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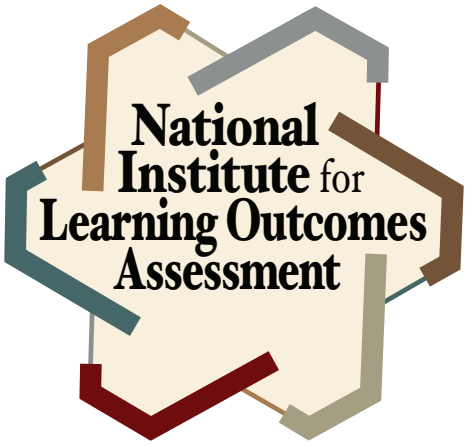

Assessing Student Learning in the Online Modality

Kristyn Muller, Kathleen Gradel, Susan Deane, Michele Forte, Ryan McCabe, Alexandra M. Pickett, Rob Piorkowski, Kim Scalzo, & Rachel Sullivan

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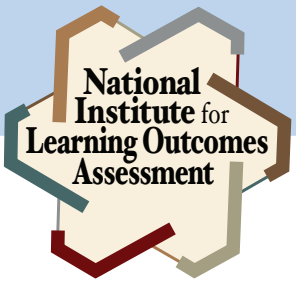
The National Institute for Learning Outcomes Assessment (NILOA), established in 2008, is a research and resource-development organization dedicated to documenting, advocating, and facilitating the systematic use of learning outcomes assessment to improve student learning.



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Abstract

Online education can be leveraged to help current students complete their degrees and to attract new students. While online learning is not new, in recent years, it has been moving away from the periphery of higher education and becoming a central component of institutional strategies for increasing student enrollment, retention, and completion. Research regarding online learning has demonstrated that there is no significant difference between student outcomes in online versus face-to-face courses; with some studies showing that online learning can be more effective. Student learning outcomes assessment must be part of quality course design and instruction whether a course is delivered face-to-face or online; many best practices for face-to-face assessment also apply to online learning assessment. Yet, there are differences between the two modalities that must be taken into account when developing online courses.

The first part of this paper will provide an in-depth discussion of the Open SUNY Course Quality Review Rubric (OSCQR)-an online course design rubric and process that is openly licensed for anyone to use and adapt. The aim of the OSCQR Rubric and Process is to assist online instructional designers and online faculty to improve the quality and accessibility of their online courses. OSCQR also provides a system-wide approach to collect data that informs faculty development and supports large scale online course design review and refresh efforts in a systematic and consistent way. This paper then explores general considerations of online teaching as they pertain to the assessment of student learning outcomes. Finally, specific examples will be given of how online course instructors and distance learning administrators have designed their courses and programs to ensure appropriate assessment of learning outcomes.

Assessing Student Learning in the Online Modality

Kristyn Muller, Kathleen Gradel, Susan Deane, Michele Forte, Ryan McCabe, Alexandra M. Pickett, Rob Piorkowski, Kim Scalzo, & Rachel Sullivan

The number of students enrolled in online courses and degree programs has been growing steadily over the past decade. In Fall 2016, 31.6% of all students enrolled at U.S. institutions took at least one online course, and over 3 million took all of their courses online (Seaman, Allen, & Seaman, 2018). Students generally choose online learning because it is more flexible and convenient, especially for those who have work responsibilities and/or other life factors that make it difficult to attend class in-person (Hannay & Newvine, 2006). Recognizing this need, colleges and universities, both public and private, have been increasing their online course and program offerings.

77% of chief academic officers at institutions with online offerings agreed that online learning is "critical to their long-term strategy."

Online education can be leveraged to help current students complete their degrees and to attract new students. While online learning is not new, in recent years, it has been moving away from the periphery of higher education and becoming a central component of institutional strategies for increasing student enrollment, retention, and completion. In a 2015 survey, 77% of chief academic officers at institutions with online offerings agreed that online learning is "critical to their long-term strategy" (Allen & Seaman, 2016, p. 5). In a similar survey of chief academic officers from 2017, 83% of the respondents indicated that they plan to expand online offerings within the next year (Jaschik & Lederman, 2018a). Thus, it is important to ensure higher education quality at the course, program, and institution levels within the online modality.

Research regarding online learning has demonstrated that there is no significant difference between student outcomes in online versus face-to-face courses (WICHE Cooperative for Educational Technologies, 2010). In fact, in some studies, online learning has been shown to be more effective (Bernard et al., 2014; Means et al., 2009). However, the quality of online education continues to be misperceived, questioned, and debated. In a 2015 survey, almost 29% of chief academic officers believed that face-to-face learning was superior to online learning (Allen & Seaman, 2016). In a 2018 survey of faculty members, only 52% of respondents who have previously taught online and 39% of respondents who have never taught online agreed that online courses can achieve the same outcomes as face-to-face courses (Jaschik & Lederman, 2018b). Students seem to be more optimistic; of those who have previously taken online and face-to-face courses, 85% believed the online course(s) were either the same or better than their face-to-face course(s) (Magda & Aslanian, 2018). Regardless of faculty, staff, and student perceptions, however, it is important to ensure that students in online courses and programs have learning opportunities that are equivalent to those who are participating face-to-face.

Online courses can be delivered asynchronously (students participate at different times), synchronously (students must be present online at the same time), or a combination of the two. Hybrid courses are not fully online because part of the direct instruction is delivered face-to-face in a classroom setting. This paper focuses on assessment of fully online courses, with an assumption that most of the online activities are occurring asynchronously since that is traditionally the dominant instructional method (Johnson

& Aragon, 2003). Student learning outcomes assessment must be part of quality course design and instruction whether a course is delivered face-to-face or online; many best practices for face-to-face assessment also apply to online learning assessment. Yet, there are differences between the two modalities that must be taken into account when developing online courses. Fortunately, resources, such as course quality review rubrics, are available to help faculty members self-assess the design of their course. One popular example is the Quality Matters Higher Ed Course Design Rubric, which contains eight standards, including Learning Objectives (Competencies) and Assessment and Measurement (QM, n.d.). The rubric helps instructional designers and course instructors compare numerous aspects of a course with established standards and identify where changes could be beneficial. Many colleges and universities use this rubric or other similar rubrics as part of their new online course approval and/or continuous improvement processes. While these rubrics cannot fully ensure effective online course delivery and/or student outcomes assessment, they do provide a framework for instructors to follow in order to make sure best practices are followed and student outcomes assessment is intentionally woven into each course.

Open SUNY, the online learning office for the State University of New York (SUNY) System, has developed an online course design rubric and process that is openly licensed for anyone to use and adapt. The aim of the Open SUNY Course Quality Review (OSCQR) Rubric and Process is to assist online instructional designers and online faculty to improve the quality and accessibility of their online courses. OSCQR also provides a system-wide approach to collect data that informs faculty development and supports large scale online course design review and refresh efforts in a systematic and consistent way.

The first part of this paper will explain the Open SUNY Course Quality Review Rubric (OSCQR) in more depth, with particular emphasis on the Assessment and Feedback section. We will then explore general considerations of online teaching as they pertain to the assessment of student learning outcomes. Finally, we will provide specific examples of how online course instructors and distance learning administrators have designed their courses and programs to ensure appropriate assessment of learning outcomes.

Open SUNY Course Quality Review Rubric

Open SUNY developed OSCQR in response to the lack of adoption/use, cost, and the prescriptive and evaluative nature of other commercially available rubrics. We needed a rubric that would allow greater flexibility for adding and customizing standards, could accommodate both new and mature online courses, and could be used in a variety of online course quality review models. It was also essential that the rubric and process be non-evaluative. Where other rubrics resulted in scores (and potential faculty failure), it was important that we view and promote the online course quality review and refresh process as a positive professional development experience for online faculty with any level of online course development experience. We also wanted a tool that would do more than merely point out deficiencies. We wanted the tool to be able to provide significant, substantive, and positive suggestions on how to address each standard well. We also wanted to incorporate a mechanism to crowd-source additional suggestions and examples for each standard, and to rally and recognize our deeply experienced community of online practitioners around online course quality assurance activities.

