from their work.

As program developer and director, the lead author has taught the vast majority of UMN field courses, either entirely or in cooperation with partners. Traveling to remote, rural locations required more time and funding, with less guarantee that field courses would fill with students. As UMN sought more instructors from partner organizations, constraints of time, finances, or training limited the pool of knowledgeable instructors who were able to teach five-day field courses. It became clear that we needed to adapt UMN course delivery to provide educational access to a larger and broader audience and to increase the outputs of the UMN program overall.

Benefits of online education

Asynchronous online education (OE) is an established, effective method of delivering programs that complement and substitute for in-person instruction; however, it is a relatively new concept for the delivery of Extension environmental programs (Jeanette & Meyer, 2002; Kaslon, Lodl, & Greve, 2005; Langellotto-Rhodaback, 2010). Often eliminating constraints of location and time, OE attracts fulltime, employed students who are otherwise unable to attend in-person courses (Boettcher & Conrad, 1999; Dromgoole & Boleman, 2006). Because of the self-directed, free-time learning potential of asynchronous OE, we confirmed that a hybrid course design could solve student and instructor accessibility issues and grow UMN (Halsne & Gatta, 2002; VanDerZanden, Rost, & Eckel, 2002).

Asynchronous OE also has the potential to help UMN reach entirely new audiences, such as tourists. Utah's vibrant eco-tourism industry attracts visitors from across the United States and other countries (Leaver, 2016). Each online portion of UMN's hybrid courses could benefit tourism visitors looking to better understand Utah's natural resources prior to their visit (Green, 2012; Langellotto-Rhodaback, 2010). In the past three years, four UMN students have traveled to Utah from other states (i.e., Maryland, New York, and California) specifically to attend a UMN field course as a learning vacation. Developing a greater awareness, understanding, and

need for stewardship of Utah's diverse ecology prior to visiting would certainly enhance the tourist experience and expand UMN's reach.

Replicating Essential Field Course Components Online

While it may seem counterintuitive to convert successful field courses into hybrid courses, we chose a hybrid course design consisting of a ten-hour online course and three-day field course. The basic desert concepts that were usually taught in a classroom-type setting during the field course were extracted and used to create the new online course. We developed the online portion of Desert Explorations using the following online best practices, while incorporating the experiential, place-based, constructivist learning theories that made traditional UMN field courses so successful.

Set clear goals and objectives: Since online students benefit from having explicit course objectives, we selected clear, attainable objectives from the UMN Desert Explorations field course to guide online course design and management (Boettcher & Conrad, 2016). Using the objectives as a roadmap to learning, we directed UMN online students to review the objectives and identify familiar and unfamiliar topics that they could discuss in an introductory discussion forum. This served as a pre-assessment of each student, conveying their level of prior knowledge while identifying course expectations (Fish & Wickersham, 2009).

Create an easy-to-navigate, effective design: Most UMN students are members of the general public. We anticipated they would have limited experience with the Canvas learning management system in which the course is designed. Therefore, we designed the layout and function of the course to be similar to an interactive website. The homepage of Desert Explorations depicts the nine module topics as image links to each module, with the module title appearing when hovered over (Figure 1).
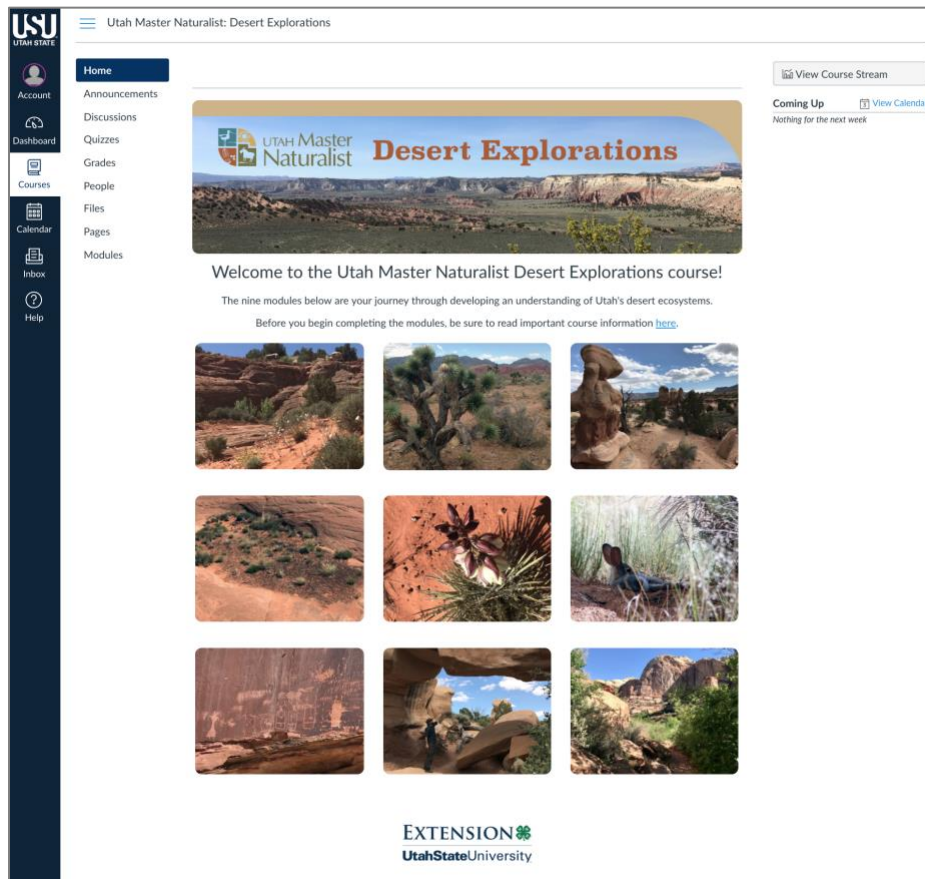
Figure 1. **Homepage of the Utah Master Naturalist Desert Explorations online course.**

The nine course modules focus on the fundamental concepts related to the main topics and objectives of the Desert Explorations course manual:

1. *Discover Deserts*: Understand what a desert is, how they are influenced by climate, and where deserts are found across the world.
2. *Identify Desert Regions*: Know the different desert regions in Utah and their primary geologic and ecological characteristics.
3. *Understand Desert Geology:* Explore the geologic layers and processes that create the iconic Utah desert landscapes.
4. *Explore Desert Communities*: Study the structure, composition, and ecology of the diverse desert communities from biological soil crust to the pinyon-juniper woodlands.

5. *Recognize Desert Plants*: Recognize the adaptations that desert plants use to survive in a harsh environment.
6. *Notice Desert Animals*: Understand the animal adaptations required for living in desert environments.
7. *Investigate Human History*: Travel through time, exploring the role of ancient and modern peoples and how they interacted with Utah's desert ecosystems.
8. *Become a Desert Naturalist*: Hear the perspectives of renowned naturalists and develop skills of observation.
9. *Explore Utah's Deserts*: Visit Utah's State and National Parks and Monuments, and join UMN on a Desert Explorations field course.

Each of the nine module topics were organized into steps to help students progress through the stages of Bloom's revised taxonomy of learning, as they remember, understand, apply, analyze, evaluate, and create their desert knowledge (Anderson, et al., 2001). These steps include sections where students are asked to *explore, understand, connect, reflect,* and *expand* upon a desert topic. Each step, described below, incorporates multiple learning theories, such as social learning theory, constructivism theory, the theory of emotional intelligence, experiential learning, cognitive apprenticeship, and situated learning theory (Bandura & Walters, 1977; Bruner, 2009; Golman, 1995; Dewey, 1997; Collins, Brown, & Holum, 1991; Lave, 1991; Boettcher & Conrad, 2016).

- *Explore*: Students explore the module topic by reading a summative paragraph.
- *Understand*: Students understand the topic by reading page selections from the UMN Desert Explorations course manual, watching video content or PowerPoint presentations, and listening to short audio segments such as podcasts. When students learn outdoors in a field course, they typically use all their senses and powers of observation to apply concepts. In the online course, we provided students the choice to read, watch, and listen, simulating the varied field-learning choices that construct meaning.
- *Connect*: Students connect with the module topic as they engage in one discussion and one activity. The discussion contains a thought-provoking prompt led by the instructor, mirroring typical field course discussions. Each discussion and activity engages the instructor and participants in a

community of inquiry, where learning theories such as social learning theory, the theory of emotional intelligence, and constructivism are built into the prompts and consequent discussions (Stewart, 2017).

- *Reflect*: Students have an opportunity to reflect on the information they have learned in the module topic, discussion, and activity by completing a low-stakes quiz. The quizzes provide feedback on each student's progress and help tailor the activities in the subsequent three-day field course.

- *Expand*: Students are offered additional extended learning resources to expand their knowledge by reading, watching, listening, or doing. This choice models constructivist theory as students choose to further their learning outside the course and its expectations.

- *Develop a community of learners*: Each online discussion and activity connects everyone with each other in a community of learning. Each cohort of online students and their community of inquiry will eventually transition into a three-day field course. When students and the instructor meet in-person, they have an established relationship and can construct new learning based on past interaction (Stewart, 2017)

- *Use a variety of resources to enhance learning*: UMN students are not a captive audience like undergraduate college students, and many do not even request USU credit for completing a course. As a result, we needed to use techniques and resources to maintain attention and engagement. Incorporating content from multiple sources, including UMN, National Park Service, and Utah Public Radio, helped create an environment where students could learn from multiple reputable sources in different delivery styles (Ally, 2004).

- *Evaluate for improvement*: The efficacy and impacts of the UMN online courses are measured through continual evaluation that guides improvement. Incorporating quizzes into each learning module helps us assess each student's knowledge and evaluate the effectiveness of the course content and delivery. The Desert Explorations online course culminates with an evaluation survey that requests feedback related to the effectiveness of the course format, the Canvas interface, course content, and user experience and learning. The survey content was tied directly to the course objectives, as well as goals related to the essential UMN course components described above. The survey also asked for open-ended

feedback about course functionality. Improvements to the UMN Desert Explorations online course were guided by the student feedback (Boettcher & Conrad, 2016).

Piloting results

We partnered with the Natural History Museum of Utah to offer three UMN field courses as professional development workshops for K-12 teachers in 2017-2018. This provided an opportunity to pilot the Desert Explorations online course with an ideal audience of trained educators who are accustomed to online professional development. We began in October 2017, combining the new Desert Explorations online course with a three-day field course held at the University of Utah's Bonderman Field Station near Moab. These 18 students were given access to the online course two weeks prior to the start of the field course, so that they could develop a baseline knowledge about desert ecosystems.

Evaluation results conveyed that the Desert Explorations online course successfully created an effective community of inquiry and largely replicated the essential components of the UMN field course in its new asynchronous online medium. Feedback from the students indicated that they found the format and content highly effective in teaching the fundamental concepts of the Desert Explorations course. When asked what they liked most about the course, the majority of the students surveyed responded with positive affirmations about the multiple learning styles and multiple forms of media that they engaged with in the *understand* and *connect* sections of each module. The students also found the activities and discussions helpful in encouraging interaction among the group. Activities were especially useful in reinforcing concepts through experiential, place-based learning in their local environments. Some students even enjoyed the assessment quizzes because they held them accountable in learning and understanding the course content.

Suggestions from these pilot students guided improvements to the online course for future cohorts. To improve functionality, we replaced the original introductory homepage with the module page now seen in Figure 1. As recommended, we plan to open each online course at least one month prior to the complementary field course, as several students felt rushed to finish the online course within the two-week timeframe. While some students thought the activities were too lengthy, others

suggested that we include more. With this assessment, we kept the amount and type of activities as they were originally developed, but we plan to continue evaluating their effectiveness. In the future, instructors will have greater involvement in each module's discussions and activity forums to promote higher levels of engagement and learning among the participants.

Conclusions

Creating a hybrid UMN course was effective in maintaining the program mission and achieving our educational goals. Students developed a greater awareness and understanding of Utah's desert ecosystems through experiential, place-based learning both in an online asynchronous learning medium and a shortened three-day field course. We are using the knowledge and experience gained through the development, piloting, and improvement of the Desert Explorations online course as we create the two remaining UMN online courses that will be piloted in 2018. We anticipate that the success of transitioning to a hybrid UMN Desert Explorations course will help us resolve instructor and student accessibility issues while achieving our goal of increasing participant involvement and program output over time.

Hybrid courses have a great potential to increase accessibility to educational resources while maintaining an impactful educational experience. The online portion of a hybrid course is accessible to anyone with a computer or smartphone, and the in-person portion provides essential opportunities to interact with instructors and peers in a classroom or field setting. A hybrid model makes the most efficient use of instructors' and students' time and resources and ensures greater accessibility to educational opportunities.

References

Ally, M. (2004). Foundations of educational theory for online learning. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning* (pp. 15–44). Athabasca: Athabasca University.

Anderson, L.W. (Ed.), Krathwohl, D.R. (Ed.), Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives (Complete edition).* Longman: New York, NY.

Bandura, A., & Walters, R. H. (1977). *Social learning theory.* Holt, Rinehart and Winston: New York, NY. Second Edition.

Boettcher, J. V., & Conrad, R. M. (2016). *The online teaching survival guide: Simple and practical pedagogical tips.* John Wiley & Sons: San Francisco, CA. Second Edition.

Bruner, J. S. (2009). *The process of education.* Harvard University Press: Cambridge, MA. Second Edition.

Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American educator 15*(3), 6-11

Dewey, J. (1997). *Experience and education.* Free Press: Washington, D.C.

Dromgoole, D., & Boleman, C. (2006). Distance education: Perceived barriers and opportunities related to Extension program delivery. *Journal of Extension, 44*(5) Article 5RIB1. Retrieved from: http://www.joe.org/joe/2006october/rb1.php.

Fish, W. W., & Wickersham, L. E. (2009). Best practices for online instructors: Reminders. *The Quarterly Review of Distance Education, 10*(3), 279–284.

Goleman, D. P. (1995). *Emotional intelligence: Why it can matter more than IQ for character, health and lifelong achievement.* Bantam Books: New York, NY.

Green, S. (2012). Extension Online: Utilizing Technology to Enhance Educational Outreach. *Journal of Extension, 50*(5) Article 5TOT4. Retrieved from: https://www.joe.org/joe/2012october/tt4.php.

Halsne, A. M., & Gatta, L. A. (2002). Online versus traditionally delivered instruction: A descriptive study of learner characteristics in a community college setting. *Online Journal of Distance Learning Administration, 5*(1). Retrieved from: https://www.westga.edu/~distance/ojdla/spring51/halsne51.html.

Jeannette, K. J., & Meyer, M. H. (2002). Online learning equals traditional classroom training for Master Gardeners. *HortTechnology, 12*(1). 148-156.

Kaslon, L., Lodl, K., & Greve, V. (2005). Online leader training for 4-H volunteers: A case study of action research. *Journal of Extension, 43*(2), Article 2FEA4. Retrieved from: http://ww.joe.org/joe/2005april/a4.php.