The work relied on multi-institutional teams of SUNY online instructional designers, librarians, distance learning directors, and technologists. They reviewed and discussed the California State University, Chico Rubric for Online Instruction, 20 years of SUNY Learning Network (SLN) research-informed best online practices, the SUNY office of general counsel's memorandum on accessibility considerations, and a gap analysis with Quality Matters, iNACOL's standards for Quality Online Courses, and Blackboard exemplary courses. The resulting rubric was also informed by the Community of Inquiry model (Garrison, Anderson, & Archer, 2000), *The 7 Principles for Good Practice in Undergraduate Education* (Chickering & Gamson, 1987), *The Adult Learner: A Neglected Species* (Knowles, 1973), Bloom's Taxonomy (Bloom et al., 1956) and *How People Learn* (Bransford, Brown, & Cocking, 1999). The findings were mapped to the Open SUNY fundamental competencies for online teaching. Two components of OSCQR were developed: the OSCQR Process, which includes a usage framework and campus dashboard, as well as the OSCQR Rubric.

The aim of the Open SUNY Course Quality Review (OSCQR) Rubric and Process is to assist online instructional designers and online faculty to improve the quality and accessibility of their online courses.

The OSCQR Rubric has fifty integrated online course design standards and accessibility standards, which are organized into six categories: Course Overview & Information, Course Technology & Tools, Design & Layout, Content & Activities, Interaction, and Assessment & Feedback. The rubric is flexible and designed to be used in a variety of course quality assurance approaches:

- By instructors and instructional designers in faculty development and course design professional development activities to inform and influence the design of new online courses.
- By an individual instructor to self-assess and prioritize design improvements; to continuously review, revise, and improve the instructional design of their existing online courses.
- By an instructional designer to conduct a formal course review of an online course as part of an online course quality review process at the program, department, or institutional level.
- As a peer review process, by a team of instructors interested in a peer-review model of online course review and continuous improvement (the teams can be made up of inter- or intra-disciplinary teams).
- In a collaborative team model made up of a group of at least 3 people approaching the course review process from their own various specialized perspectives, i.e., instructional designer, course author, and external reviewers that might include other subject matter experts (faculty), online librarian, student, instructional technologist, multimedia designer, or other faculty.

The rubric is unique in many ways:

- It is not restricted to mature online courses.
- The rubric can be used formatively with new online faculty to help guide, inform and influence the design of their new online courses.
- It is non-evaluative. Conceptually the rubric and process approach course review and refresh as a professional development exercise, to guide faculty in their understanding of improving course design from an effective practice perspective, rather than as a course evaluation, or quality assurance procedure.

- The rubric can be customized. Standards can be added, edited, and/or eliminated. There is no license fee for use of the rubric. It is shared with a Creative Commons license: CC BY-3.0 US. A partnership with the Online Learning Consortium (OLC) initiated in November 2016 has resulted in their adoption of OSCQR as one of their online quality scorecards.

Current OSCQR Usage

The OSCQR rubric and process are currently being used by 56 SUNY campuses and 800-plus non-SUNY individuals, institutions, and organizations. Implementations vary from individual instructors using OSCQR as a self-assessment independently, or in conjunction with their campus-based instructional designers, to large-scale institution-level online course and program course quality initiatives. These initiatives include the incorporation of the standards formatively into new online course design and online faculty development activities, summatively for all new online courses prior to their first delivery, as well as activities to systematically review and refresh existing mature online courses to improve their designs and target accessibility in larger scale institutional online course quality initiatives.

Assessment & Feedback

The Assessment and Feedback section in the OSCQR rubric identifies the following standards:

44. Course grading policies, including consequences of late submissions, are clearly stated in the course information area or syllabus. Learners need to know how their work will be assessed in a clear and transparent manner. Grading policies can guide learner progress, and promote fair and objective review and assessment of all graded work. Research shows that grading policies directly impact learner motivation. Elikai & Schuhmann (2010) found that strict grading policies motivated learner learning by associating levels of mastery and performance with a specific grade, and guiding achievement progress. All assignments and graded activities should have clear goals and criteria for assessment within their descriptions. Linking back to grading policies from each graded activity will provide more opportunities for learners to understand what is expected from them, and the associated guidelines or rubrics can help guide their progress through the assignment or graded activity. Including clear course grading policies in both the syllabus and course information documents area will also mitigate issues related to learner complaints about grades that they have received on assigned work.

45. Course includes frequent and appropriate methods to assess learners' mastery of content. Consistent and regular assessments help learners demonstrate their progress and deficiencies. As learners move through an online course, they should encounter regular assignments, activities, and interactions designed to assess how well they have mastered the learning content, and how close they are to meeting program, course, or module learning objectives. The key to establishing an appropriate assessment strategy is first making sure that established goals are measurable, and then mapping activities back to those goals to see which best lend themselves to conveying learner mastery. It comes down to one simple question—how will you know that learning has taken place?

46. Criteria for the assessment of a graded assignment are clearly articulated (rubrics, exemplary work). Rubrics are recommended as a best practice for communicating criteria

and achievement levels for assignments in online courses. According to Wolf & Goodwin (2007), rubrics:

- Make learning targets clearer;
- Guide the design and delivery of instruction;
- Normalize the assessment process; and
- Give learners self- and peer-assessment guidelines.

Showcasing exemplary work provides learners with a clear example of what outcomes the assignment demands, and what mastery levels need to be reached. Before posting exemplary work, be sure to get permission from the learner whose work you would like to showcase.

The OSCQR rubric and process are currently being used by 56 SUNY campuses and 800+ non-SUNY individuals, institutions, and organizations.

47. Learners have opportunities to review their performance and assess their own learning throughout the course (pre-tests, automated self-tests, reflective assignments, etc.). Self-assessment involves reviewing one's own work, determining what is good, and detailing what needs improvement. It is a multi-faceted method of determining learner mastery, by asking learners to explore their own work, and determine a level of performance or mastery.

Self-assessment plays a role in learner self-efficacy, fosters learners' abilities to construct meaning, and promotes metacognition. By asking learners to check their skill mastery levels, or reflect on their own work, they learn to examine their own reasoning and decision-making process (Cukusic, Garaca, & Jadric, 2014). In online courses, self-assessments provide learners with opportunities to check in to see how they are progressing, and often offer opportunities for learners to explore more materials if they still need to master concepts or skills.

48. Learners are informed when a timed response is required. Proper lead time is provided to ensure there is an opportunity to prepare an accommodation. All learners need clear guidance on when learning activities and assignments are due, and what they need to do in order to meet those deadlines. Providing guidance on when timed responses are required enables learners to anticipate workload and be better organized (Patterson Lorenzetti, 2013; Zimmerman & Kulikowich, 2016).

49. Learners have easy access to a well-designed and up-to-date gradebook. Learners need feedback and guidance to stay on track, especially in online courses. Having a course gradebook that is easy to navigate provides learners with the guidance they need in order to determine and follow a pathway in their online courses (Schaffhauser, 2016). Online gradebooks provide instructors with the opportunity to automate, customize, and share grades and feedback with learners. Setting up the gradebook with the Learning Management System (LMS) should be a core competency of any instructor teaching online, as keeping learners on track and informed will promote success and motivation in the online space.

By providing easy access to an up-to-date gradebook, instructors give learners the ability to check in on their progress continuously throughout the course term. The added functionality and reporting features enable faculty to review and analyze the gradebook,

as well as create reports on learner progress and course completion. Learners will also benefit by seeing what assignments and other graded activities they have not yet completed.

50. Learners have multiple opportunities to provide descriptive feedback on course design, course content, course experience, and ease of online technology. Learners are immersed within the online experience, and can provide useful feedback on how courses are designed and delivered. This feedback can be used to guide the efficacy of the online teaching and learning process. Providing a channel for feedback, and encouraging dialogue among learners can lead to the improvement of ideas and opinions (Mabrito & Medley, 2008). For instance:

- Learners may find navigation difficult, or content lacking, which can get in the way of successful course completion. Having areas where learners can provide feedback to the instructor and/or course designer on navigation, access, and the overall learning experience can guide better design choices to support learner success while the course is in progress.
- If any new technologies or LMS features are incorporated into the learning environment, learners need a channel to report or explain any issues that arise, and solutions that they may have found that can be shared with their classmates.
- Independent from end-of-course surveys, channels for feedback on the online learning experience empower the learner to have a stake in making the experience better for themselves, as well as other learners in the future. These channels also enhance group cohesion by exemplifying how instructors value the opinions of their learners.

Online Teaching Strategies

The standards in the OSCQR Rubric, especially within the Assessment & Feedback section, provide a foundation for understanding what must be considered when designing a quality online course. However, the actual quality relies on the alignment of course content with learning objectives, the use of effective assessment strategies, and the use of effective online teaching practices to facilitate online learner engagement and interaction. In an online teaching environment, instructors cannot simply duplicate their classroom practices, but must rethink and re-conceptualize how to achieve the course learning objectives given the unique opportunities and limitations of the online teaching and learning environment. Today much is known about how an effective online instructor presents content, facilitates discussions, encourages collaboration, and assigns and grades assessments.

Presenting Content

Modern online courses typically employ a range of tools and formats to aid learners in interacting with content, the instructor, and fellow students. A variety of tools can be used to make the course content more engaging. Thus, the online modality is a great platform for facilitating learner-centered pedagogy (Swan, 2005). Tools like Blackboard Collaborate allow students to meet in real-time with their instructors. Students can engage through video, audio, or real-time text chat when utilizing this application. Blackboard Collaborate works very well for bringing guest speakers into the learning space or for virtual office hours. Voicethread, which is a video/audio based discussion platform allows students to interact with their instructor and each other by asynchronous video, audio,

image sharing, and text. Voicethread can be very beneficial when delivering languages online, both World Languages and American Sign Language. Tools like Playposit allow instructors to create video based quizzes where students can interact directly with video content while instructors check their understanding during various points of the video presentation.

Facilitating Discussions

Online discussions are frequently used to assess online learning. This approach provides students with a space to make their thinking and learning visible to the instructor and to their peers. They can express their points of view, synthesize and critique course concepts/topics, and engage in interactions with their peers. Researchers have studied the efficacy of online discussions from both the student and instructor points of view. One research thread notes that online discussion allows all students to engage with course topics, opening up contributions from students who may be reticent to participate in discussions in a traditional face-to-face course (Hall, 2015). Others note that while online discussions do have the ability to foster high levels of thinking and learning in a more learner-centered format, this is not always the outcome (An, Shin, & Lim, 2009). Many students report that their main motivation for participating in online discussions is to receive gradebook points towards their overall class grade, and some students find discussion board posts boring or that the overall experience is isolating (Du & Xu, 2010; Lee & Martin, 2017).

> The actual quality relies on the alignment of course content with learning objectives, the use of effective assessment strategies, and the use of effective online teaching practices to facilitate online learner engagement and interaction.

There are research-based strategies that instructors can use to ensure that online discussions are used effectively for assessment. Many of these strategies involve the format of the questions being posed. Other strategies are more focused on the interactions between instructors and students. For example, An, Shin, and Lim (2009) studied discussion board outcomes across three different sections of the same teacher education course. In an analysis of the three course sections, they found that student discussions are limited if posting is not mandatory. But, students are much more likely to freely express ideas with one another on the discussion board if posts are required and the instructor does not respond to students' initial posts. Mazzolini and Maddison (2007) had a similar finding in their content analysis of 40,000 discussion posts across 400 discussion board forums. In their study, more frequent posting by the instructor led to fewer and shorter posts by students. In survey data, many instructors reported that they asked/posed open-ended questions in discussions (a positive intervention), but this self-reported behavior was not supported in the content analysis of the discussion board forums. In a case study of graduate students enrolled in an online course, Lee & Martin (2017) find that many prefer small-group discussion boards, rather than ones that include the entire class. They report that this allows them to connect and develop a rapport with classmates.

Encouraging Collaboration

An online course done well focuses on access and equity by creating the opportunity for every learner to make their thinking and learning visible and open to feedback. The online environment is again ideal for this because the only way for a student to be "present" is to post something. However, collaboration between students can also occur outside the classroom on platforms other than the LMS. Instructors can help facilitate these types of interactions by forming small groups or learning teams. It is best to assign students to these groups, rather than allowing self-selection, to avoid logistical problems that inhibit productivity. If instructors do allow self-selection, they should establish a deadline for this process (a week to ten days) and then default to teacher assignment to the groups

after the deadline. Small groups are especially helpful for large classes. Small groups can develop group presentations, peer review each other's work, prepare for exams, analyze a case study, engage in project-based learning, and more. Just as in well-coordinated teaming activities in face-to-face instruction, it is critical that instructors be "present" to coach and give feedback (Garrison & Cleveland-Innes, 2005).

Assigning and Grading Assessments: Formative Assessment

Research indicates that students and instructors both believe that effective online assessments should include a wide variety of assignments—including projects, portfolios, self-assessments, timed tests and quizzes, discussion boards, and peer evaluations. Feedback on these assignments is also important—and is best when it is meaningful, given shortly after the assignment is submitted, and is supported by a rubric (Gaytan & McEwen, 2007). Other researchers note that students have to deal with distractions and competing obligations while completing coursework. Schacter & Szpunar (2015) note that these distractions can be more pronounced in the online environment, where they may be tempted to visit other websites or check email while also watching video lectures. They argue that certain assessment strategies/instructional practices can minimize student distractions. For example, Szpunar et al. (2013) found that including memory tests in an online lecture helps students pay attention—they report less mind wandering, it encourages note taking, and improves learning outcomes when compared to students in the same class who watch an online lecture that does not include short memory tests.

In a well-designed online course, formative assessment is effective because learner interaction is central to the process. That interaction gives learners the opportunity to express their own "teaching presence" in the learning community with other learners in the course and with the instructor. Rather than passive recipients, learners in learner-centered online environments become active participants in their own learning, have opportunities to interact and collaborate with other learners, to test and socially construct their understanding, to bring their own goals and interests to the learning environment, to express teaching presence in the course (This notion of *Teaching Presence* comes from the community of inquiry framework authored by Garrison et al., 2000), and to have choices about what and how they learn, and how they are assessed—all enhanced and facilitated by the power of the internet and the options available in an online learning environment. Online learning activities can be designed to ensure that each learner is accountable for their own learning, and provide opportunities to assist in the learning of others—by questioning others, answering questions, getting feedback, evaluating peers, making adjustments in thinking, and having to explain, support, and defend their thinking, learners begin to see themselves succeed in their own learning, and adopt an identity to match. Self-assessment quizzes are excellent formative assessments, as are student metacognitive reflections via online journaling or blogging.

Assigning and Grading Assessments: Summative Assessment

There are also opportunities for unique, learner-centered summative assessment techniques in the online modality. According to Palloff and Pratt (2013), "A learner-centered assessment is an assessment that links what the student is learning in the course to the assessment process" (p. 42). Multiple choice tests and quizzes may be easy to grade, but writing assignments, collaborative exercises, case studies, and interactive discussions provide a more authentic assessment of learner mastery by requiring reflection, synthesis, and the creation of new knowledge. Learners can become lost in online courses that fail

to measure mastery on a consistent or regular basis, as they have little to motivate their participation. Mastering competencies on a regular basis within an online course helps learners succeed by developing competence, understanding, and comprehension, which leads to the ability to demonstrate competence and elicit feedback (Hulleman et al., 2010).