Langellotto-Rhodaback, G. A. (2010). Enrollment, Retention, and Activity in an Online Master Gardener Course. *Journal of Extension, 48*(4), Article 4RIB3. Retrieved from: http://www.joe.org/joe/2010august/rb3.php.

Larese-Casanova, M. (2011). Assessment and evaluation of the Utah Master Naturalist Program: Implications for targeting audiences. *Journal of Extension, 49*(5), Article 5RIB2. Retrieved from: http://www.joe.org/joe/2011october/rb2.php.

Larese-Casanova, M. (2015). Using evaluation to guide and validate improvements to the Utah Master Naturalist Program. *Journal of Extension, 53*(3), Article 3IAW3. Retrieved from: https://www.joe.org/joe/2015june/iw3.php.

Larese-Casanova, M. (2018). *The Importance of Evaluating Long-Term Impacts: Utah Master Naturalist Program as a Case Study.* Manuscript submitted for publication.

Lave, J. (1991). Situating learning in communities of practice. *Perspectives on socially shared cognition, 2*, 63-82.

Leaver, J. (2016). The State of Utah's Travel and Tourism Industry. *Kem C. Gardner Policy Institute, University of Utah.* Retrieved from: http://travel.utah.gov/wp-content/uploads/TourismReport-v8-May-25.pdf

Stewart, M. K. (2017). Communities of inquiry: A heuristic for designing and assessing interactive learning activities in technology-mediated FYC. *Computers and Composition, 45*, 67–84.

VanDerZanden. C. P., Rost, B., & Eckel, R. (2002). Basic botany on-line: A training tool for the Master Gardener program. *Journal of Extension, 40*(5), Article 5RIB3. Retrieved from: http://www.joe.org/joe/2002october/rb3.php.

Design Case: Implementing Gamification with ARCS to Engage Digital Natives

By Travis Thurston
Utah State University

Abstract

Gamification is an emerging topic for both student engagement and motivation in higher education online courses as digital natives become post-secondary students. This design case considers the design, development, and implementation of a higher education online course using the ARCS model for motivational design combined with the four-phase model of interest development as a framework for gamification implementation. Through "designerly ways of knowing," this design case explores engaging digital native students with a gamified online course design, which will be of interest to instructional designers and instructors in higher education. Overall, students in the pilot course responded favorably to the incorporation of gamification and perceived it to have a positive impact on the overall learning experience. Future iterations can improve upon this approach to plan more targeted gamification strategies.

A design case explores "designerly ways of knowing" (Cross, 1982, p. 223) and thinking (Gray, et al., 2016; Park, 2016; Legler & Thurston, 2017), within the context of "a real artifact or experience that has been intentionally designed" (Boling, 2010, p. 2). This design case includes considerations and analysis of the creation and delivery of an online instructional technology course, using motivational design and interest development as a framework for implementing gamification. Working toward "improving the congruence between the perspectives of students and those creating the learning environment" (Könings, et al., 2014, p. 2), this design case should inform future gamified course design strategies. With implications for intentional teaching (Linder, et al., 2014) and design (Cameron, 2009), this case should be of interest to higher education instructional designers and instructors alike.

As an instructional designer in higher education, I work with many instructors who are searching for student engagement strategies. I encourage instructors to use student-centered and evidence-based practices to improve online courses. Therefore, when I had the opportunity to teach an online course that serves as an introduction to website coding and development for non-computer science majors, I wanted to find a way to make the course more engaging for my students. This explanatory case study is framed by an online course redesign, which aimed to improve levels of student engagement and motivation by introducing a learner-centered, game-like environment to structured course activities. This was done by referencing the *attention* category of the ARCS model for extrinsic motivation and relying on the four-phase model of interest development to build intrinsic motivation.

Literature Review & Theoretical Framework

More than one in four higher education students in the United States are enrolled in at least one distance course nationwide (Allen & Seaman, 2016). With online enrollments growing, designing engaging architectures in asynchronous course environments becomes paramount (Riggs & Linder, 2016). One way to engage students is through gamification, which utilizes various game-like features (points, levels, quests or challenges, Easter eggs, etc.) in non-game contexts, in order to change learner behavior (Deterding, et al., 2011). As digital natives (both generation z and millennials) become post-secondary students, gamification is emerging as a topic for addressing student engagement and motivation in higher education online courses, (Nevin, et al., 2014; Schnepp & Rogers, 2014; Khalid, 2017).

Digital Natives

Given the fast-paced and technology-connected world in which we live, it's no surprise that "[t]echnology influences all aspects of everyone's lifestyle in most developed and developing societies, including their behaviour, learning, socialization, culture, values, and work" (Teo, 2016, p. 1727). Prensky (2001) originally proposed that *digital natives* be defined as the generation who have grown up immersed in technology, while Tapscott (2009) defines them as those born after 1976, and Rosen (2010) identifies them as those born after 1980. As such, students from *generation z* and *millennials* are typically classified as digital natives. However, there is disagreement

in the literature on classifying digital natives as a generation, because "some individuals born within the digital native generation may not have the expected access to, or experience with digital technologies, [and] a considerable gap among individuals may exist" (Chen, Teo & Zhou, 2016, p. 51). For that reason, others suggest that the label of "digital native" be used more as a classification of a specific population of students, and not applied broadly to a generation tied to age (Helsper & Eynon, 2010; Margaryan, Littlejohn & Vojt, 2011). According to Palfrey and Gasser (2011), three criteria must be met in order to classify a student as a digital native: the student must be born after 1980, have access to digital technology, and possess digital literacy skills.

A common misconception is that digital natives are not yet old enough to be in college, yet they are considered to make up the dominant population of students currently enrolled in college courses in the United States (Seemiller & Grace, 2016). Our current education system was not specifically designed for digital native students (Pensky, 2001), so it's "essential that we continue to develop higher education in ways that promote effective forms of student engagement (Kahn, et al., p. 217). Selwyn (2009) acknowledges that digital natives have been found to express enhanced problem-solving and multitasking skills, to enjoy social collaboration, and to learn at a quick pace while engaging with technology. However, it is not realistic to assume that all students will exhibit all of these skills. Digital natives tend to prefer engaging in games and can learn through digitally-based play and interactions (Prensky, 2001; Palfrey & Gasser, 2008). This suggests that providing autonomy-supportive assignments that require the use of problem-solving skills in game-like environments will appeal to digital native students (Mohr & Mohr, 2017).

Gamification

A number of theoretical and practical models for implementing gamification are emerging (Muntean, 2011; Urh, et al., 2015; Kim & Lee, 2015; Mora, et al., 2015), which employ various instructional approaches to motivate learners to engage with course content. Gamification implementation approaches are being attempted in various online course disciplines from the humanities to the physical sciences, and from business to instructional technology (Hanus & Fox, 2015; Chapman & Rich, 2015; Jagoda, 2014; Domínguez, et al., 2013; Stansberry & Hasselwood, 2017). When gamification is implemented effectively, it can provide the impetus for students to become intrinsically motivated to construct knowledge through relevant learning

activities (Armstrong, 2013), as well as provide situated contexts in which students can apply knowledge and skills (Dondlinger, 2015). Gamification can increase student engagement by introducing myriad motivational components into the learning environment (Keller, 1987) while also providing for autonomy-support, which affords both choice and structure toward student engagement (Reeve, 2002; Jang, Reeve & Deci, 2010; Lee, et al., 2015). The elements needed in design and development make "motivating students . . . a topic of practical concern to instructional designers" (Paas et al., 2005, p. 75) and instructors, as "a clear design strategy is the key to success in gamification" (Mora, et al., 2015, p. 100).

ARCS Model & Interest Development

"Learning as a result of motivation has been attributed to interest" (Dousay, 2014), which makes interest a critical positive emotion in learning and motivational contexts (Schraw, et al., 2001; Schroff & Vogel, 2010). Simply stated, gamification can initially be used as a hook to gain the attention of students in a course, which can then allow students to build interest in course content and become intrinsically motivated to continue to learn. With this concept in mind, the theoretical framework for this design case nests gamification and the four-phase model of interest development (Hidi & Renninger, 2006) within the *attention* category of the ARCS model (Keller, 1987).

In this framework, "interest refers to focused attention and/or engagement" (Hidi, 2006, p. 72), while the ARCS model refers to a motivational design structure, which includes "how many of what kinds of motivational strategies to use, and how to design them into a lesson or course" (Keller, 1987, p. 1).

Motivational design is considered a subset of instructional design and learning environment design (Keller, 2010). However, by combining motivational design and interest development, "it is possible to incorporate gamification into the ARCS model for gamification of learning" (Hamzah, et al., 2014, p. 291). As depicted in Figure 1, students progress sequentially through the four-phase model of interest development. However, the ARCS Model engages students cyclically, and students can be engaged in multiple sections of ARCS simultaneously. The *attention* section is discussed extensively in this case study, through perceptual and inquiry arousal, but each of the other sections play important roles in motivational design. *Relevance* speaks to providing students with a rationale linking to previous experience and giving students choice. The *confidence* section addresses facilitating student growth, communicating

objectives, and providing feedback. Finally, the *satisfaction* section considers praise or rewards, and immediate application of skills or materials learned.
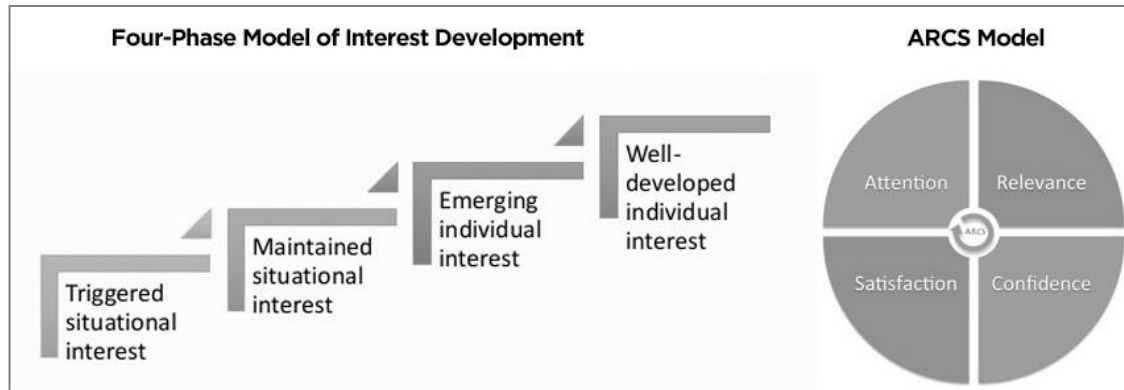

Figure 1. **Four-Phase Model of Interest Development (Hidi & Renninger, 2006) and ARCS Model (Keller, 1987).**

While gamification provides extrinsic elements to increase student engagement and motivation (Muntean, 2011), it can also be used to gain student attention toward triggered or situational interest, which can develop intrinsic motivation using content and learning environment (Hidi & Renninger, 2006). This process allows students to continue to engage in the content and learn more of their own volition (Schraw, et al, 2001; Banfield & Wilkerson, 2014). While intrinsic motivation typically requires individual interest within students, "some other students without such individual interest may also find the topic interesting because of situational interest factors, like novelty" (Hidi, 2006, p. 73), or in this case, gamification. Therefore, this course design provides the environment in which an individual can become intrinsically motivated (Gagné & Deci, 2005) and thereby "facilitate[s] the development and deepening of well-developed individual interest" (Hidi & Renninger, 2006, p. 115). This course also includes elements of autonomy-support and student choice, as "online environments that offer students further choice may also give teachers a way of leveraging students' interest for the purposes of increasing their attention and motivation for school tasks" (Magnifico, et al., 2013, p. 486).

Design Context

The author of this design case served as the instructional designer for the redevelopment of the course and taught the gamified version as a pilot course in an adjunct instructor capacity. This positionality affected the overall approach of the

design case, as the initial analysis of the course was an instructor-led self-evaluation of course components. This serves well for a complete design case, as the same individual developed and taught the course, providing seamless continuity from its intentional design to its intentional teaching. The development that this design case followed began with an initial analysis of the course, a redesign process that considered rationales for implementing gamification elements, and an instructional piloting of the course, which included the gathering of student feedback to be used in future iterations of this and other gamified classes.

Initial Analysis

The initial review of the course organization, and identification of the major assignments and assessments, found that the course was designed as high-touch for the instructor, requiring a significant time commitment in providing formative feedback to students throughout all course case studies within the learning management system (LMS). The course in this design case provided an introduction to Hypertext Markup Language (html), used to create webpage structure, and Cascading Style Sheets (CSS), used to style visual appearance of webpages. These are two of the main technologies employed in building webpages. Therefore, this high-touch course design was considered necessary. One of the objectives of this introductory class was to train students in a complex technical skill, which requires educators to inhabit the course's structures by engaging in a significant amount of formative feedback and reinforcement of concepts (Riggs & Linder, 2016). The course was broken into modules, with each module representing one week's worth of material. Coursework was grounded in relevant case studies from the textbook and required students to apply the learned skills in summative projects. Specifically, the course included twelve case study assignments, five low-stakes quizzes, five class discussion-based assignments, and two personalized projects (midterm & final) with peer reviews.

This course delivery mode was originally designed with a blended objectivist-constructivist approach (Chen, 2014) and was consistent with basic andragogic principles, by requiring immediate application of knowledge and skills learned (Huang, 2002). In other words, this course focused on teaching html and CSS coding to non-computer science majors. The aim was to provide students with a basic understanding of coding that can be applied in a supporting way to any of a variety

of future professions that students will pursue. The objectivist-constructivist approach included combining some self-directed learning and skill-building with hands-on and project-based assignments and assessments, to demonstrate learning. Because students in this course only learned the basics of html and CSS, and might never have the opportunity to apply these skills in their professions, there was a potential gap in student motivation that needed to be addressed within the course design.

To identify areas of strength and deficiency in our course design, an instructor self-rating evaluation instrument was utilized. Developed by The California State University system, and formally known as the Quality Online Learning and Teaching (QOLT) Course Assessment – Instructor Self-Rating (2013), the evaluation instrument serves to engage instructors in rating the quality of the course. This is done using 54 objectives, spread over nine sections in the instrument, with a four-point scale based on Chickering and Gamson's (1987) principles for good practice. Based on the data reported by the instructor, each section of our course was rated as either *baseline (minimum)*, *effective (average)* or *exemplary (above average)*, and the instrument provided recommended improvements based on the results of the evaluation. Scores, results, and recommended improvements for the course from the QOLT evaluation are displayed in Table 1.

Scores indicated that sections one, four, five, seven and nine were viewed as *effective,* but still had room for improvement. As anticipated, sections two and three were sound in design and rated at the highest classification as e*xemplary*. Sections six and eight were rated at the lowest classification as *baseline*. Combining the scores of all nine sections, the overall design of the course was rated as e*ffective* at 72%.