Nevertheless, traditional testing is still common, and perhaps necessary, in many online courses. In the past (and even today), some online courses required students to take tests at specific in-person testing sites, or at remote locations with proctors. Many proponents of online education argued that this counteracts or defeats the flexible nature of online learning (Khare & Lam, 2008). Today, many online classes have quizzes and tests embedded in the LMS, allowing students to take the assessment wherever they are working remotely. This practice can raise questions related to academic integrity, and educators and researchers have come to different conclusions on the practice. Some researchers argue that online examinations align with more constructivist approaches to education, because they take away "unnecessary fear" and create a more relaxed learning environment for students (Khare & Lam, 2008). In a survey of 110 students who took online courses, a majority of students reported taking more time and learning more in an online unproctored exam compared to a proctored exam (Myyry & Joutsenvirta, 2015). O'Reilly & Morgan (1999) also argue that the exam specifications can make it more difficult for cheating to occur (i.e., asking questions that require synthesizing information, or that must be written in short answer form). A different approach that some schools have resorted to is ethics education or honor codes as a means to minimize cheating (Khare & Lam, 2008).

Rather than passive recipients, learners in learner-centered online environments become active participants in their own learning, and begin to see themselves succeed in their own learning, and adopt an identity to match.

Research on student cheating in online courses is largely based on self-reported data from students, where they are asked to indicate if they have cheated on an online exam, and if they are more likely to cheat on online exams compared to in-person exams. As a whole, findings show that students are more likely to cheat on an online exam (Berkey & Halfond, 2015; King, Guyette & Piotrowski, 2009; Watson & Sottile, 2010). Other research has compared student outcomes of in-person exams with unproctored online exams. Some have not found differences in scores (Ladyshewsky, 2015; Yates & Beaudrie, 2009), while others have found evidence of cheating (Corrigan-Gibbs, Gupta, Northcutt, Cuttrell & Thiess, 2015). Alessio et al. (2017) compared student performance across online sections—with half of the sections taking online proctored exams, and the other half taking an unproctored online exam. Students who took the unproctored exam scored 17 points higher and took more time on the exam than those who took the proctored version. Some instructors may view this finding through a negative lens—as evidence that cheating is likely to occur in an unproctored format. But other instructors may view the increased time spent on the assessment positively. Interpretation depends on both the learning objectives of the course and the goal/structure of the formative assessment.

Campus Examples

The next section provides examples from four different State University of New York campuses to explain how course, program, and institution level outcomes can be assessed within the online modality.

Course Level: Fredonia's *Educational Psychology* Course (Multiple Outcomes)

Context. Fredonia is one of SUNY's 13 comprehensive campuses, comprised primarily of a four-year residential undergraduate population, along with a small graduate enrollment of in-service educators returning for the NYS requisite Master's degree. Located in rural Western New York, the campus has been conservative in its approach to online learning; there has been a slow, steady growth curve in offering individual online courses across majors, but the campus has to date hosted no fully online programs. As such, students—at least in the primary academic semesters—tend to parse their experience in online learning, often enrolling in few if any online courses; they instead reserve that experience for winter and summer (optional) terms. Making a fairly broad generalization, students report that—when enrolled in regular semester online courses—they often grapple with finding a workable balance between the predominantly face-to-face Fredonia experience while engaging in online learning. Coupled with lean campus resources dedicated to online learning at Fredonia, students tend to be reliant on the idiosyncratic supports afforded by individual online instructors, rather than campus infrastructure. Despite this, online courses go through a rigorous review process (now guided by OSCQR), and new online faculty complete a required on-demand and face-to-face preparation sequence. As part of this experience, assessment is a consistent focus. In addition, the campus has made assessment for learning an ongoing priority for all course delivery modalities.

Learning Outcomes. This example illustrates LEAP domains inclusive of both *Intellectual and Practical Skills* (i.e., communication, inquiry, critical and creative thinking, teamwork, problem-solving) and *Integrative/Applied Learning*. The course is an online version of *Educational Psychology*, required by future educators in our College of Education and Communication Sciences majors, and a frequent elective among undergraduate Psychology majors. This assignment is guided by five primary student learning outcomes:

- Research evidence-based strategies for proactively building prosocial behavioral repertoires among P-12 student learners.
- Curate and publish multiple products—using functional digital literacy skills—capturing current, relevant knowledge and practice.
- Engage in collaborative learning experiences focused on professional expertise.
- Apply understandings to real-life P-12 learning scenarios and simulations.
- Identify personal next steps for extending professional expertise on targeted concepts and practices.

Implementation Steps. This example focuses on positive behavioral support interventions and strategies used in the P(preschool) - 12 (Grade 12) school district world. There is so much "out there" that is "light"—or common wisdom—paired with substantive research-based practice; discriminating "what is what" and how to use it in practice is a perennial problem of the education practitioner. The overarching goal of this learning sequence is to collaboratively build a class curation of "Fact Sheets" on high-value interventions, using materials that students research from reliable sources. Their products become "crowdsourced" curations that they then use to solve later course assignments involving "intervention challenges" from real classrooms. The process is based on a structured sequence of both independent and interdependent work. The steps used by faculty are described below; however, targeted outcomes, context, and tools could easily vary.

Step 1: The instructor assigns students to initial work teams, generally two-person teams. Team membership is posted to a Google Doc (called "Intervention Library" in our course), linked to the Learning Management System (LMS); this doc is set up giving everyone editing rights. Each team is assigned an evidence-based intervention strategy using this same Google Doc. Each partner is designated as Team Member A or B. The A/B assignments correspond to "job descriptions" delineated in the Fact Sheet template (see Step 2).

Step 2: The instructor builds a shared Google Doc template; the template has a series of tables delineating what to do to complete the work. In this example, the template is designed with established "job descriptions" for each Team member, with nearly mirror images of expectations. This empowers both partners to have equivalent but non-redundant accountabilities in generating the content from their research.

Step 3: This shared Google Doc template is used by student teams to make their own copies. The (student) document owner makes the template copy, then shares it with his/her partner and to "everyone with the link to view;" s/he adds the link to the main Google Doc "Intervention Library" doc, and moves it into a shared Drive folder set up by the instructor for the full class to use. This then makes that original doc a "go to" for everyone in our course to access, later on.

Step 4: Next, team members follow the assignment steps to (a) identify anchor resources through their own research, and (b) draft their contributions to their own Fact Sheet template. They are expected to use valid research-based resources and summarize information in their own words (writing to an audience of course peers), while crediting their sources. As part of this work, each team member also locates a practical web resource (non-reduplicative of each other), as well as an illustrative video vetted for relevance and quality; we call these "value-added resources."

Step 5: By the deadline, partners then use the commenting (not editing) function in their Google Doc, giving explicit feedback to each other on the parts that their colleague completed. During this phase, the instructor also visits the docs to encourage and to ask questions, to support their mutual evaluation and ensure that the collaboration is task-focused and not superficial. The commenting tool in Google Docs makes this process virtually seamless, while tracking contributions.

Step 6: After the initial feedback phase, students fine-tune their individual work. Using course resources, the partners then decide on the *Creative Commons License* they wish to apply to their work; they add its image, language, and a link to the license. At this point, each student inserts the link for his/her Fact Sheet doc to the LMS Assignment area, making it easier to input formal grades within the LMS. Feedback is provided both within the doc and using an assignment rubric, based on both the quality of individual work and the collaborative feedback directed to peers. There is a brief time window to (as

needed) upgrade work, since everyone will be using these Fact Sheets for next work steps.

Step 7: Next, students are assigned to a new "intervention" team; this team is typically comprised of three class members who are different from the original research/writing team. Again, using a template, they choose their role; roles typically include (a) family member; (b) classroom teacher; and (c) behavioral consultant. If a larger team is needed (to balance class numbers), additional roles include (a) consultant special educator and (b) building administrator. The team then chooses from a variety of real-life "cases" with a focus on positive behavioral supports and interventions. These cases vary, drawn from (a) actual situations posed by students from their clinical field experiences; (b) databases from professional sources such as the *IrisCenter* (https://iris.peabody.vanderbilt.edu); (c) videos (e.g., from The Teaching Channel @ https://www.teachingchannel.org; and (d) other professional publications.