Table 1: Results and Recommended Improvements from Initial Course Analysis

Section	Score	Result	Recommended Improvement
1 Course Overview and Intro	17/24	91% Exemplary	*provide relevant content*
2 Assessment of Learning	17/18	94% Exemplary	
3 Instructional Materials	16/18	89% Exemplary	
4 Student Interactions	17/21	81% Effective	*increase student engagement*
5 Facilitation and Instruction	18/24	75% Effective	*increase teacher presence*
6 Technology for Learning	10/15	67% Baseline	*focus media elements*
7 Learner Support & Resources	6/12	50% Effective	*provide additional links*
8 Accessibility	4/21	19% Baseline	*increase content accessibility*
9 Course Summary	6/9	67% Effective	*individual student feedback*
Total Overall Score	**111/156**	**72% Effective**	

Nevertheless, there were a number of recommendations from the QOLT instrument to improve the course further by increasing student engagement, providing relevant content, focusing on media elements, and increasing content accessibility. The intentional design changes to the course were based on the recommended improvements on sections one, four, six and eight from the QOLT, and were framed using the ARCS model with a gamification approach. Given the results of this analysis, it was determined that the course design already met criteria for the *relevance*, *confidence* and *satisfaction* categories of the ARCS model (Keller, 1987). The added gamification aspects would therefore correspond with the *attention* category, with emphasis on interest development, as the course was an introductory-level coding class structured to develop basic html & CSS web-design skills. While the other three categories of ARCS are not explored explicitly in this design case, there tends to be a reasonable amount of overlap between the four categories (Gunter, et al., 2006).

Student Attention

As evidenced by the analysis of the learning environment factors (features of the course in the LMS), along with the more humanist approach of evaluating student perceptions, this case study takes a holistic approach to motivational design. It was expected that the initial novelty of gamification would wear off by midterm (Keller, 1999); however, it should have provided a structure that would scaffold student expectations. The original design of the course had intentionally embedded all course content into the assignment pages, to limit the number of content pages and to scaffold student page access. To begin the redesign process, the custom-built Design Tools were utilized, which could be integrated directly into the Canvas LMS (John, 2014), and the course content was removed from the assignments and placed into content pages for each module. This necessitated rapid development with styling and course pages (Thurston, 2014). The Design Tools influenced the overall course organization by changing the basic course structure, homepage layout (see Appendix A), appearance, and functionality (Mora, et al., 2014), as well as building out the framework to provide more accessible materials and focus on the media elements, as per QOLT recommendations. The following subcategories were addressed using the process questions posed by Keller (1987, p. 2): perceptual arousal, inquiry arousal, and variability.

Perceptual Arousal. The implementation of gamification in this course aimed first to capture student interest through the novelty of such elements being present in higher education courses. This was accomplished by a change in semantics and the creation of a course theme, as "triggered situational interest can be sparked by environmental or text features" (Hidi & Renninger, 2006, p. 114). A spy theme was selected as the overarching theme of the course, which included altering course semantics. The instructor was referred to as a trainer, students as recruits, the course itself as the AIM Code Project, points for the course as XP (experience points), assignments as challenges, weekly modules as levels, and course videos as classified intel, all of which was portrayed on the module introduction pages (see Appendix B). The name AIM Code Project was selected as a spinoff term derived from WebAIM (web accessibility in mind), which was created at Utah State University (USU) in the Center for Persons with Disabilities. This name played well into the course format and placed a greater emphasis on improving accessibility, as recommended in section eight of the QOLT.

This theme also led to the development of a storyline that included students training for a secret government project to become coding agents. In the course introduction module, students were met with a call to action:

You have been recruited specifically for the AIM Code Project, because of the individual set of skills you bring to our group. We see potential in your abilities, and during this training, you will be called upon to incorporate your current skill set and your background or experience as you learn html and CSS coding.

The Goal: Progress through each level of challenges, gather XP, and access helpful resources to ultimately become an AIM Guild Agent. As your trainer/instructor, I will be with you through this journey to provide assistance when needed. One last thing: watch for opportunities to gain additional XP through gathering clues and accepting special assignments. That's all for now. Good Luck!

This narrative from the instructor served to immerse students in the gamified elements. Once the students received their call to action, they were presented with a twist. The spy theme allowed leeway to "create a situation that [would] gain the player's attention via dramatic elements" (Gunter et al., 2006, p. 14), which in serious games is also known as the "dramatic hook" to gain user attention in setting the problem. Students were informed that a spy had infiltrated the AIM Code Project, and they would be gathering clues throughout the course to identify the spy. This placed additional emphasis on students finding a bug icon and accessing the secret clues each week. Details surrounding these clues are explored more in the variability section below.

Inquiry Arousal. Case studies can be used for inquiry arousal to involve students in hands-on, relevant learning activities (Jacob, 2016). While the course already included interesting examples, new videos were created for this iteration, aimed to stimulate an attitude of inquiry by introducing each week's content in an interesting way. The case studies posed a weekly surmountable challenge that required students to use certain skills and coding elements to build upon a webpage they were creating. Because the skills learned through these case studies were directly implemented in coding a webpage for the final course project, and were applicable to future work in html coding, our course structure provided relevant experience by Keller and Suzuki's definition: "relevance results from connecting the content of instruction to the learners' future job or academic requirements" (Keller & Suzuki, 2004, p. 231).

The USU media production team created the introductory video for the course, to provide curricular onboarding, as well as a launching module to set expectations (Mora, et al., 2015). Additional intro videos were produced for each module or level of the course. The course launch video introduced students to the navigation and class structure on Canvas and incorporated the storyline of the gamified theme. Additionally, all of the video resources that had been compiled in previous iterations of the course were presented to the students as "classified intel", in line with the spy theme and framed as though the students now had access to these resources to support them in their case studies. The media elements added to this course addressed the deficiencies found section one of the QOLT evaluation, and the change in focus for other media elements improved the QOLT score for section six.

Formative quizzes were part of the original class and were used to check understanding throughout the semester. However, for our new course design, these quizzes were changed to low-stakes quizzes or learning activities, allowing students to take them in an open-book format with multiple attempts allowed. This type of low-stakes quizzes can improve student metacognition and knowledge transfer in new contexts (Bowen & Watson, 2016, p. 62). Students earned the "quiz key" by completing an academic integrity module at the beginning of the course. Although the course was predesigned to allow for multiple quiz attempts, students were informed that reattempting quizzes was a privilege they could earn by completing the academic integrity module. Thus, once students had earned the "quiz key" digital badge, they could use it throughout the semester for multiple reattempts on the five quizzes, which became inquiry-based activities rather than traditional assessments.

In terms of gamification, the concept of multiple quiz attempts can be compared to the game concepts of 'save points' and 'multiple lives', which allow users a safe way to fail and learn from failure to improve performance. "This contrasts with the traditional 'examination'; a one-shot chance to succeed in a class. Indeed, within virtual environments, the clock can be wound back to the last save point, providing learners with the opportunity to succeed through multiple attempts, resulting in experiential learning, otherwise unobtainable by students doing 'the best' they can with one shot" (Wood, et al., 2013, p. 519).

Taking the concept of relevant learning activities a step further, students were required on the last quiz of the semester to apply a coding skill learned in class to our spy context. Using the "quiz key" idea, the LMS feature that required an access code

for students to unlock the quiz was activated. Usually this feature only enabled students to take a quiz at an appointed time: for example, when proctoring was available. In this case, however, the access code for the quiz was placed in a hidden div (a function in coding that facilitates hiding content on a page) in the html code of the LMS quiz page. Students were required to inspect the page and search through the html code to find the hidden div and the quiz access code, which was represented as a green key. Students then had to input the access code to be able to take their final quiz. This played well into the spy theme and allowed students to apply a relevant coding skill into the context of the course.

Variability. This section focuses on maintaining student attention, which was perhaps the most difficult task. Identifying a strategy that utilizes a novelty like gamification to initially capture student attention and then maintain that attention over 15 weeks is challenging, because "no matter how interesting a given tactic is, [students] will adapt to it and lose interest over time" (Keller & Suzuki, 2004, p. 231). This led to the inclusion of two gamification elements that would introduce variety over the duration of the semester.

The first element was the inclusion of secret clues, which in gamification terms would be considered *Easter eggs* or hidden tips. In this case, the clue was accessed by finding a small bug icon that was located somewhere in the content pages or video page for each module. Once students found the secret clue, they were awarded one bonus point, one tip to help on their case study for that week, and another tip to identify the AIM Code spy. This aligned with section one of QOLT by providing relevant content. The next element was the inclusion of bonus levels, which were only offered in every other module. These levels provided an opportunity for social engagement on a current-event topic (e.g., net neutrality) in a discussion thread. This improved upon section four of the QOLT and provided variability to the course flow.

Student Evaluation

Upon completing our course development with added gamification elements, the class was offered as a pilot course to a mixed enrollment of undergraduate and graduate students, with the author serving as the instructor. Based on demographic information, the students in the course fit the previously-discussed criteria to be classified as digital natives (Palfrey & Gasser, 2011). To help improve future iterations of the course, at the semester's conclusion, students were asked to complete an

anonymous survey to provide overall course feedback, as well as feedback specific to the gamification aspects of the class design. Among other questions, the survey included one Likert-style inquiry about the impact that gamification elements had on the learning experience, as well as one open-ended question asking for additional feedback about the course in general.

Results

Student Survey Responses

In the anonymous student survey at the end of the semester, one question specifically addressed the course's gamification elements. For this, students were asked to indicate on a 1-to-5 Likert scale how gamification contributed to their learning experience. On average, students rated this item at 4.14 (n = 21, SD = 0.85, SE_M = 0.19, Min = 2.00, Max = 5.00). Perception data showed that 17 of the 21 students reported that the course's gamification aspects either somewhat (rating of 4.0) or significantly (rating of 5.0) enhanced their learning experience. It should be noted that one student indicated that the gamification aspects somewhat reduced the learning experience (rating of 2.0), while three students indicated that the gamification aspects neither enhanced nor reduced the learning experience (rating of 3.0). Although a strong majority reported a rating of 4.0 or 5.0, the results speak to the point that gamification was not effective for all students.

The open-ended narrative responses were analyzed using the "describe, compare, relate" formula (Bazeley, 2009, p.10), with organized themes from the ARCS model implemented for the gamification portion: perceptual arousal, inquiry arousal, and variability.

Perceptual Arousal. This theme relates to the design objective of captivating student attention with novelty and triggering initial interest in course content. Overall, students indicated that in general, they enjoyed how the course included elements of gamification. However, feedback ranged across a spectrum, from one student who found gamification to be distracting, to others who reported that it significantly enhanced their learning experience:

- "I enjoyed the gamification… making the assignments more interesting."

- "At first the gamification was pretty exciting and fun. It motivated me to spend more time in the course."
- "I have always felt that gamification has aided my ability to learn. I love the idea that we are learning while having fun."
- "When I first read the syllabus, I became excited for the course because of the gamification aspect. Striving to do my best in my classes is something I've always done, but the gamification led to a greater desire to not only do my best on the assignments but to work to find the spy who was leaking the information to others."

Student narratives revealed that while they enjoyed gamification overall, they also thought that additional instructions or a rationale for the gamification elements would have been beneficial. The narrative exposed mixed results, as some students struggled with taking it seriously as part of a college course, while others felt that it was a positive factor in capturing their interest and impacting their engagement:

- "I think that I engaged a little more in this class because of gamification. It was kind of silly at times, but I liked it."
- "The storyline was fine, but I think you should push it more."
- "Initially I was skeptical about the plot set up for this course. I didn't see how it would be integrated. As I got into it, though, I especially appreciated the pattern of each week or 'level'."
- "As for the gamification, I thought it was fun! I'll be honest however; it was a little bit confusing. I think it was well planned out, but in the future, I think greater effort could be made to highlight the aspect of the gaming. Maybe making it a little simpler would be beneficial."

These student narratives underline the importance of additional scaffolding and of providing a more explicit rationale (in the course syllabus and introduction module) for including gamification elements. Overall, students touched on the idea that they approached gamification with an established schema that appeared to have influenced them in multiple ways. Some students perceived gamification as fun, while others viewed it as a gimmick and out-of-place in a college setting.

Inquiry Arousal. This theme speaks to engaging students in relevant activities that promote inquiry. Focusing on the videos and media elements was a subject of emphasis for the improvement of the course design from the QOLT analysis, and

was implemented to raise the level of inquiry for students using gamification. Student responses touched on two main aspects of the videos: (1) the gamified feature of listing them as "classified" content, and (2) the weekly intro videos that provided context for the case studies while also playing on the course theme:

- "In our class I really enjoyed how our teacher put short games, and fun videos for us to view or play as we worked on our projects."
- "The videos were helpful and it was nice to have them available."
- "I liked the little videos at the beginning of units. It's good to have an introduction, and the spy music and secretive nature made the videos more interesting."
- "It was interesting to look forward to what video would be put forth each week."

Another aspect of inquiry arousal was the mention of the applied activity of searching for the hidden green key in the quiz html. Students cited this activity as being relevant to the objective of learning coding, which fits into QOLT section one. One student took it a step further, recommending the implementation of more activities that were relevant to html skills and that played on the spy theme of the course:

- "I liked looking in the source code for the green key."
- "While the assignments, discussions, and quizzes were taken seriously, there was an element of fun to it (like the green key)."
- "The activity where we had to look at the source code was a good example of relevant tasks, b/c that's something we actually have to do [in html coding]."
- "[I] felt like there was a disconnect between the spy elements and the work I was actually doing. Like, quick example, what if you acted like the spy was ruining all your web pages by altering the code, so you sent me the damaged HTML file to find what went wrong, or the spy removed the images, so I had to put them back in, or the spy stole a whole page, and I had to code it from scratch."

The responses in this section speak to the impact that inquiry arousal had on engaging students in relevant tasks, and to how the gamification aspects of the course played a factor in directing student attention to the importance of these events.

Variability. This theme centers on concepts from the design that focus on maintaining student attention. This was a difficult area to address, as sustaining attention must be done by conveying relevance over the initial novelty of the gamification elements. Students responded to this theme by recognizing the engagement aspects inherent to finding secret clues each week:

- "I liked that the secret clues were also helpful to the overall project, that encouraged me to pay more attention to them."
- "Looking for clues was great."
- "One thing that I found very useful about the gamification aspects of this course is that it helped make sure I was not just glazing over the lesson content. I have found with other online courses [that] my mind starts to wander as I read the course content or unintentionally skip over content. But when looking for secret clues, it helped me make sure I was accessing all the content and not skipping over anything."

The use of the secret clues (Easter eggs) was purposely designed to encourage sustained attention while providing relevance. Offering tips on the weekly case studies within the context of the spy theme seemed to work well. It was also encouraging to see a student report that the existence of the clues became a signal for the student to be attentive while engaging in course content. This was unintended in the design, but certainly a positive result. The bonus levels and overall reactions to gamification also fit well into the theme of variability:

- "I enjoyed the bonus levels added after some of the modules. They were fun, but I liked specifically that it was fun AND relevant."
- "I thought the gamification experience was quite fun! This was actually my first time experiencing a "gamified" classroom, and I wish more of my instructors had tried to implement gamification into their courses."
- "Review activities like [bonus levels] made it seems like it's less of a class, and more fun. Plus, it reinforced the concepts nicely."
- "At first the gamification was pretty exciting and fun. It motivated me to spend more time in the course. However, the novelty kind of wore off part way through the semester. I think it is hard to maintain that type of motivation over several months."

This final section of comments not only addressed how important it was to students that gamification elements be fun, but also that they provide a frame for relevance in the coursework. The final student comment points to the challenge of using a novelty like gamification to engage students for a 15-week semester. The intention was that students would initially find extrinsic value in the gamified content, but through triggered interest development, students would shift toward intrinsic value through relevant activities. This certainly did not seem to be the case for all of the students in the course.

Discussion and Conclusion

This design case contributes to the emerging body of literature that surrounds engaging digital native students with gamified instruction (de Byl, 2012; Kiryakova, et al., 2014; Özer, et al., 2018; Annansingh, 2018) and provides an example of a motivational design strategy, created to improve student engagement. Instructional designers and instructors have been provided with an evidence-based framework for implementing gamification in higher education online courses. As the instructional designer and instructor for this course, I found that the design and facilitation of a gamified online class could be an effective way to engage students.

Similar to studies on student perceptions of gamification in online courses (Leong & Luo, 2011; O'Donovan, et al., 2013; Jacobs, 2016), this design case revealed that students had an overall favorable view of the gamification elements of the course. In terms of class quality improvement based on the QOLT evaluation, emphasis was placed on improving sections one, four, six and eight, which included providing relevant content, increasing student engagement, placing focus on media elements, and increasing content accessibility. Based on the QOLT scores from the initial analysis, as well as improvements made from the QOLT instrument's recommendations, metrics for each of these sections were improved, which increased the overall score for course quality. Additionally, student idiographic responses indicated that the videos and relevant activities in particular became a focal point for student engagement, which justifies the instructional emphasis that was placed on these resources.

Implementing gamification elements into a course and providing relevant learning opportunities with autonomy-support is appealing to digital native learners (Mohr &

Mohr, 2017), and gamification appears to be an engaging way to gain student attention. In this design case, students responded favorably to the inclusion of gamification in the course and the impact it had on the overall learning experience, which confirms similar work on this topic (Prensky, 2001; Palfrey & Gasser, 2008). Idiographic responses also indicate positive impact in terms of perceptual arousal, inquiry arousal, and variability in gaining student attention with gamification elements. Students indicated that additional scaffolding for the gamification would be helpful, and recommended adding or adapting relevant learning activities that directly relate to the spy theme and overall course narrative.

Perceptual Arousal. The gamification elements were added in part to capture student attention through novelty, which can be used to trigger initial interest in the four-phase model of interest development. Overall, student narratives indicated that the gamification elements were interesting and fun, and they initially appeared to engage students in the course. However, while the gamified aspects of the course caught their attention, some students also indicated that they were somewhat confused by this new approach to an online course in higher education. Students suggested that this confusion could be mitigated with additional scaffolding in the syllabus and the introduction module.

Inquiry Arousal. This theme was approached by focusing videos and media elements to improve the course design (as recommended by the QOLT analysis) and to engage students in relevant activities that promote inquiry. Student narratives indicated that these videos were engaging in bringing students into the gamified theme, and in incorporating course content. Overall, students responded positively to the quiz that required them to apply the skill of searching through a webpage's html code to find a hidden access code. Students reported that this activity was not only relevant to the course content, but also engaged the gamified spy theme in the course. One student in particular felt a disconnect between the case studies and the spy theme, and recommended that there could have been more applied activities similar to finding the hidden access code. This was an interesting comment, as the student indicated an openness to seeing more assignments that played into the gamified theme, despite a perceived disconnect in some of the assignments. Moreover, this student also provided a very specific example that spoke to the acceptance of gamification as a tool for student engagement.

Variability. The concept of providing variability to maintain student attention was of concern, as the novelty of the gamification elements could wear off and students could lose interest. However, responses indicated that the implementation of secret clues (Easter eggs) was an element that resonated with students. An unintended result was that students indicated that the secret clues encouraged them to pay closer attention to content to avoid missing the clues. This aspect of secret clues also connected well with the gamified spy theme of the course. Students indicated further that the bonus levels provided a certain amount of variability and engagement throughout the semester. As expected, some feedback confirmed that the initial novelty and excitement of gamification wore off over the semester.

Recommendations

According to Armstrong:

Gamification in [online education] is awaiting those who are willing to explore, experiment, and iterate – and it's these trail-blazers who are likely to find themselves in the best position to meet the evolving needs of an ever-increasing population of digital native students (Armstrong, 2013, p. 256).

We accordingly affirm that in order to create more robust and clear gamification design strategies for gamified courses (Mora, et al., 2015), future iterations of this and other online classes will greatly benefit by utilizing and considering the designerly ways of knowing, the course structural description, and the rich student feedback provided by this case study (Könings, et al., 2014)

Instructors. This design case speaks to the role the instructor plays in the development of relevant assignments, providing timely and engaging media elements, and providing scaffolding. Instructors should commit to collaboratively engage in the backwards-design process of course development with instructional designers, which leads to a better understanding of intentional teaching (Linder, et al., 2014). It is also recommended that instructors acknowledge that a gamified course will require tweaks and honing through an iterative process from semester-to-semester, through intentional design (Cameron, 2009). This requires gathering and implementing student recommendations for improvement. In this design case, students identified a need for additional scaffolding and more relevant assignments.

It is recommended that instructors consider how to best support our new digital native learners by providing problem-based activities (Selwyn, 2009) with constructive, formative feedback. One way instructors can accomplish this is by acknowledging that with new learners, instructors should consider how to use media elements and digital tools of communication more effectively, to bridge the generational gap. At minimum, instructors can work with instructional designers to learn communication features within or outside of the LMS. One emerging and innovative approach is the use of gamified dashboards that utilize learning analytics to provide students with immediate feedback related to performance on assignments and quizzes (de Freitas, et al., 2017).

Finally, instructors should use their content expertise to identify relevant assignments, and work with instructional designers to incorporate these assignments into a gamification design strategy in the LMS. These types of gamified learning activities have been found to produce positive effects on the knowledge acquisition and engagement of digital native learners (Ibáñez, et al., 2014). Instructors with an interest in student success are essential in the development and facilitation of teaching in gamified learning environments.

Instructional Designers. This design case speaks to the role of the instructional designer as an advocate of the student to the instructor (Hopper & Sun, 2017) in assembling autonomy-supportive learning materials, and in getting instructors to buy into the educational viability of gamified problem-solving activities for digital native learners (Gros, 2015). Improving congruence between student perspectives and those of instructional designers and instructors is identified by Könings, Seidel and van Merriënboer (2014) as participatory design. Such structured collaboration can lead to improved quality of learning within the LMS.

It is recommended that instructional designers teach instructors and serve as advocates for innovative approaches and evidence-based instructional design methods. These efforts include providing autonomy-support to instructors by teaching them how to facilitate gamified learning experiences within the LMS. This process can be described as faded scaffolding, which uses instructional supports that are gradually removed as the expertise level of the learner improves in a specific teaching strategy or skill (Clark and Feldon, 2005). This concept is not only relevant for learning in online courses, but specifically in gamified instruction, as "scaffolding in games is used to bridge the gap between the player's current skills and those needed

to be successful . . . [and] proper scaffolding provides a satisfying game experience for players" (Kao, et al., 2017, p. 296). It makes sense that student feedback in this design case recommended the inclusion of additional scaffolding. However, instructional designers must also keep in mind that some types of scaffolding, or too much scaffolding in general, can actually become learning barriers (Sun, et al., 2011). Instructional designers must also be prepared for the inevitable necessity of gathering student feedback, and of improving the design of gamified courses in an iterative process over multiple offerings of a course. This design case illustrates that instructional designers can and should play a crucial role in the preparation and design of instruction for gamified learning environments.

Future Directions

Based on the findings of this design case, future studies on formulating online courses for digital native students will explore the use of scaffolding and autonomy-support in different formats. These include, but not limited to: learner preference, self-directed learning, and student choice. Additionally, our findings on the implementation of relevant assignments will lead to the exploration of making online discussions more relevant and of engaging students through scaffolding and autonomy-support with Bloom's revised taxonomy.

References

Allen, I. E., & Seaman, J. (2016). *Online Report Card: Tracking Online Education in the United States*. Babson Survey Research Group.

Annansingh, F. (2018). An Investigation Into the Gamification of E-Learning in Higher Education. In Information Resource Management Association (Ed.), *Gamification in Education: Breakthroughs in Research and Practice,* (pp. 174-190) Hershey, PA: IGI Global.

Armstrong, D. (2013). The new engagement game: the role of gamification in scholarly publishing. *Learned Publishing, 26*(4), 253-256.

Banfield, J., & Wilkerson, B. (2014). Increasing student intrinsic motivation and self-efficacy through gamification pedagogy. *Contemporary Issues in Education Research* (Online), 7(4), 291.

Bazeley, P. (2009). Analysing qualitative data: More than 'identifying themes'. *MalaysianJournal of Qualitative Research, 2*(2), 6-22.

Boling, E. (2010). The need for design cases: Disseminating design knowledge. *International Journal of Designs for Learning, 1*(1).

Bowen, J. A., & Watson, C. E. (2016). *Teaching naked techniques: A practical guide to designing better classes*. John Wiley & Sons.

Cameron, L. (2009). *How learning design can illuminate teaching practice.*

Chapman, J. R., & Rich, P. (2015, January). The Design, Development, and Evaluation of a Gamification Platform for Business Education. *In Academy of Management Proceedings* (Vol. 2015, No. 1, p. 11477). Academy of Management.

Chan, S. (2010). Applications of andragogy in multi-disciplined teaching and learning. *Journal of adult education, 39*(2), 25.

Chen, S. J. (2014). Instructional design strategies for intensive online courses: An objectivist-constructivist blended approach. *Journal of interactive online learning, 13*(1).

Chen, P. H., Teo, T., & Zhou, M. (2016). Relationships between digital nativity, value orientation, and motivational interference among college students. *Learning and Individual Differences, 50*, 49-55.

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin, 3*, 7.

Clark, R. E., & Feldon, D. F. (2005). Five common but questionable principles of multimedia learning. *The Cambridge handbook of multimedia learning, 6*.

Cross, N. (1982). Designerly ways of knowing. *Design studies, 3*(4), 221-227.

California State University. (2013). Quality online learning and teaching evaluation instrument. Retrieved from http://courseredesign.csuprojects.org/wp/qolt-nonawards-instruments/.

de Byl, P. (2012). Can digital natives level-up in a gamified curriculum. *Future challenges, sustainable futures.* Ascilite, Wellington, 256-266.

de Freitas, S., Gibson, D., Alvarez, V., Irving, L., Star, K., Charleer, S., & Verbert, K. (2017). How to use gamified dashboards and learning analytics for providing immediate student feedback and performance tracking in higher education. In *Proceedings of the 26th International Conference on World Wide Web Companion* (pp. 429-434). International World Wide Web Conferences Steering Committee.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). From game design elements to gamefulness: defining gamification. In *Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments* (pp. 9-15). ACM.

Domínguez, A., Saenz-de-Navarrete, J., De-Marcos, L., Fernández-Sanz, L., Pagés, C., & Martínez-Herráiz, J. J. (2013). Gamifying learning experiences: Practical implications and outcomes. *Computers & Education, 63*, 380-392.

Dondlinger, M. (2015). Games & Simulations for Learning: Course Design Case. *International Journal of Designs for Learning, 6*(1), 54-71. Retrieved from http://scholarworks.iu.edu/journals/index.php/ijdl/.

Dousay, T. A. (2014). Multimedia Design and Situational Interest: A Look at Juxtaposition and Measurement. In *Educational Media and Technology Yearbook* (pp. 69-82). Springer International Publishing.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational behavior, 26*(4), 331-362.

Gray, C. M., Seifert, C. M., Yilmaz, S., Daly, S. R., & Gonzalez, R. (2016). What is the content of "design thinking"? Design heuristics as conceptual repertoire. *International Journal of Engineering Education, 32*.

Gros, B. (2015). Integration of digital games in learning and e-learning environments: Connecting experiences and context. In *Digital Games and Mathematics Learning* (pp. 35-53). Springer, Dordrecht.

Gunter, G., Kenny, R. F., & Vick, E. H. (2006). A case for a formal design paradigm for serious games. *The Journal of the International Digital Media and Arts Association, 3*(1), 93-105.

Hamzah, W. A. F. W., Ali, N. H., Saman, M. Y. M., Yusoff, M. H., & Yacob, A. (2014, September). Enhancement of the ARCS model for gamification of learning. In *User Science and Engineering (i-USEr), 2014 3rd International Conference on* (pp. 287-291). IEEE.

Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education, 80*, 152-161.

Helsper, E. J., & Eynon, R. (2010). Digital natives: where is the evidence? *British educational research journal, 36*(3), 503-520.

Hidi, S. (2006). Interest: A unique motivational variable. *Educational research review, 1*(2), 69-82.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational psychologist, 41*(2), 111-127.

Huang, H. M. (2002). Toward constructivism for adult learners in online learning environments. *British Journal of Educational Technology, 33*(1), 27-37.

Ibáñez, M. B., Di-Serio, A., & Delgado-Kloos, C. (2014). Gamification for engaging computer science students in learning activities: A case study. *IEEE Transactions on learning technologies, 7*(3), 291-301.

Jacobs, J. A. (2016). *Gamification in an Online Course: Promoting student Achievement through Game-Like Elements* (Doctoral dissertation, University of Cincinnati).

Jagoda, P. (2014). Gaming the humanities. *differences, 25*(1), 189-215.

Jang, H., Reeve, J., & Deci, E. L. (2010). Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure. *Journal of educational psychology, 102*(3), 588.

John, R. (2014). *Canvas LMS Course Design*. Packt Publishing Ltd.

Kahn, P., Everington, L., Kelm, K., Reid, I., & Watkins, F. (2017). Understanding student engagement in online learning environments: the role of reflexivity. *Educational Technology Research and Development, 65*(1), 203-218.

Kao, G. Y. M., Chiang, C. H., & Sun, C. T. (2017). Customizing scaffolds for game-based learning in physics: Impacts on knowledge acquisition and game design creativity. *Computers & Education, 113*, 294-312.

Khalid, N. (2017). Gamification and motivation: A preliminary survey. *4th international research management & innovation conference (IRMIC 2017)*.

Keller, J. M. (1987). The systematic process of motivational design. *Performance+ Instruction, 26*(9-10), 1-8.

Keller, J. M. (1999). Using the ARCS motivational process in computer-based instruction and distance education. *New directions for teaching and learning, 1999*(78), 37-47.

Keller, J. M. (2010). What is motivational design? *In Motivational Design for Learning and Performance* (pp. 21-41). Springer US.

Keller, J., & Suzuki, K. (2004). Learner motivation and e-learning design: A multinationally validated process. *Journal of educational Media, 29*(3), 229-239.

Kim, J. T., & Lee, W. H. (2015). Dynamical model for gamification of learning (DMGL). *Multimedia Tools and Applications, 74*(19), 8483-8493.