Step 8: Using the same framework of a (different) Google Doc template (see earlier steps for copying and sharing, in the Fact Sheet steps), each Intervention Team proceeds with (a) identifying the facts of the case; (b) discriminating questions pertinent to each role; (c) generating steps for proceeding with potential intervention(s); (d) projecting potential obstacles and solutions; and (e) designing ways to determine how the intervention's impacts could be measured. Since this is a much more complex process, they are encouraged to use small-group Discussion Forums in the LMS, Google Hangouts, the "chat" function within the Google Doc, or other online collaboration tools of their choice. (Note: They are encouraged to use campus-supported Google and LMS tools, making it easy for the instructor to shadow their work, supporting them in technical matters, process, and content.) As they work, they complete their template with an eye toward both (a) capturing their growing expertise, and (b) making their thinking "visible," since class peers will be accessing their work. And, again, there is an intentional feedback phase where team members are asked to give substantive feedback to each other, then fine-tune their final individual work. This phase ends with the group deciding on their own *Creative Commons License*, as in the "Fact Sheet" phase. The team submits their work for summative review and grading. (For detail on the process, please refer to the earlier steps comprising the work of building the Fact Sheets.)

Step 9: Using individual and collaborative learning products and experience, students are asked to engage in a summative Discussion Forum in the LMS with all class members. The prompt asks students to discriminate how their own case analysis both differed and paralleled the work of two other Intervention Teams. Follow-up interactions in the Forum ask students to identify concrete take-aways from the learning sequence and discussion, citing evidence from the curated work and discussions. As with other course Forums, participation and contribution are factored into the feedback/grading cycle. The instructor takes a guide-on-the side role in this Forum, with the intent of capitalizing on students own new expertise; as assistance is needed, the instructor provides it by sending email follow-ups to guide students' public work in the Forum.

Step 10: This final step provides individual accountability. Each student is asked to generate personal "pinky swears" (a.k.a. professional goals) that are personal next steps for extending professional expertise on the targeted concepts and practices in the learning sequence. And students are asked to identify how they plan to go about taking these next steps. This is published to the cumulative "digital portfolio" students compile throughout the course. (Optionally, students may elect to add other elements of the sequence to their portfolios.) As with other course expectations, this work is factored into the feedback/grading cycle.

Lessons Learned. There are several success ingredients relative to this collaborative assignment, guided by OSCQR standards. With variation in targeted learning outcomes and tools, this learning sequence is a fairly sustainable collaborative project that may potentially be replicated across diverse disciplines/courses. To summarize:

- First, this sequence factors in multiple self-, peer-, and instructor-guided assessment points, thus providing opportunities for multiple assessment points and measures. An embedded ingredient is using a feedback/grading structure empowering students to be rated for their own work, and not based solely on the final group project or product (despite the focus on curated collaborative work flow). (See *OSCQR* Standards 44-49 in the *Assessment & Feedback* domain.)
- Second, the experience requires the instructor to engage in both social and cognitive presence that is predominantly "coach on the side" rather than a "sage on the stage," capitalizing on peer interactions as knowledge is practiced and re-mixed. The instructor does not dominate the creation or collaboration process, but is deeply vested in shadowing and interceding with individuals and teams "on the side" to provide strategic assistance and feedback. The work flow fosters peer-to-peer collaboration. (See *OSCQR* Standards 38-43 in the *Interaction* domain; and Standard 47 in the *Assessment & Feedback* domain).
- A third practice in this learning sequence is the ongoing effort to ensure that the product or project has "street credibility"—i.e., assignment sustainability and authenticity. This means that it (or some part of it) can be used meaningfully for some purpose beyond just getting the work done (e.g., as the course proceeds, and perhaps even thinking beyond the "walls" of the course itself). As such, this sequence is based on iterative, student-driven work; it takes time, and may extend beyond the typical "modular" approach to many online courses. (See *OSCQR* Standards 29-31 in the *Content & Activities* domain.)
- Finally, as a "sidebar," this learning path has capitalized on using—and even generating—Open Education resources, to the extent possible. Notably, students begin to "walk the walk" by licensing their own curated work. (See *OSCQR* Standards 32-33 in the *Content & Activities* domain.)

Instructors do not dominate the creation or collaboration process, but are deeply vested in shadowing and interceding with individuals and teams "on the side" to provide strategic assistance and feedback.

Course Level: SUNY Empire State College's *Grief and Loss* Course (Intercultural Knowledge and Competence)

Context. The following case described the teaching of the course *Grief and Loss* at SUNY Empire State College—one of 64 campuses within the State University of New York system. The primary focus of SUNY Empire State is to provide the adult learner—the "new traditional student"—flexible paths by which college credentials can be attained. These learners are often working full-time and as such require flexibility of asynchronous, online environments. *Grief and Loss* perennially attracts high enrollments in multiple sections. The description for this advanced level, 4-credit course reads:

> This course is intended to provide students the opportunity to gain a greater knowledge of human grief and the multiple losses individuals experience during their lives. You will analyze human grief and loss through exploration of current theories of loss and the stages of human grief, the various situations in which grief or loss may arise, attending behaviors that can assist in the resolution of loss issues, as well as identifying when grief becomes maladaptive and requires professional assistance.

The course appeals to a range of students. Introductory icebreaker discussions reveal that students fall along two main trajectories: Those taking it for more personal reasons (hoping to better understand a recent loss), and/or those interested in the topic for professional reasons (to gain insight and skills into better assisting the populations with which they work). SUNY Empire State College offers learners a range of flexible learning modes, including independent study, residencies, traditional face-to-face classes, and a multitude of fully online programs and courses. *Grief and Loss* is offered in face-to-face, hybrid, and fully online modalities. One of the authors has taught this course both online and face-to-face with slight variations in both course content and pedagogy. Where the modalities mostly differ is with respect to actual class assignments. One of these assignments is the subject of brief analysis here.

Learning Outcome. This example demonstrates the *Intercultural Knowledge and Competence* learning outcome, as described in the LEAP framework. Assessing this outcome is didactic in nature and heavily relies on learner participation and willingness to critique and engage not only course material but also peer learners. Shor and Freire (1987) note use of learning activities such as case study critique encourages both learners and teachers to transform the learning space into a participatory, collaborative, lived lab space to which student perspective is central. This centrality is crucial for learners who aspire to be human service practitioners and for whom grief and loss might be an alienating and anxiety-producing topic with which they grapple. Doing so in a group setting leverages the power of the collective and, as Shor and Freire (1987) suggest, allows teachers to simultaneously draw from content expertise while disavowing a "right" to solely claim narrative structure, input, and class direction.

Regardless of modality, intercultural knowledge and competence is integral to stated course outcomes. To fully address the complexities of the topic, the course must assess a learner's ability to examine the multiple ways in which diversity of perspective and behaviors (including but not limited to gender, culture, religion, and faith traditions) impact processes appended to grief and loss. The course and module level outcomes specifically supporting this outcome read:

1. Examine and analyze the role of rituals, gender, cultural and faith traditions in dealing with grief and loss issues.
2. Compare theories of grief and loss in the context of multicultural perspectives.

In the face-to-face iteration, these outcomes are measured by in-class discussions, short reflection essays, and final projects which ask learners to incorporate considerations of diversity into analyses. The online modality demands different pedagogical considerations. As such, the course integrates case study discussion to measure and assess this outcome.

Implementation Steps. Utilizing case studies invites learners into a dialogue about potentially real-life scenarios with which they must collectively and individually grapple, interrogating the applied distance theory and practice. Both online and face-to-face modalities assess student understanding of and fluidity with intercultural knowledge via critical analysis of case studies. The face-to-face course was designed to reflect historically consistent student feedback noting preference to discuss one case at a time, as an entire class. Feedback from online students, though, notes preference for smaller, focused discussions. We can muse as to the reasons for this difference. Shor and Freire (1987) hypothesize that within the problem-posing participatory format, both teachers and students have to confront their own discomfort with relinquishing of power: Learners are accustomed to what Friere terms the banking model of education wherein they repeat memorized information back to "expert instructors" with no real critical engagement of said "facts."

The online modality demands different pedagogical considerations than the face-to-face iteration. For example, the course integrates a case study discussion to measure and assess Intercultural Knowledge and Competence.

The case study assignment asks learners to use prompts to analyze two of five provided scenarios which are written to cover a diverse range of both individuals and circumstances. The analysis should reference course material as well as relevant, original research. Students are also expected to use the same type of references in response to at least two peer posts. The prompts and scenarios are:

- Describe and explain what makes this scenario a prolonged loss. Use course content to support comments.
- Describe and defend if the person is grieving along a typical trajectory or if the grief requires intervention? Use course material to frame and defend your choices.
- We discuss attending behaviors in Module 3—what are some attending behaviors, questions, verbal or non-verbal skills or cues you would use when talking to this person and why?
- Research a few appropriate interventions, and cite sources to support rationale for interventions

Scenarios:

- Rita, age 52, loss of her job
- Jon, age 40, loss of a friend
- Liam, young boy, loss of a pet
- Paolo, son, caregiver for mother
- Ruby, 34, loss of partner

Lessons Learned. Although the learning activities and reading signal advanced level learning, *Grief and Loss* does not have prerequisites that would limit introductory-level students from taking the course. Moreover, the continuum from novice to expert exists not only in terms of academic parameters (ability to think critically, engage academic work and so forth), but also in terms of learner confidence within the online modality. Brooke (2006) notes that online teaching challenges teachers to design strategies to reach both novice and seasoned students. Using several smaller, group-based case studies allows this instructor to mediate those differences and encourage more confident learners to co-facilitate these discrete discussions. Students in the online version of this course report being able to keep better track of peer comments when discussion is limited in size and scope.

Student feedback for both modalities aligns with pedagogical suggestions in the OSCQR Rubric wherein good online design centralizes student interaction and collaboration challenging the passivity of instructor-centric assessments. The ability to create and contest social constructions is crucial to this course as learning outcomes (discussed prior) value interrogation of social construction of meaning, of "right and wrong," and of typical responses to grief and loss via socio-cultural lens.

Differential use of case study critique encourages a deeper dive into topics that are often uncomfortable for learners to discuss face-to-face. By elucidating the diverse ambiguity of socio-cultural determinants of identity, case studies complicate prima facie simplicity and invite analyses for which a "right" answer may neither be apparent nor possible. Smaller, more curated and facilitated case study discussions afford online learners an opportunity to develop and articulate academically rich insights into complex human challenges. As the OSCQR Rubric suggests, rote duplication of classroom practices within the virtual environment will likely not result in an engaging and efficacious online learning environment. Given the learning objectives of this course, differential evaluation contexts fetch similar—but modality specific—results. While students in both modalities have an opportunity to develop and articulate empathy, the discrete discussion spaces in the online course allow students to wrestle with more intimate engagement of provocative topics and keep better track of peer comments and scaffolded discussions.

Program Level: SUNY Delhi's *Orientation to Online* BSN (Written Communication)

Context. SUNY Delhi College of Technology has a unique niche in higher education, offering diverse technology-based programs including specialized certificates, associate degree programs, baccalaureate programs, and graduate degrees in nursing. The online RN to BSN program has been ranked in the top 20 nationwide (Best College Reviews, 2019), among the nation's elite for online baccalaureate education; rankings are based upon student engagement, faculty credentials and training, peer reputation, student services, and technology. The online RN to BSN program, launched in 2008, is committed to academic achievement, civic engagement, and experiential learning, all leading to professional advancement.

Learning Outcome. This example highlights best practices with regard to the Written Communication learning outcome at the program level. Graduates of the SUNY Delhi RN to BSN program will, in part, upon completion of the program:

- use theory, research findings and evidence to support nursing practice; and
- communicate and collaborate with multi-disciplinary teams.

Students graduating from Associate Degree programs have minimal exposure to scholarly writing. Therefore, the faculty believed that an introduction to Written Communication was imperative for incoming students. The course outcomes include:

- apply concepts of academic integrity in scholarship ; and
- integrate APA formatting to scholarly writing and scholarship.

Academic integrity with written communication has always been a concern for faculty in all academic programs. The online RN to BSN faculty recognize that students entering the online RN to BSN program have limited experience with scholarly writing assignments. Writing assignments utilizing the American Psychological Association (APA) standards are new, confusing, and intimidating to students entering the program. Although many believe "plagiarism is plagiarism" no matter what the circumstances, the Delhi RN to BSN faculty realized that it is imperative to provide ongoing and scaffolding instruction with resources to assist students to achieve the level of writing consistent with baccalaureate education and to maintain academic integrity.

As the OSCQR Rubric suggests, rote duplication of classroom practices within the virtual environment will likely not result in an engaging and efficacious online learning environment.

Implementation Steps. All RN to BSN students begin their program with a 3-credit course; UNIV 300 Orientation to Online BSN. This course, in part, is an introduction to academic integrity to include the online BSN librarian and online BSN writing tutor, offering tutorials and ZOOM video-conferencing sessions to assist students in navigating scholarly resources and writing in APA format with emphasis on citation and reference basics. In addition, there is an entire week that is devoted to discussing the principles of academic integrity, the use of Turnitin, how to interpret the results in Turnitin, and a Practice Turnitin Submission Exercise. The faculty provide detailed feedback on these exercises to students for ongoing improvement.

Lessons Learned. Faculty recognize that having one course in academic integrity and APA format does not transform students into APA scholars. The faculty have instituted multiple levels of instruction and evaluation methods for academic integrity in the program. Realizing the enormity of the process of students learning scholarly writing in APA format, a punitive approach to grading was not consistent with the philosophy of the program. The intended outcome for students is to learn APA format as a "work in progress" over the course of the program to achieve APA proficiency by graduation.

Maintaining academic integrity and achieving student proficiency in APA scholarly writing in the RN to BSN program, faculty institute processes related to grading rubrics, discussions, and assignments. The grading rubrics do not reflect more than 10% of the grade based on APA format for discussion questions and assignments. Faculty provide detailed feedback using a grading rubric and in-text tracking to demonstrate appropriate citations and references with the expectations of improvement in scholarly writing. "Turnitin Discussion Checker" portals are posted in each course for each discussion question. This Turnitin box is a resource for students to check their discussion posts (initial and responses) before posting them, to ensure they are properly cited. This is not mandatory or graded however, it is provided as a writing assistance tool that allows

students opportunities to improve writing. In addition, for each course, at least one writing assignment must be submitted to Turnitin by students. Students do have the opportunity to re-submit their assignments to Turnitin after reviewing the report. The emphasis on using Turnitin in these assignments is to provide a tool for students to self-assess, an opportunity to revise, and ultimately improve writing skills. The goal of assuring academic integrity in the RN to BSN program at SUNY Delhi is a scaffolding approach to provide students with multiple resources for success.