Kiryakova, G., Angelova, N., & Yordanova, L. (2014). Gamification in education. *Proceedings of 9th International Balkan Education and Science Conference.*

Könings, K. D., Seidel, T., & van Merriënboer, J. J. (2014). Participatory design of learning environments: integrating perspectives of students, teachers, and designers. *Instructional Science, 42*(1), 1-9.

Lee, E., Pate, J. A., & Cozart, D. (2015). Autonomy support for online students. *TechTrends, 59*(4), 54-61.

Legler, N., & Thurston, T. (2017). About This Issue. *Journal on Empowering Teaching Excellence, 1*(1), 1.

Leong, B., & Luo, Y. (2011). Application of game mechanics to improve student engagement. *In Proceedings of International Conference on Teaching and Learning in Higher Education.*

Linder, K. E., Cooper, F. R., McKenzie, E. M., Raesch, M., & Reeve, P. A. (2014). Intentional teaching, intentional scholarship: Applying backward design principles in a faculty writing group. *Innovative Higher Education, 39*(3), 217-229.

Magnifico, A. M., Olmanson, J., & Cope, B. (2013). New Pedagogies of Motivation: reconstructing and repositioning motivational constructs in the design of learning technologies. *E-Learning and Digital Media, 10*(4), 483-511.

Margaryan, A., Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? *University students' use of digital technologies. Computers & education, 56*(2), 429-440.

Rosen, L. D. (2010). *Rewired: Understanding the I-generation and the way they learn.* New York, NY: Palgrave Macmillan.

Mohr, K. A. & Mohr, E. S. (2017). Understanding Generation Z Students to Promote a Contemporary Learning Environment. *Journal on Empowering Teaching Excellence, 1*(1), 9.

Mora, A., Riera, D., Gonzalez, C., & Arnedo-Moreno, J. (2015, September). A literature review of gamification design frameworks. In *Games and virtual worlds for serious applications (VS-Games), 2015 7th international conference on* (pp. 1-8). IEEE.

Muntean, C. I. (2011, October). Raising engagement in e-learning through gamification. In *Proc. 6th International Conference on Virtual Learning ICVL* (No. 42, pp. 323-329).

Nevin, C. R., Westfall, A. O., Rodriguez, J. M., Dempsey, D. M., Cherrington, A., Roy, B., Patel, M., & Willig, J. H. (2014). Gamification as a tool for enhancing graduate medical education. *Postgraduate medical journal, postgradmedj-2013.*

O'Donovan, S., Gain, J., & Marais, P. (2013). A case study in the gamification of a university-level games development course. *Proceedings of South African Institute for Computer Scientists and Information Technologists Conference* (pp. 245–251).

Özer, H. H., Kanbul, S., & Ozdamli, F. (2018). Effects of the Gamification Supported Flipped Classroom Model on the Attitudes and Opinions Regarding Game-Coding Education. *International Journal of Emerging Technologies in Learning (iJET), 13*(01), 109-123.

Paas, F., Tuovinen, J., van Merriënboer, J., & Darabi, A. (2005). A motivational perspective on the relation between mental effort and performance: Optimizing learner involvement in instruction. *Educational Technology Research and Development, 53*(3), 25–34.

Park, K. (2016). A Development of Instructional Design Model Based on the Nature of Design Thinking. *Journal of Educational Technology, 32*(4), 837-866.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5), 1–6.

Reeve, J. (2002). Self-determination theory applied to educational settings. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 183-203). Rochester, NY: University of Rochester Press.

Rickes, P. C. (2016). Generations in flux: how gen Z will continue to transform higher education space. *Planning for Higher Education*, 44(4), 21.

Riggs, S. A., & Linder, K. E. (2016). Actively Engaging Students in Asynchronous Online Classes. *IDEA Paper# 64*. IDEA Center, Inc.

Schnepp, J. C., & Rogers, C. (2014). *Gamification Techniques for Academic Assessment.*

Schraw, G., Flowerday, T., & Lehman, S. (2001). Increasing situational interest in the classroom. *Educational Psychology Review, 13*(3), 211-224.

Seemiller, C., & Grace, M. (2016). *Generation Z goes to college.* John Wiley & Sons.

Selwyn, N. (2009, July). The digital native–myth and reality. In *Aslib Proceedings* (Vol. 61, No. 4, pp. 364-379). Emerald Group Publishing Limited.

Shroff, R., & Vogel, D. (2010). An investigation on individual students' perceptions of interest utilizing a blended learning approach. *International Journal on E-learning, 9*(2), 279-294.

Stansberry, S. L., & Haselwood, S. M. (2017). Gamifying a Course to Teach Games and Simulations for Learning. *International Journal of Designs for Learning, 8*(2).

Sun, C. T., Wang, D. Y., & Chan, H. L. (2011). How digital scaffolds in games direct problem-solving behaviors. *Computers & Education, 57*(3), 2118-2125.

Tapscott, D. (2009). *Grown up digital: How the Net Generation is Changing Your World.* New York, NY: McGraw-Hill.

Teo, T. (2016). Do digital natives differ by computer self-efficacy and experience? *An empirical study. Interactive Learning Environments, 24*(7), 1725-1739.

Thompson, P. (2013). The digital natives as learners: Technology use patterns and approaches to learning. *Computers & Education, 65*, 12-33.

Thurston, T. (2014, February 4). 5 Keys to Rapid Course Development in Canvas Using Custom Tools. *eLearning Industry.*

Urh, M., Vukovic, G., & Jereb, E. (2015). The model for introduction of gamification into e-learning in higher education. *Procedia-Social and Behavioral Sciences, 197*, 388-397.

Wood, L., Teras, H., Reiners, T., & Gregory, S. (2013). The role of gamification and game-based learning in authentic assessment within virtual environments. In *Research and development in higher education: The place of learning and teaching* (pp. 514-523). Higher Education Research and Development Society of Australasia, Inc.

Appendix A: Course Homepage

Appendix B: Course Module Page

LEVEL **<course>**

1

Welcome to Level 1, AIM Recruit *Student Name Inserted Here*,! Each level will have an overview page similar to this page. You'll find the learning objectives, items to study and task list, challenges (assignments) and videos to watch for this coming week in Level 1. Let's get started!

✓ Objectives

Upon completion of Level 1 you should be able to:

- Describe the evolution of the Internet and web standards.
- Describe the importance of accessibility.
- Define the purposes and relationships of web browsers, servers, protocols, URLs, domain names, markup languages, and CSS.
- Create and test your first web page.

Q Study & Task List

- Review: Felke-Morris, *Basics of Web Design*, Chapter 1
- Syllabus
- Install the following:
  - Web Developer Toolbar ⤢
  - WAVE Toolbar ⤢
  - Firebug ⤢ (Optional, since most browsers have built-in firebug-like functionality now)
  - Sublime Text ⤢ is a great text editor for either Mac or Windows.
  - Notepad++ ⤢ (Recommended free text editor for Windows users)
  - TextWrangler ⤢ (Recommended free text editor for Mac users. Please, for your own sake, don't use TextEdit)

⌂ Challenges

+10 XP Discussion Activity: Introduce Yourself to the Class
+10 XP Take the Course Pretest
+10 XP Discussion Activity: Share a Web Resource

▶ Video Resources

▼ *Classified Intel* Click here to access videos

The playlist includes 11 videos encompassing about 1 hour.

The following YouTube playlist contains videos that demonstrate how to install and use several of the developer tools used in this course. As a beginner, don't be distracted by the jargon and terminology that is used, but rather note the possibilities and realize that they will make more sense down the road.

Click the Classified image (right) to gain access the video playlist, or you can access the playlist directly on YouTube ⤢ .

YouTube playlist of videos created by my colleague Neal Legler, AIM Code Trainer. The additional tutorial videos below were created by Kevein Reeve, AIM Code Trainer .

How the Web Works (12:28)

Creating your first web page (8:22)

Semester in the Parks

By Jacqualine Grant, Ph.D. and John MacLean, Ph.D.
Southern Utah University

Abstract

High-impact educational practices (HIP) such as Common Intellectual Experiences (CIE) enhance student engagement and positively affect student learning. At Southern Utah University we created a new HIP-focused program to enrich our students and faculty: Semester in the Parks (SIP). Students lived outside of Bryce Canyon National Park in the gateway community of Bryce Canyon City while they worked for Ruby's Inn Resort and learned about the national parks. Faculty commuted to this off campus venue and redesigned their courses to incorporate national parks thinking and experiential learning opportunities. The CIE of a national parks-focused semester enhanced student engagement and developed the pedagogical ability of faculty. Program assessment revealed positive gains in student and faculty self-report measures but also identified the need for other assessment tools and comparison groups. We conclude that CIE, even those set in nontraditional classroom locations, have great potential to enhance student growth and faculty professional development.

Introduction

High-Impact Educational Practices (HIPs) are undergraduate educational experiences that enhance student engagement (Kuh *et al.* 2005) and positively affect student learning and development (Brownell and Swaner, 2009; Kilgo *et al.* 2015). HIPs range from narrowly defined opportunities, such as Undergraduate Research Experiences, to loosely defined activities, such as Common Intellectual Experiences (Kuh, 2008). Because of their flexibility, Common Intellectual Experiences (CIEs) are readily adapted for university programs that are focused on student recruitment and academic enrichment. CIEs can be horizontally integrated within a semester or vertically integrated over the course of a student's career, but are defined by their intentional design as a strategically linked group of experiences (University of Colorado Denver, n.d.). Single semester CIEs are often built around a shared "big

idea" or unifying concept, which makes CIEs the ideal HIPs for multi-course, interdisciplinary programs.

In 2015, we were presented with an opportunity to develop a new HIP-focused program at Southern Utah University (SUU): Semester in the Parks (SIP). Of the ten HIPs identified by the Association of American Colleges & Universities (AAC&U), we selected CIEs as our framework because all courses in the SIP program were linked by a unifying theme: America's National Parks. The SIP program resulted from several years of brainstorming about how to create a curriculum that embodied experiential, engaged, and integrated learning while also capitalizing on SUU's geographic surroundings and fostering SUU's fantastic community partnerships. What follows is our description of how SIP developed, how it contributed to teaching excellence on our campus, and what we have learned from the program through student evaluations. We conclude with descriptions of challenges such a program faces during its implementation, as well as recommendations to consider as other institutions develop their own CIEs.

What is the Semester in the Parks Program?

In 2015, SUU began serious talks about how to commemorate the Centennial Celebration of the National Park Service's creation in 1916. One longstanding aspiration had been to engage SUU students in experiential learning opportunities at Bryce Canyon National Park (BCNP). At about the same time, we learned that SUU students may be able to help meet a need of Ruby's Inn Resort, one of our most important community partners. Ruby's Inn Resort comprises a major part of Bryce Canyon City, the gateway community to BCNP. The resort employs several hundred seasonal workers during the summer, and many come from international locations. Our partners at the resort expressed the desire to employ more SUU students, especially in the fall season when many of the international workers leave. Ruby's Inn Resort and the Centennial's need for SUU student workers created the perfect opportunity for an innovative academic program that would begin in Fall 2016.

The SIP program allowed students to live and work at Ruby's Inn Resort for one semester as they earned a full credit load through field-based courses taught by SUU faculty, who each commuted to BCNP approximately once per week. Students paid their regular tuition, plus a fee of $1200 for the Fall 2016 program and $1500 for the

Fall 2017 program. Their fees helped to fund five excursions to other national parks, monuments, and lands each semester. These weekend field excursions complemented their coursework and provided experiential learning opportunities.

Courses were delivered to students as a once-per-week, three- to four-hour session, which is comparable to a typical on-campus class encompassing three one-hour weekly periods. However, all courses were completely redesigned to take advantage of the national park and its surroundings. Faculty were encouraged to teach field-based lessons whenever possible, but when weather forced classes to go indoors, a partnership with the Bryce Canyon Natural History Association allowed them to use the High Plateaus Institute (HPI) Building. The HPI was the first visitor center at the park and now serves as an educational building administered by the Bryce Canyon Natural History Association.

Programmatic Logistics of SIP

Four guiding principles helped the leadership team design the SIP program:

- Help students gain an experiential education in alignment with SUU's mission
- Help faculty gain professional development by working together to create innovative ways of delivering content that are informed by the national parks settings
- Facilitate students and faculty working with community partners for the mutual benefit of all parties
- Allow students and faculty from any discipline to participate

The SIP program was housed in SUU's Provost Office for one year until moving to its permanent home in the School of Integrative and Engaged Learning. Each fall semester, the Provost's Office disseminated a description of the program and a call for faculty applications that was open to the entire campus. Faculty applications were required to show how existing courses would be enhanced if taught at BCNP instead of at SUU. The leadership team reviewed the faculty applications and selected a suite of courses they deemed appropriate for the next fall semester. To ensure that students and faculty from across disciplines could participate, the offerings were almost exclusively General Education (GE) courses. Faculty participants earned a $1500

stipend to compensate them for time spent in the spring semester biweekly planning meetings. The program also reimbursed travel. Funds were provided by the Office of Academic Affairs to support SIP as an academic innovation that could raise the profile of SUU on a national scale.

The first year of SIP was built around GE courses that complemented each other and offered unique perspectives about national parks. The courses also allowed for integrated teaching and learning opportunities. Faculty development was fostered by the selection of faculty with a mix of field expertise. The Fall 2016 SIP program offered 16 credits in the following courses: BIOL 2500 Environmental Biology (3 GE credits in Life Science), COMM 1010 Introduction to Communication (3 GE credits in Humanities), GEO 1050/1055 Geology of National Parks (4 GE credits in Physical Science), LM 1010 Information Literacy (1 GE credit in Integrated Learning), ORPT 2040 Americans in the Outdoors (2 elective credits), and UNIV 3500 Interdisciplinary Engagement (3 elective credits).

Five out of the six faculty who taught in the 2016 SIP program reapplied for Fall 2017, which helped them to build on the significant effort of course redesign in 2016. One course (COMM 1010) was replaced with two GE courses (CJ 1010 and HIST 1700), and ORPT 2040 increased from two to three credits as part of its transition to a GE course. UNIV 3500 was reduced to one credit to cap the Fall 2017 SIP program at 18 credits, 17 of which were GE.

After the suite of courses was selected, the leadership team advertised the SIP program to students on and off of SUU's campus. SIP targeted between 15 and 20 second-year college students, to obtain the desired student maturity level and to attract students in need of GE requirements. The Academic Coordinator and Program Director interviewed each applicant in face-to-face or video-conferencing meetings. SIP accepted 12 students at the freshmen, sophomore, and junior level for both years. Both cohorts of students included a high percentage of Utah residents, as well as students from other universities and countries.

In southern Utah, the fees required by this program can be an obstacle to student participation. Therefore, we worked with Ruby's Inn Resort to provide employment opportunities and low-cost employee housing for our students. Because many SUU students struggle to find employment in our rural economy, the guaranteed employment at Ruby's Inn also served as a recruiting tool. Ruby's Inn Resort employed students in their housekeeping department for approximately 20 hours per

week, which allowed them to earn back most of the fees related to the SIP Program. Students typically worked on weekday mornings before attending class in the afternoon.