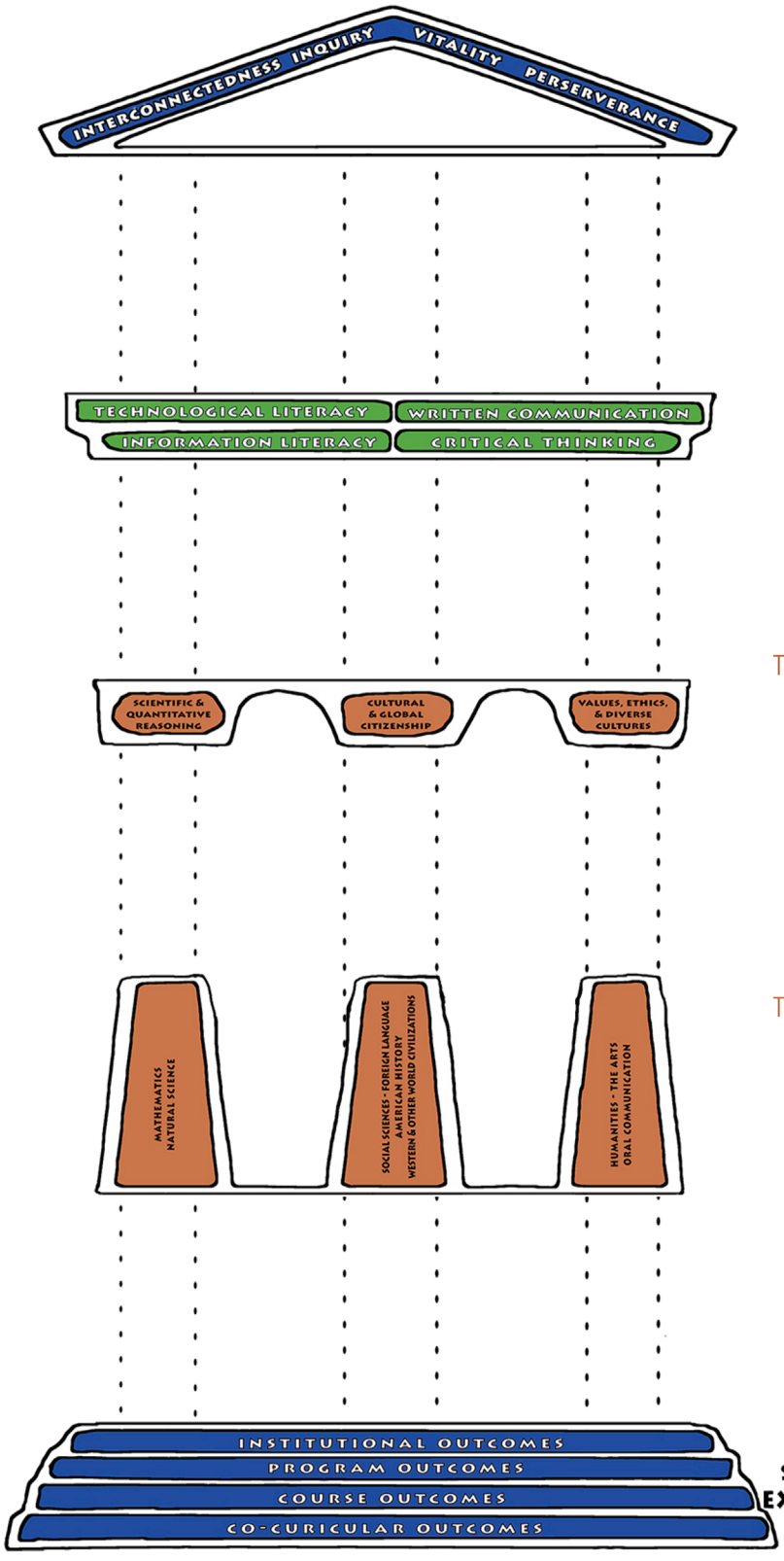
Institution Level: FLCC's Learning Framework (Inquiry and Analysis)

Context. Finger Lakes Community College (FLCC) made its first foray into online learning in the early 2000's. Since that time online enrollment has grown to roughly twenty-five percent of the FTE at the institution. FLCC offers 11 degrees and one certificate available completely online. FLCC continues to offer students a great online experience with supports ranging from 24/7 tutoring, 24/7 helpdesk support, a student concierge, student life opportunities for online learners and a lasting connection to the institution. With that being said, the core of our mission is student learning and ensuring that the students in our online environment receive the same high-quality of instruction as their face-to-face counterparts.

Learning Outcome. In 2015, FLCC adopted a learning framework that assists FLCC educators in creating and assessing academic programs and curriculum to preserve our unique learning experience while meeting the academic requirements set forth by SUNY, The Middle States Commission on Higher Education, and the New York State Department of Education. The Learning Framework represents FLCC's Values (Vitality, Inquiry, Perseverance and Interconnectedness). These values are what make the student experience unique at FLCC. SUNY and The Middle States Commission on Higher Education both require all students to learn certain skills upon completion of their FLCC experience. These skills are represented as the beams of the Learning Framework structure. The Columns, which support the roof, build on SUNY and Middle States requirements by adding general education competencies. The steps to the building connect the students' daily campus learning experiences to the Learning Framework. To better explain each aspect of the Learning Framework, please see Figure 1: Learning Framework Graphic Organizer.

As noted, one of FLCC's values (institutional learning outcomes) is inquiry. The goal of the value of inquiry is for students to leave FLCC with the ability to pose insightful and productive questions and to be able to generate, evaluate, integrate and cite compelling evidence to support reasonable conclusions. This definition of inquiry was distilled from the LEAP Inquiry and Analysis Value Rubric.

Learning Framework Graphic Organizer



The Roof
FLCC

Faculty created & defined, these four core values are what make FLCC unique. Our institutional learning outcomes (ILOs), passed through governance in Spring 15, comprise the roof of our educational model to symbolize how a student's experience of our curriculum, while gaining support from SUNY and Middle States, is sheltered under a shared philosophy.

The Beams
MIDDLE STATES & SUNY

Lending strength and cohesion to a student's experience of our curriculum, these are the skills SUNY and Middle States require us to help all students, regardless of program, develop during their college experience at FLCC. These outcomes were defined by faculty and passed through governance in Fall 15.

The Columns: Crown
MIDDLE STATES

Each student passes through our curriculum according to the unique requirements of their program, fulfilling the specific outcomes that satisfy Middle States and SUNY GenEd.

Defined by faculty and passed through governance in Fall 15, we crafted these outcomes so that we can use them to measure Middle States and SUNY requirements concurrently, thereby streamlining program assessment.

The Columns: Base
SUNY

SUNY Gen Ed enables students to acquire knowledge and skills deemed useful and important for all educated persons, regardless of their jobs or professions.

Required for all bachelor's degree candidates, every four-year SUNY campus has a Gen Ed curriculum designed to provide a solid academic foundation and make transfers within SUNY as smooth and seamless as possible.

The Steps
STUDENT EXPERIENCE

Students' experience at FLCC forms the foundation of our understanding of our Learning Framework. These outcomes are defined, scaffolded, and regularly revisited by program faculty, and encompass the specific knowledge, skills, and experiences deemed essential for students to develop before graduating.

Figure 1. Learning Framework Graphic Organizer

Implementation Steps. Our assessment process for general education courses begins with the creation of a General Education Assessment Plan (GEAP). As faculty complete the GEAP they identify how their course maps to FLCC values. For example, our Introduction to Sociology online course maps to the following values; inquiry and vitality. The value of inquiry is addressed with students learning the basics of sociological research methods, e.g., hypothesis development, data collection and quantitative reasoning. Following this they complete the curriculum mapping step where each learning outcome is mapped to a value and a cross-cutting skill. To continue with the Introduction to Sociology course, learning outcome one is: Students will demonstrate understanding of the methods sociologists use, including hypothesis development, operationalization, data collection, and quantitative and qualitative analysis. This learning outcome maps to the value of inquiry and the cross-cutting skill of critical thinking. Furthermore, the key assessment is identified that will ensure that course learning outcomes and institutional learning outcomes are met. Each course, regardless of modality is required to be assessed and all instructors are directed to require the key assessment of their students. In our online courses the collection of this key assessment happens through the Learning Management System and also our assessment platform. Materials for lecture and discussion that scaffold the assignment are provided to all Introduction to Sociology instructors. Each key assessment is stored in our artifact repository using keywords to identify the institutional learning outcomes. On a four-year rotation each institutional learning outcome is assessed across all courses that have mapped to that outcome to ensure our courses are meeting the institutional learning outcomes. During this process a rubric is created to specifically address each institutional learning outcome. An example of a 200-level written communication proficiency rubric is below.