Learning Objectives for the SIP CIE

One set of SIP learning objectives was adopted from SUU's Outdoor Engagement Center (OEC) because of its connection to public lands and outdoor education. For this set of objectives, both students and faculty were expected to strengthen their: (1) ability to be competent in the outdoors; (2) practice of environmental stewardship; (3) knowledge of the cultural and natural world; (4) academic/professional abilities; (5) skills in tackling challenging, unscripted problems; and (6) self-confidence. These objectives transcended the content and skills that traditional, classroom-based courses cover. SIP focused on how the combination of courses, field excursions, employment, and community-building activities would enrich students' lives in an immersive and life-changing experience at BCNP.

Beyond BCNP, visits to other national parks and public lands helped connect students to the proposed learning objectives. For instance, in Fall 2016, students visited what would soon become Bears Ears National Monument (under revision in 2018), Cedar Breaks National Monument, Capitol Reef National Park, Great Basin National Park, Zion National Park, Pipe Spring National Monument, and Grand Canyon National Park. Fall 2017 field excursions included Grand Staircase-Escalante National Monument, Glen Canyon National Recreation Area, Gold Butte National Monument, and Dixie National Forest. These expeditions added to students' growing perspectives of the complex interactions between humans and the lands around us. The field trips became an integral component of the educational experience because of their ties to SUU's essential learning outcomes and the OEC's learning objectives.

Integration in SIP

One benefit of CIEs is the opportunity for integration across disciplines. SIP encouraged students to integrate course material through two mechanisms. In 2016, students collaboratively wrote an e-book in answer to the question: Why do we have national parks? Students incorporated concepts and content from all five courses in

their answer. In 2017, SIP used a different approach: integration around themed weeks. Each week's theme corresponded with one of National Geographic's "Top Ten Issues Facing National Parks" (National Geographic, 2010). All of the students' courses investigated the weekly theme from their own perspectives, which helped students discover the complicated and interrelated nature of the national parks and their surroundings. Sometimes integration was deliberate, as during the week when the theme was "Adjacent Development". During this week, students visited the Coal Hollow Mine with biology and geology instructors. The coal mine is less than 12 miles from the BCNP boundary, and it provided a lesson about the geological origins of coal, the biological ramifications of coal mining operations, economic drivers of the coal industry, and potential environmental effects on BCNP. Such integrated field-based learning opportunities defined the SIP experience.

You can't fix what you don't measure: SIP Assessment

HIPs are established mechanisms that lead to positive outcomes for students, but because each campus has its own culture and goals, it is important to assess any HIP applications to the programs within one's own institution (Brownell and Swaner, 2009). As SUU continues to build its brand as the *University of the Parks*, it aims to become a model for responsible innovation and program planning on our campus. Program-level assessment is vital to campus efforts to promote innovation through information-based decision-making. A second SIP goal is to promote faculty development –in this case, by exposure to the concepts of backward curriculum design (Wiggins and McTighe, 2005), which relies on assessment of student learning. To accomplish these goals, the SIP leadership team developed a series of survey questions (available upon request from JM) to guide program development.

The SIP leadership team identified three areas for growth in students and faculty in the program: (1) student growth related to the OEC's learning outcomes, described above; (2) student achievement related to the university's essential learning outcomes, which are assigned to each GE course in the SIP program; and (3) faculty professional development related to outdoor education competency. The three program-level areas for growth in students and faculty were assessed through three independent

surveys approved through SUU's Institutional Review Board (SUU IRB Approval #24-052017a).

OEC learning outcomes data were collected in 2016 and 2017 to measure student growth in response to program completion. We used the same set of survey questions to measure pre- and post-semester responses of students' self-perceptions of ability in each of eleven categories, which reflected the OEC's learning outcomes. The SIP student OEC survey is available upon request from JM.

In 2017, we began to assess the essential learning outcomes (ELOs) assigned to each GE course in the SIP suite. We used a set of identical survey questions at the beginning and the end of the semester to obtain pre- and post-semester student self-reported gains in each of eleven ELOs. SUU's ELOs are derived from ELOs defined by the AAC&U (2011). Separate assessments of each ELO were completed by each course instructor within SIP (Table 1). The SIP student ELO survey is available upon request from JM.

Table 1. Essential learning outcomes (ELOs) assigned to SIP General Education (GE) courses in 2017. Students were assessed with a set of identical pre- and post-semester surveys in which they were asked to self-report perceived progress in each ELO.

ELO	Course in which ELO was emphasized
Civic Engagement	HIST 1700
Communication	ORPT 2040
Critical Thinking	BIOL 2500, ORPT 2040
Digital Literacy	LM 1010
Ethical Reasoning	HIST 1700
Information Literacy	LM 1010
Inquiry & Analysis	GEO 1050/1055
Intercultural Knowledge	CJ 1010
Knowledge of Human Culture and the Physical and Natural World	BIO 2500, CJ 100, GEO 1050/1055, ORPT 2040
Problem Solving	GEO 1050/1055
Teamwork	BIOL 2500

In 2017, we began to assess faculty professional development in relation to the OEC's learning outcomes to determine how participation in SIP was affecting faculty perception of their abilities to teach in the outdoors. We used a set of identical survey questions at the beginning and end of the semester to obtain pre- and post-semester faculty self-reported gains in each of 13 areas related to teaching practices and outdoor skills and competencies. The SIP faculty OEC survey is available upon request from JM.

Results & Discussion

In 2016 and 2017, student self-reported perceptions related to OEC learning objectives trended toward positive gains in learning across eleven ELOs, with larger gains reported in the 2016 cohort than the 2017 cohort (Figures 1 and 2).
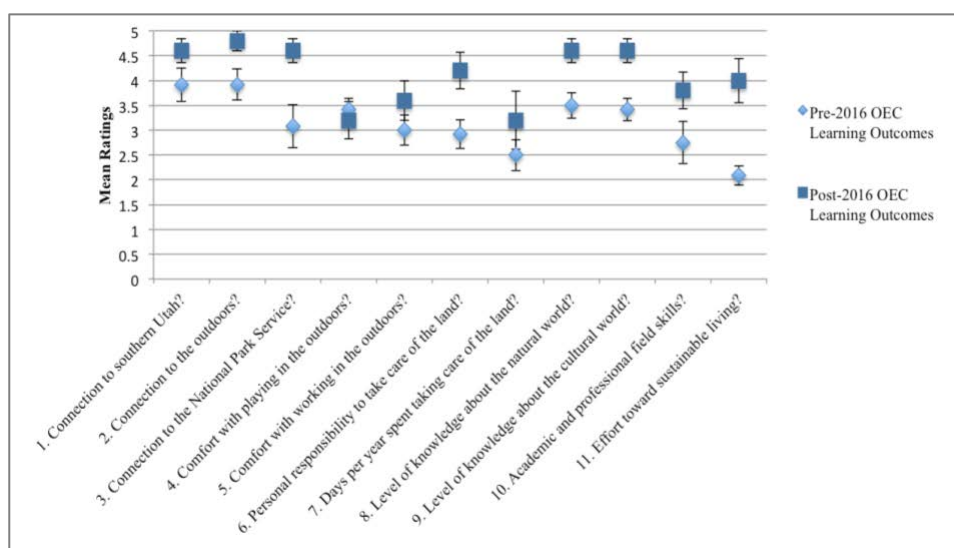

Figure 1. Pre- and post-semester data from 2016 on student perception of their personal comfort level with Outdoor Engagement Center (OEC) learning outcomes. Y-axis shows students' average scores on a 5-point Likert scale in which a score of 5 represents the highest perceived comfort level. X-axis corresponds to questions in the survey. Questions 1-3 map to OEC learning outcome 1–Sense of Place. Questions 4-5 map to Outdoor Competency. Questions 6-7 map to Stewardship Responsibility. Questions 8-9 map to Knowledge of Cultural and Natural World. Question 10 maps to Academic/Professional Field Skills. Question 11 maps to Commitment to Live Healthy and Sustainable Lives.

In 2016, the cohort reported a non-significant loss in the mean rating of their comfort in playing in the outdoors (ELO #4), but this loss was not observed in the 2017 cohort.

In 2017, student self-reported perceptions related to SUU's ELO trended toward positive gains in learning across eleven ELOs (Figure 3). A non-significant loss in the mean rating of achievement was reported for two ELOs: Inquiry and Analysis and Teamwork.
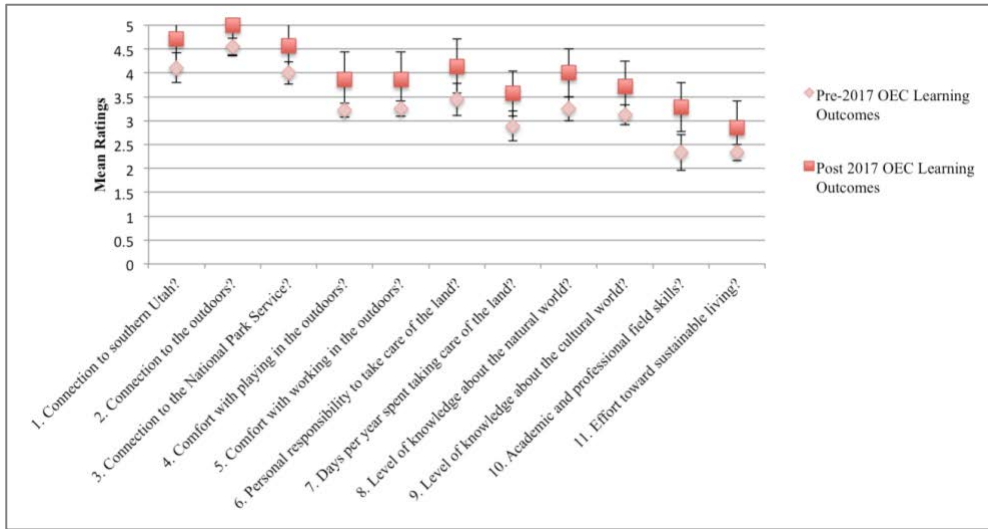

Figure 2. Pre- and post-semester data from 2017 on student perception of their personal comfort level with Outdoor Engagement Center (OEC) learning outcomes. X-axis corresponds to questions in the survey. Questions 1-3 map to OEC learning outcome 1–Sense of Place. Questions 4-5 map to Outdoor Competency. Questions 6-7 map to Stewardship Responsibility. Questions 8-9 map to Knowledge of Cultural and Natural World. Question 10 maps to Academic/Professional Field Skills. Question 11 maps to Commitment to Live Healthy and Sustainable Lives.

In 2017, faculty self-reported perceptions related to the OEC's ELO trended toward positive gains in development across thirteen ELOs (Figure 4). A non-significant loss in the mean rating of achievement was reported for Category #1: Connection of teaching to southern Utah.

Despite neutral to positive gains in most areas, the data indicate areas of potential improvement, which should help to inform future iterations of SIP. To improve the validity of SIP assessments, it will be important to develop other tools that do not exclusively rely on self-reporting measures. Program assessment will also be improved by the inclusion of comparison groups and by comparing with similar CIE programs at other institutions.
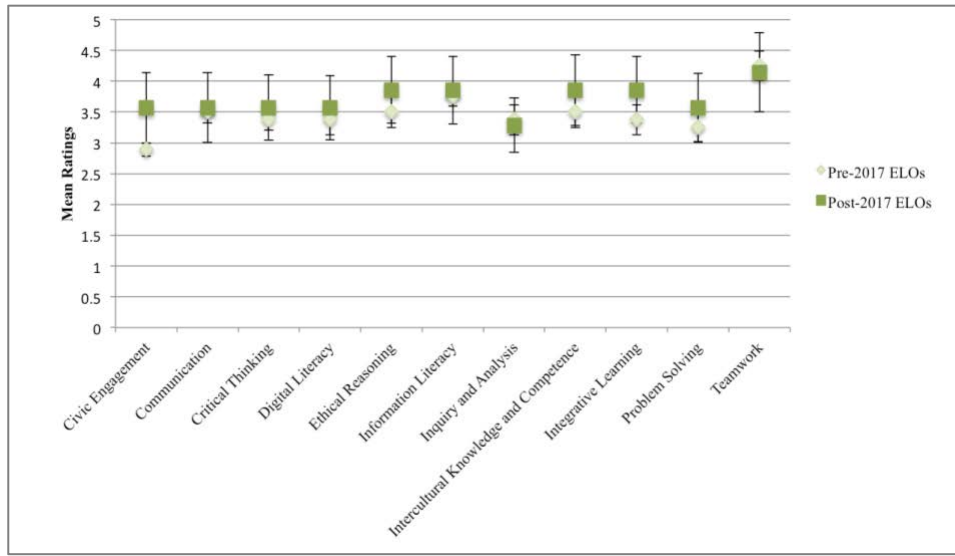
Figure 3. Pre- and post-semester data from 2017 on student perception of their personal comfort level with SUU's Essential Learning Outcomes (ELOs) that were addressed and assessed in SIP's suite of courses. Y-axis is equivalent to Figure 1. X-axis corresponds to the eleven ELOs assigned to General Education courses in the SIP suite.
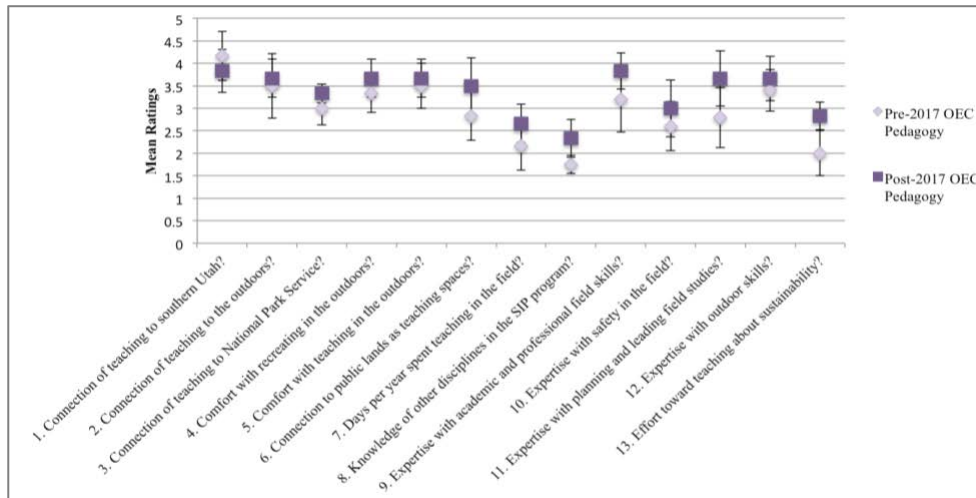

Figure 4. Pre- and post-semester data from 2016 on faculty perception of their teaching comfort level regarding Outdoor Engagement Center (OEC) learning outcomes. Y-axis shows faculty members' average scores on a 5-point Likert scale in which a score of 5 represents the highest perceived comfort level. X-axis corresponds to questions in the survey. Questions 1-3 refer to OEC learning outcome 1 - Sense of Place. Questions 4,5,12 refer to Outdoor Competency. Questions 6-7 refer to Stewardship Responsibility. Questions 8 refers to Knowledge of Cultural and Natural World. Questions 9-11 refer to Academic/Professional Field Skills. Question 13 refers to Commitment to Live Healthy and Sustainable Lives.

Conclusions

Common Intellectual Experiences (CIEs) are often loosely defined, which has hampered quantitative assessment of their impact (Kuh, 2008). However, like other High-Impact Educational Practices (HIPs), CIEs can be assessed to measure student development and program effectiveness (Brownell and Swaner, 2009; Kilgo *et al.* 2015). We adapted a suite of courses to suit our CIE program, Semester in the Parks, and provided a positive experience focused on recruitment and academic enrichment for our students. Our single-semester CIE was built around the unifying concept that national parks enhance our lives and our learning from multiple perspectives.

It is important to recognize several challenges encountered during the creation of formal, outdoor-based CIEs at academic institutions. First and foremost are the often conflicting perceptions of what constitutes academic rigor by student and faculty participants. Students in both offerings of SIP struggled with what they perceived as excessively high academic expectations, while faculty struggled with what they perceived as a loss of content and low academic expectations. We conclude that it is important for CIE administrators and leaders to help faculty understand how student perceptions are influenced by off-campus, outdoor-based curricula. We highly recommend that academic expectations are made explicit to all parties at the start of the program.

Other challenges to consider involve the logistics of running a field-based program without the support of a university managed field station. In this case, we were able to identify and strengthen partnerships with a local business owner, Ruby's Inn Resort, to provide our students with housing and employment during the semester. We were also able to work with BCNP and the Bryce Canyon Natural History Association to provide all participants with classroom space during inclement weather, as well as opportunities for academic partnerships. We recommend that CIE team leaders work closely with all possible community and park partners because it is these types of partnerships that help overcome seemingly unsurpassable obstacles, such as a complete lack of teaching and living facilities.

Building student and faculty communities through Common Intellectual Experiences (CIEs) is one type of high-impact educational practice that can assist universities with student engagement, satisfaction, and retention. Students responded to our CIE program, Semester in the Parks, with positive gains in self-report metrics

related to outdoor engagement and place-based learning outcomes. This should encourage other institutions to develop CIEs as a mechanism to enrich their students' experiences. Our CIE also helped faculty develop their knowledge of other academic disciplines, their personal expertise with field skills and field studies, and their ability to integrate sustainability into the classroom. We conclude that CIEs –even those set in nontraditional classroom locations—are effective for student growth and faculty professional development.

Acknowledgments

References

Association of American Colleges and Universities. (2011). *The LEAP Vision for Learning: Outcomes, Practices, Impact, and Employers' Views.* Washington, DC: Association of American Colleges and Universities.

Brownell, J.E., L.E. Swaner. (2009). High-Impact Practices: Applying the learning outcomes literature to the development of successful campus programs. *Peer Review, 11,* 26-30.

Kilgo, C.A., Ezell Sheets, J.K., Pascarella, E.T. (2015). The link between high-impact practices and student learning: some longitudinal evidence. *Higher Education, 69*, 509-525.

Kuh, G.D., Kinzie J., Schuh, J.H., Whitt, E.J. (2005). *Assessing conditions to enhance educational effectiveness: The inventory for student engagement and success*. San Francisco, CA: Jossey-Bass.

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

National Geographic. (2010). Top Ten Issues Facing National Parks. Retrieved from https://www.nationalgeographic.com/travel/top-10/national-parks-issues/.

University of Colorado Denver. (n.d.) High-Impact Practices Operational Definitions. Retrieved from http://www.ucdenver.edu/student-services/resources/ue/HIP/Pages/form.aspx.

Wiggins, G.P., McTighe, J. (2005). *Understanding by Design*. Danvers, MA: Association for Supervision and Curriculum Development.

Promoting Second Language Socialization Through Course Projects

By Elena Shvidko, Ph.D.
Utah State University

Abstract

For many international students who are second language (L2) learners, successful integration in the new academic and socio-cultural environment is inseparable from their language socialization. Classroom teachers are well positioned to support students' adaptation, and through course materials, projects, and activities they can encourage students' successful socialization and promote their learning. Based on the principles of L2 socialization theory, this article describes how the projects of the course taught in the Intensive English Language Institute aimed at achieving two objectives: 1) foster students' cross-cultural interaction and participation in various activities in- and outside the classroom, and 2) increase students' opportunities to communicate in the target language, thus allowing them to develop more advanced linguistic forms.

Introduction

Studying in a foreign country offers a range of experiences that can enrich students' academic, linguistic, and cultural lives. However, along with the benefits that international students obtain from pursuing their education abroad (e.g., Baker-Smemoe, Dewey, Bown, & Martinsen, 2014; Lee, Therriault, & Linderholm, 2012; Milian, Birnbaum, Cardona, & Nicholson, 2015), they may also encounter a number of challenges, faced almost on a daily basis. These challenges may be particularly noticeable at the very beginning of their college experience. Indeed, the first few semesters can be intellectually and emotionally difficult to all students—both

domestic and international (Shvidko, 2014). The latter, however, encounter additional hurdles related to language barriers, culture shock, and intercultural misunderstandings (Andrade, 2006; Hsieh, 2007; Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004).

Having once been an international student myself, I experienced that studying at a foreign university can be absolutely overwhelming, at times even discouraging, and it certainly requires a great deal of patience, hard work, determination, and perseverance. Along with the learners' own efforts, however, their adaptation to a new academic and social environment is impossible without support from others, including those at the university (Bista & Foster, 2016; Shapiro, Farrelly, & Tomaš, 2015). This is particularly true for instructors, as they are the ones who interact with students on a regular basis, and can establish a positive environment in their classes that will promote international students' learning and enrich their academic, linguistic, and socio-cultural experiences.

Establishing an environment that is conducive to learning, as well as supporting students' academic and social enculturation, is not limited to the teacher creating a warm interpersonal atmosphere in the classroom, although it is certainly an integral part of a successful teaching-learning venture (e.g., Fassinger, 2010; Frisby & Martin, 2010; Frisby & Myers, 2008; Shvidko, 2018). Additionally, the structure of the course, including its syllabus, materials, projects, and activities, may stimulate students' successful socialization to their local academic and socio-cultural community, which can ultimately promote their learning.

Many international students on university campuses are also second language (L2) learners. Therefore, their adaptation to a new setting is inseparable from their language socialization (Duff & Talmy, 2011; Morita, 2004; Willett, 1995). In the field of applied linguistics, L2 socialization is defined as "the acquisition of linguistic, pragmatic and other cultural knowledge through social experience [which] is often equated with the development of cultural and communicative competence" (Duff, 2010a, p. 427). By this definition, L2 learning is viewed through a social lens, or in other words, through the examination of learners' participation in social interaction with other members of the environment (either instructional contexts or naturalistic settings), through which learners develop an appropriate level of competency, enabling them to successfully function in the target community.

Furthermore, as seen from this definition, during the process of a learner's socialization, linguistic and cultural competencies facilitate each other. On the one hand, language is a tool for access to resources available in a particular community, comprised of the "knowledge of values, practices, identities, ideologies, and stances" (Duff & Talmy, 2011, p. 98). On the other hand, language learning appears to be a result of increased access to the resources and local conventions—that is, the more exposure learners have to the resources, the more linguistic forms they acquire. Thus, from the language socialization perspective, linguistic and cultural knowledge are interdependent components, as illustrated in Figure 1:
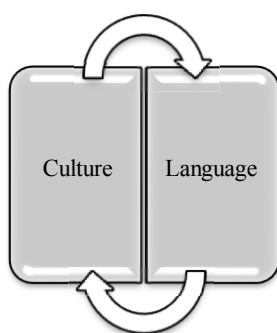

Figure 1. **The interdependence of language and culture in L2 socialization.**

Accordingly, the process of L2 socialization can be viewed from two perspectives: (1) socialization *through* language; and (2) socialization *to* language (Ochs & Schieffelin, 1984). As seen, language is as a possessor and creator of cultural meanings and a provider of access to resources, but it is also a developing entity. In other words, as students increase their L2 proficiency, they gain a wider range of opportunities to use various social, cultural, and educational capitals provided by the target community. At the same time, learners' participation in social and cultural activities in their target communities increases their opportunities to communicate in their L2, thus allowing them to develop more sophisticated linguistic forms.

I teach at the Intensive English Language Institute (IELI), which is part of the Department of Languages, Philosophy, and Communication Studies at Utah State University. The program is designed specifically for English language learners, with the aim of helping students develop their linguistic and academic skills and intercultural competence. IELI students come from various linguistic, ethnic, and cultural backgrounds, and with different levels of English language proficiency. As a

supporter of L2 socialization theory (Duff & Talmy, 2011; Watson-Gegeo & Nilsen, 2003), I try to expose my students to a variety of socio-cultural information, hoping that as they increase their proficiency in English, they will strive to obtain a wider range of opportunities to use various social and cultural resources offered by the university and the local community. Many of my students have been in the United States for only a few months, and for some of them, being in college is a brand-new life experience. Therefore, when I develop my courses, I strive to implement materials that will allow students to interact with the social and cultural affordances available at the university and in the community.

The Example of Promoting L2 Socialization through a Course Project

In Fall 2017, I taught IELI 2330 – "Spoken Discourse and Cross-Cultural Communication." This class is designed for students of the intermediate level of English proficiency and geared toward helping them develop interpersonal communication skills through small-group work interactions. In this course, students also have the opportunity to interact with American classroom assistants (undergraduate students at USU) who help them to accomplish academic tasks assigned throughout lessons, and to facilitate group interaction. In the course described below, there were 15 international students from several countries, including China, Jordan, South Korea, and Saudi Arabia, and four undergraduate classroom assistants.

Following the principle of the interdependence of language and culture in L2 socialization described earlier, I designed the course as follows. There were five units in the course: Building a Learning Community, Education, Globalization, The Environment, and Fashion and Styles. Each unit lasted three weeks.

Week 1: Background. During the first week, the students built some background knowledge about the topic. They also read or listened to passages that stimulated their thinking about the focal topic and provided them with new vocabulary.

Week 2: Zooming In. During the second week, the students were introduced to the project of the target unit, which involved the investigation of a local socio-cultural context related to the topic of the unit. Thus, the focus of each unit was narrowed to

one particular contextual level. For example, for Unit 1, the students were asked to create a group profile, which gave them the opportunity to get to know members of their group and others in the class (i.e., group level). For Unit 2, the students gave a formal PowerPoint group presentation on one of the following types of resources available to them on USU's campus: social and cultural, academic and professional, athletic and recreational, and student services (i.e., university level). The project for Unit 3 took the students to the next contextual level—the city—by requiring them to prepare and lead a discussion on the topic "The city of Logan in the era of globalization." Unit 4 gave the students the opportunity to expand their knowledge about the national parks in Utah, as they worked on a poster presentation on one of Utah's five national parks (i.e., state level). For Unit 5, the students had to present several outfits that people in the U.S. could wear in certain social situations, including church, first date, wedding, sporting event, and dance party (i.e., country level).

Week 3: Project Week. Finally, during the third week of a given unit, the students worked on and presented their projects. A summary of the units, projects, and project genres is given in Table 1.

Table 1: Course Units and Projects

Unit	Project	Project Genre
Building a Learning Community	"Our Group Profile"	Varies (e.g., skit, group portrait, photo slideshow)
Education	"Exploring USU"	Formal PowerPoint Presentation
Globalization	"The city of Logan in the Era of Globalization"	Leading a Discussion
The Environment	"Utah's National Parks"	Poster Presentation
Fashion and Styles	"The American Fashion Show"	Narrated Fashion Show

As seen in Table 1, the described course also aimed at giving the students the opportunity to create projects in various genres: a group profile, a PowerPoint presentation, a discussion, a poster, and a narrated fashion show. Therefore, in addition to mastering the skill of working in a group, the students were also able to practice various communicative and rhetorical strategies related to each genre.

Below I describe how the course projects facilitated students' socialization through and to the target language.

Socialization through Language

The projects were created with the purpose of giving students the opportunity to socialize to the environment around them through completing meaningful authentic tasks in the target language. As seen from the description above, each project required the students to gather information about one particular level of their local academic and socio-cultural environment—their own group, campus, city, state, and nation— and become acquainted with it. Because all projects involved interactional practices that allowed the students to communicate not only with each other and their classroom assistants, but also with other people outside the classroom, students were offered a rich opportunity for socialization.

The process of socialization through language started with the classroom environment, when the students were working on the first unit of the course. I envisioned this unit as a way of helping the students get to know each other and develop collaborative strategies in their teams. By creating their group profiles, the students were learning about each other's backgrounds, hobbies, interests, and learning styles, while planning and organizing their work together and developing their group creativity. A sense of community was evident when the students were presenting their profiles in front of the class. As a teacher, I felt that the scene was set for there to be effective work throughout the semester.

While working on the project for Unit 2, the students received another opportunity for socialization through language. The unit assignments exposed them to plentiful resources that Utah State University offers to help students develop their academic, professional, and social skills, as well as to stay healthy—both physically and emotionally. The students became familiar with the resources offered by the USU library, writing center, Academic Success Center, Information Technology, Disability Resource Center, and Counseling and Psychological Services, to name a few. For many students, this was their first encounter with USU clubs, organizations, programs, events, services, recreational facilities, outdoor programs, and volunteering opportunities, and the students found it a very helpful experience.

The project for Unit 3 helped the students to become acquainted with the city of Logan and to realize that even in this relatively small town, they can see products, businesses, and social and educational opportunities that demonstrate the effects of globalization. For example, for one of their homework assignments, which the students seemed to particularly enjoy, they had to go to a local grocery store and take pictures of the products that represented the concept of globalization. The students found products that were familiar to them, either because similar products of American brands were sold in their countries (e.g., various kinds of chips, soda, and chocolate) or because they were manufactured in their countries and exported to the U.S. For many students, this unit was an eye-opening experience as they realized that nowadays, even in small towns such as Logan, it is possible to see the interconnectedness of economies, businesses, cultures, and education systems. By accomplishing the unit assignments, the students also socialized to the local environment of the town.

Another opportunity for socialization through language was provided in Unit 4, which exposed the students to the beauty of the state of Utah. As an avid hiker, I could not pass up the chance to introduce my students to the parks as places for hiking, camping, and other outdoor opportunities. Thus, to expose the students to the variety of landscapes and natural resources available in each park, I discussed all of Utah's national parks during the introduction lesson to this unit and showed them some photos, videos, and maps. However, because the final project of the unit was done under the topic "The Environment," I wanted the students to mostly focus on exploring the environmental features of the parks. Therefore, as the students were creating a poster for the park assigned to their team, they primarily worked with the materials related to park's historical facts and environmental factors, including vegetation, wildlife, and governmental efforts to protect the park's ecosystem. Overall, this unit provided the students with a great deal of new information about the system of national parks in the U.S. At the same time, for many students in my class, this was their first semester in the U.S., and quite understandably, they were not aware of the various recreational opportunities available in Utah. Therefore, this project expanded the students' knowledge about the natural resources offered in the state.

The final unit of the course started with the discussion of why American people tend to dress casually. To help the students socialize to this cultural phenomenon, I asked them to read an article offering a historical perspective by discussing several

milestones that marked this "casual turn." This article was illuminating in many ways, and certainly afforded the students a better understanding of the roots of clothing casualness in American society. While preparing for the project of the unit—the narrated fashion show, for which the students had to create and present an outfit for a particular social setting, the students collected information from various sources, including searching through the web, consulting with their classroom assistants, speaking with other people (e.g., friends and roommates), and making informal observations outside the classroom. Cultural differences were most apparent in this unit, as the students realized that people's views of what should be considered appropriate to wear in particular social situations in their home countries and the U.S. may not always align. The American classroom assistants provided a lot of useful information to the students as well. For example, one of the assistants explained that a female wedding guest should not look better than the bride. Other assistants shared helpful information about their own clothing preferences in relation to various social occasions. As a result of this project, the students became better acquainted with a range of clothing styles in the U.S. and began to better understand what kinds of clothes Americans wear in different social situations.

Thus, while working on the meaningful tasks geared toward practicing their oral communication skills, the students were also becoming familiar with several levels of their academic and socio-cultural environment: their own classroom, the university, the city, the state, and the country. Although I do not claim that the process of socialization was complete or equally effective for all students in the class, I do believe rich opportunities for this process were provided to the students, and based on my observations, were used by everyone in the class.

Socialization to Language

Along with giving the students the opportunity to learn about various levels of their academic and socio-cultural environment, the course was also designed to help them socialize to the target language. Thus, for each unit of the course, the students had to work with thematic videos, discuss listening and reading passages, interview people outside the classroom, and complete various assignments in class. As the students worked on their course projects and interacted with each other, with their classroom assistants, and with other people outside the classroom, they were acquiring new lexical items and grammatical structures. It can be argued, therefore,

that through these interactional practices and meaningful tasks, the students were actively socializing to the target language.

This socialization to language started with Unit 1. While working on this unit, the students were asked to create a list of group values and behaviors that could be agreed upon by everyone in the group. First, the students had to choose the top three values from a given list (or they could add their own) that they believed would be important for their group. The list included several words that were new to many students, such as *accountability, insightfulness, ambition, open-mindedness, equality*, and *curiosity*. Then, for each of the three group values, the students discussed two appropriate behaviors that supported this value (such as respecting others' opinions), as well as two inappropriate behaviors that did not support this value (such as interrupting others). At the end of this activity, each group developed a kind of contract that included the list of values and behaviors that everyone agreed to follow. At the same time, during the process of negotiation, the students were also actively learning new English vocabulary.

While working on Unit 2, we discussed several issues related to intercultural differences in academic settings, such as interacting with college professors, receiving grades on course assignments, collaborating with peers, and participating in class discussions. The students were presented with several case studies that they discussed with each other and their classroom assistants. Reflecting on the cases and discussing them in class allowed the students to learn new vocabulary. Another topic discussed in the unit, which related particularly to the students' academic and cultural status, was fitting in on campus. During the lesson devoted to this topic, the students worked with an authentic listening passage from National Public Radio, rich with new vocabulary items that the students then used in subsequent discussions on the topic.

A similar exposure to new vocabulary was offered to the students through the discussions and readings of Unit 3 that helped them learn such words as *import, consumer, investigate, overseas, label,* and *produce*. In addition, while preparing to lead a group discussion—the final project of the unit—the students learned how to present an argument and support it with convincing pieces of evidence. The design of the project gave the students a chance to formulate their own opinion and support it with examples. In other words, whereas the students were given the general topic for the project—the city of Logan in the era of globalization—they were asked to form their own argument related to this topic: that is, whether or not they believed Logan was experiencing the effects of globalization. Each group was asked to investigate a certain

category in relation to this topic: food (local restaurants and food in grocery stores), social life (Logan's clubs, organizations, social events and activities), businesses (companies and stores), and education and religion (churches, schools, and educational programs). The objective was to answer the question: What are some effects of globalization on the city of Logan when it comes to this category? The opportunity for language development in this project was ample –especially in final group discussions, during which the students had to present their argument, support it with collected data, promote a group discussion, and answer questions from classmates.

Another opportunity for socialization to language was given in Unit 4, which was particularly rich in new vocabulary items. As the students were working on the project for this unit—creating a poster about one national park in Utah—they encountered a number of words specific to the topic "the environment." Some of these words included *flora, fauna, ecosystem, wildlife, waste, habitat, conservation, revitalization,* and *preserve.* More vocabulary items were discovered in the readings about the national parks, which the students worked with while creating their posters. Many of these words were highly specialized terms, such as *hoodoos, erosion, sandstone, plateaus,* and *perennials,* yet they allowed the students to talk knowledgeably about the topic.

Similarly, Unit 5 contained a great deal of specialized vocabulary, mostly related to clothes and styles. In order to create a narrated fashion show for the final project of this unit, demonstrating several outfits that people in the U.S. would wear in diverse social occasions, the students not only had to learn various names of clothes but also adjectives describing styles and outfits, such as *casual, conservative, dressy, elegant, sloppy, sporty, stylish,* and *trendy.* It was rewarding to see that many students were using these words during their presentations.

Along with the vocabulary specific to each topic of the unit, the students were also introduced to the phrases necessary for successful interaction in their groups. For example, they learned phrases for several speech acts, including expressing their opinion (e.g., "The way I see it is…"; "Wouldn't you say that…?"; "As I see it…"), supporting their opinion (e.g., "I think this because…"; "It's a bit complicated, but I think…"; "The reason is…"), agreeing (e.g., "That's exactly how I feel"; "You have a point there"; "I was just about to say that"), disagreeing (e.g., "I agree with you in some ways, but…"; "Here's another way to think about it…"; "True, but how about…?"), and encouraging active participation (e.g., "That's my opinion. How

about the rest of you?"; "Any thoughts on what I just said?"; "Any other opinions?"). In addition to learning the grammatical structures of these phrases, the students were also becoming familiar with the importance of the cultural appropriateness of each of these speech acts with reference to academic settings.

Thus, while promoting students' cross-cultural interaction and their participation in various activities in and outside the classroom, the course projects also aimed at increasing students' opportunities to communicate in their L2, thus allowing them to develop more advanced linguistic forms. From this perspective, these projects and assignments encouraged students' socialization to the target language.

Limitations

The course projects described above were designed with the aim of helping students become more familiar with the academic, social, and cultural resources in their local environment through completing a series of authentic linguistic assignments (i.e., socialization through language), as well as promoting their language development by having them explore these resources (i.e., socialization to language). The development of students' oral communication and linguistic skills (socialization to language) was evident throughout the semester and evaluated by both my informal observations and by the use of rubrics developed for each project of the course. However, the formal assessment of the degree to which the students became socialized to their local environment (socialization through language) was beyond the scope of this study. This is not to say that as the instructor, I failed to observe students' growing sense of enthusiasm and motivation, which resulted from their increased familiarity with various resources offered in their surroundings (including their university, city, and state). I nevertheless acknowledge the importance of triangulating these informal observations and anecdotal evidences by assessing learner socialization through a more rigid research methodology. From this perspective, this study offers a promising area for future research.

Suggestions

Although I fully realize that the presented design may be different from other university courses, I believe faculty can incorporate the elements of socialization into

their syllabi to help language learners advance their language proficiency and become more integrated in their local academic and socio-cultural environments. Such efforts do not necessarily have to result in full-fledged projects, as demonstrated above. Rather, the implementation of various features of local environments in a course syllabus could have important implications for students' language socialization. Below, I provide several suggestions for instructors on how to promote such socialization.

Guest speakers. Nowadays, many universities offer a wide range of programs, services, and resources that are designed to help students succeed in their studies and social life. Instructors can invite representatives of these programs and services to their classes to expose students to opportunities that can improve their academic and social experience at the university. Such visits can be arranged at different times in the semester: at the beginning of a semester (e.g., a representative from a writing center, a library, or student organizations), in the middle of a semester (e.g., a representative from counseling services or volunteering organizations), and toward the end of a semester (e.g., a representative from an academic success center or a career center).

Surveys on campus. Instructors can also ask students to conduct small-scale surveys on campus to gather data either for a subsequent classroom activity or for their own research projects. Students can informally ask others on campus (e.g., other students, faculty or staff members) to express their opinion or provide information on certain topics. Such surveys can be implemented in virtually any course, regardless of the discipline.

Library tours. University libraries provide some of the richest resources and materials to help students succeed academically. Unfortunately, some students – particularly those from different cultures—may not fully utilize libraries in their studies. Instructors can organize library tours at the beginning of a semester to help students become familiar with the range of resources and materials offered by libraries and feel more comfortable using them in their academic activities. While tours led by a library staff member can be particularly resourceful, self-guided tours may benefit students as well.

Photo scavenger hunts. As most students enjoy using their smartphones, teachers can implement photo scavenger hunts that would require students to use university and community resources. For example, instructors can provide a list of titles and call

numbers of books from a university library and ask students to locate them on the library shelves and document their findings by taking photos. Students can also be asked to take photos of various objects on campus or in the community that represent certain concepts discussed in the course (e.g., globalization, an effective marketing technique, certain architecture designs, engineering projects).

Classroom activities and homework assignments. There are numerous ways to implement local resources in classroom activities and homework assignments: from exploring the university website with a particular focus in mind, to writing a summary about a certain program on campus, to attending a university-sponsored event, to conducting an interview with another professor or a university staff member. Along with the particular pedagogical objectives (determined by the instructor) upon which each of these activities and assignments focus, they can also help promote students' language development, as well as cultivate their desire to become an integral part of their academic and socio-cultural community.

Conclusion

Second language learning is inseparable from the social environment in which the learning takes place, whether it is a natural setting or a classroom. In this environment, learners acquire new forms of being, including "a repertoire of linguistic, discursive, and cultural traditions" (Duff & Kobayashi, 2010, p. 79), which allow them to "survive and prosper" (Atkinson, 2011, p. 144) in this new ecology. In this process, teachers play a crucial role (Kanagy, 1999, Morita, 2004; Seror, 2008; Zappa-Hollman, 2007), by either providing or withholding "opportunities for meaningful enculturation" (Duff, 2010b, p. 181). I believe teachers are well positioned to provide necessary support and opportunities for newcomers—international students on our campuses—in order to help them develop linguistic, pragmatic, and cultural competencies, so they can successfully participate in a wide range of activities available in their local academic and socio-cultural communities.

I encourage university instructors to be conscientious about pedagogical practices, strategies, and approaches used in their classrooms, because they influence not only students' classroom participation and success in the course, but also their socialization—in either a positive or a negative way.

References

Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research in International Education, 5*(2), 131-154.

Atkinson, D. (2011). A sociocognitive approach to second language acquisition: How mind, body, and world work together in learning additional languages. In D. Atkinson (Ed.), *Alternative approaches to second language acquisition* (pp. 143-166). Hoboken, NJ: Taylor and Francis.

Baker-Smemoe, W., Dewey, D. P., Bown, J., & Martinsen, R. A. (2014). Variables affecting L2 gains during study abroad. *Foreign Language Annals, 47*(3), 464-486.

Bista, K., & Foster, C. (Ed.). (2016). *Campus support services, programs, and policies for international students*. Hershey, PA: IGI Global.

Duff, P. (2010a). Language socialization. In: N. Hornberger & Lee McKay (Eds.). *Sociolinguistics and language education* (pp. 427-452). Multilingual Matters, UK.

Duff, P. (2010b). Language socialization into academic discourse communities. *Annual Review of Applied Linguistics, 30*, 169-192.

Duff, P. & Kobayashi, M. (2010). The intersection of social, cognitive, and cultural processes in language learning: A second language socialization approach. In: R. Batstone (Ed.), *Sociocognitive perspectives on language use and language learning* (pp. 75-93). Oxford: Oxford University Press.

Duff, P. A., & Talmy, S. (2011). Language socialization approaches to second language acquisition. In D. Atkinson (Ed.), *Alternative approaches to second language acquisition* (pp. 95-116). Hoboken, NJ: Taylor and Francis.

Fassinger, P. A. (2000). How classes influence students' participation in college classrooms. *Journal of Classroom Interaction, 35*(2), 38-47.

Frisby, B. N., & Martin, M. M. (2010). Instructor–student and student–student rapport in the classroom. *Communication Education, 59*(2), 146-164.

Frisby, B. N., & Myers, S. A. (2008). The relationships among perceived instructor rapport, student participation, and student learning outcomes. *Texas Speech Communication Journal, 33*, 27-34.

Hsieh, M. H. (2007). Challenges for international students in higher education: One student's narrated story of invisibility and struggle. *College Student Journal, 41*(2), 379-392.

Kanagy, R. (1999). Interactional routines as a mechanism for L2 acquisition and socialization in an immersion context. *Journal of Pragmatics, 31*, 1467–1492.

Lee, C. S., Therriault, D. J., & Linderholm, T. (2012). On the cognitive benefits of cultural experience: Exploring the relationship between studying abroad and creative thinking. *Applied Cognitive Psychology, 26*(5), 768-778.

Milian, M., Birnbaum, M., Cardona, B., & Nicholson, B. (2015). Personal and professional challenges and benefits of studying abroad. *Journal of International Education and Leadership, 5*(1), 1-12.

Morita, N. (2004). Negotiating participation and identity in second language academic communities. *TESOL Quarterly, 38*(4), 573-602.

Ochs, E. & Schieffelin, B. (1984). Language acquisition and socialization. In: R. A. Schweder & R. A. LeVine (Eds.). *Culture theory: essays on mind, self, and emotion* (pp. 276-320). Cambridge: Cambridge University Press.

Poyrazli, S., Kavanaugh, P. R., Baker, A., & Al-Timimi, N. (2004). Social support and demographic correlates of acculturative stress in international students. *Journal of College Counseling, 7*(1), 73-82.

Shvidko, E. (March, 2014). How well do we utilize campus resources to help L2 writers? *TESOL SLW News*. Retrieved from: http://newsmanager.commpartners.com/tesolslwis/issues/2014-03-05/5.html

Shvidko, E. (2018). Writing conference feedback as moment-to-moment affiliative relationship building. *Journal of Pragmatics, 127*, 20-35.

Seror, J. (2008). Socialization in the margins: Second language writers and feedback practices in university content courses. Unpublished doctoral dissertation, University of British Columbia, Vancouver, Canada.

Shapiro, S., Farrelly, R., & Tomaš, Z. (2014). *Fostering international student success in higher education.* Alexandria, VA: TESOL Press.

Watson-Gegeo, K. A., & Nielsen, S. (2003). Language socialization in SLA. In: C. Doughty & M. Long. (Eds.), *The handbook of second language acquisition* (pp. 155–177). Oxford: Blackwell.

Willett, J. (1995). Becoming first graders in an L2: An ethnographic study of L2 socialization. *TESOL Quarterly, 29*(3), 473–503.

Zappa-Hollman, S. (2007). *Academic presentations across post-secondary contexts: The discourse socialization of non-native English speakers.* Canadian Modern Language Review, 63, 455-485.