200-LEVEL WRITTEN COMMUNICATION PROFICIENCY RUBRIC

	1 Not Proficient (Benchmark)	2 Approaching Proficiency (Milestone)	3 Meeting Proficiency (Milestone)	4 Exceeding Proficiency (Capstone)
RC RHETORICAL CONSIDERATION	Text minimally expresses the writer's purpose and/or gives little attention to audience. Readers are confused and/or insulted and are not persuaded to consider the text's ideas. Expectations of the audience are not met.	Demonstrates a developing awareness of context, audience, purpose and to the assigned task(s). Work begins to show awareness of audience's perceptions, assumptions, and expectations.	Demonstrates adequate consideration of context, audience, and purpose and a clear focus on the assigned task. Work shows awareness of audience's perceptions, assumptions, and expectations.	Demonstrates a thorough and/or innovative understanding of context, audience, and purpose that is responsive to the task and/or responsive to the professional standards of the discipline. Work exceeds audience expectations.
CTC CRITICAL THINKING, READING, & WRITING: *Content Development & Organization*	Uses content to develop ideas that is inappropriate, irrelevant, and/or inaccurate. Arrangement of paragraphs, ideas within paragraphs, and transitions between paragraphs is confusing and/or lacks coherence. The disorganization makes it difficult for a reader to understand the text's ideas.	Attempts to use appropriate, relevant, and compelling content to explore and develop ideas within a generally clear arrangement of paragraphs, use of transitions between paragraphs, and organization of ideas within paragraphs. The organizational logic assists a reader's understanding of the text's ideas.	Uses appropriate, relevant, and compelling content to explore and develop ideas within a logical arrangement of paragraphs and/or sections, transitions between paragraphs, and organization of ideas within paragraphs. The organizational logic enhances a reader's understanding of the text's ideas.	Uses appropriate, relevant, and compelling content to explore and develop ideas within a logical, strategic, and relevant arrangement of paragraphs, transitions, and organization of ideas. The organizational logic enhances comprehension and conveys the writer's understanding and authority.
CTS CRITICAL THINKING... *Sources, Evidence & Reasoning*	Demonstrates minimal attempts to use sources, evidence is vague, and/or reasoning is flawed. Sources and evidence establish little authority in the writing.	Demonstrates an attempt to use credible and or relevant sources to support generally clear reasoning as appropriate to the discipline and genre of writing.	Demonstrates relevant, accurate, and strategic use of credible sources to support sound reasoning as appropriate to the discipline and genre of writing.	Demonstrates relevant, accurate, and strategic use of credible sources to support and purposefully extend sound reasoning as appropriate to the discipline and genre of writing.
CGD CONVENTIONS: *Genre & Discipline*	Demonstrates inconsistent attention to conventions particular to a specific discipline and/or writing task(s) including content, voice, presentation, formatting and stylistic choices.	Attempts to use conventions particular to a specific discipline and/or writing task(s) including content, voice, presentation, formatting and stylistic choices.	Demonstrates consistent use of important conventions particular to a specific discipline and/or writing task(s) including content, voice, presentation, formatting and stylistic choices.	Demonstrates exceptional execution of a wide range of conventions particular to a specific discipline and/or writing task(s) including content, voice, presentation, formatting and stylistic choices.
CR CONVENTIONS: *Readability*	Text contains numerous errors in spelling, grammar, punctuation, or sentence structure that interfere with comprehension.	Text contains some errors in spelling, grammar, punctuation, or sentence structure. These errors interfere with comprehension at times.	Text contains few errors in spelling, grammar, punctuation, or sentence structure. Any errors do not interfere with comprehension.	Employs language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.

Lessons Learned. At FLCC, curriculum and assessment follow the same path, regardless of modality. If we do not believe a course can be assessed to meet our standards in a certain modality we do not offer the course in that modality. If we were to find that a specific online course did not meet our standards of assessment and student learning, we would discontinue offering the course in the online format. The alignment between our face-to-face assessment process and our online assessment process has proven to be more accessible to our faculty and easier for our faculty to navigate. This approach has not diminished our ability to offer a variety of courses and programs in the online environment. What is most important is that all students, regardless of how they choose to pursue their education, receive the same high-quality education at Finger Lakes Community College.

What is most important is that all students, regardless of how they choose to pursue their education, receive the same high-quality education.

In Sum

As online enrollments continue to increase, it is becoming critical for colleges and universities to ensure that online students are achieving desired learning outcomes. Using the best practices described within the OSCQR rubric, this Occasional Paper provided a framework for assessing student learning outcomes in the online modality. Four examples from SUNY campuses, at the course, program, and institutional levels were shared to highlight a few approaches to consider. Students enrolled in online courses and programs should have the same learning opportunities as students in the face-to-face versions, although the strategies, assignments, and technologies used may differ.

References

Alessio, H. M., Malay, N., Maurer, K., Bailer, A. J., & Rubin, B. (2017). Examining the effect of proctoring on online test scores. *Online Learning*, *21*(1), 146-161.

Allen, I. E., & Seaman, J. (2016). *Online report card: Tracking online education in the United States*. Babson Survey Research Group. Retrieved from https://onlinelearningconsortium.org/read/online-report-card-tracking-online-education-united-states-2015

An, H., Shin, S., & Lim, K. (2009). The effects of different instructor facilitation approaches on students' interactions during asynchronous online discussions. *Computers & Education*, *53*, 749-760.

Berkey, D., & Halfond, J. (2015). Cheating, student authentication and proctoring in online programs. *New England Journal of Higher Education, July 20*. Retrieved from https://nebhe.org/journal/cheating-student-authentication-and-proctoring-in-online-programs

Bernard, R. M., Borokhovski, E., Schmid, R. F., Tamim, R. M., & Abrami, P. C. (2014). A meta-analysis of blended learning and technology use in higher education: From the general to the applied. *Journal of Computing in Higher Education*, *26*(1), 87-122.

Best College Reviews. (2019). *The 25 best RN to BSN programs online for 2019*. Retrieved from https://www.bestcollegereviews.org/top/rn-to-bsn-online

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals*. Handbook I: Cognitive domain. New York: David McKay Company.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.) (1999). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press. Retrieved from https://www.desu.edu/sites/flagship/files/document/16/how_people_learn_book.pdf

Brooke, S. L. (2006). Using the case method to teach online classes: Promoting socratic dialogue and critical thinking skills. *International Journal of Teaching and Learning in Higher Education*, *18*(2), 142-149. Retrieved January 3, 2019, from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.465.5767&rep=rep1&type=pdf

Chickering, A.W., & Gamson, Z.F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, *39*(7), 3-6.

Corrigan-Gibbs, H., Gupta, N., Northcutt, C., Cutrell, E., & Thies, W. (2015). Deterring cheating in online environments. *ACM Transactions on Computer-Human Interaction*, *22*(6), Article 28. Retrieved from: DOI: http://dx.doi.org/10.1145/2810239

Cukusic, M., Garaca, Z., & Jadric, M. (2014). Online self-assessment and students' success in higher education institutions. *Computers & Education*, *72*, 100-109.

Du, J., & Xu, J. (2010). The quality of online discussion reported by graduate students. *The Quarterly Review of Distance Education*, *11*, 13-24.

Elikai, F., & Schuhmann, P. W. (2010). An examination of the impact of grading policies on students' achievement. *Issues in Accounting Education*, *25*(4), 677-693.

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, *11*(2), 1-14.

Garrison, D. R., & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: Interaction is not enough. *The American Journal of Distance Education*, *19*, 133-148.

Gaytan, J., & McEwen, B. C. (2007). Effective online instructional and assessment strategies. *The American Journal of Distance Education*, *21*(3), 117-132.

Hall, R. A. (2015). Critical thinking in online discussion boards: Transforming an anomaly. *Delta Kappa Gamma Bulletin*, *81*(3), 21-43.

Hannay, M., & Newvine, T. (2006). Perceptions of distance learning: A comparison of online and traditional learning. *MERLOT Journal of Online Learning and Teaching*, *2*(1), 1-11.

Hulleman, C., Schrager, S., Bodmann, S., & Harackiewicz, J. (2010). A meta-analytic review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels? *Psychological Bulletin*, *136*(3), 422.

Jaschik, S., & Lederman, D. (2018a). 2018 survey of college and university chief academic officers: A study by Inside Higher Ed and Gallup. *Inside Higher Ed*.

Jaschik, S., & Lederman, D. (2018b). 2018 survey of faculty attitudes on technology: A study by Inside Higher Ed and Gallup. *Inside Higher Ed*. Retrieved from https://www.insidehighered.com/booklet/2018-survey-faculty-attitudes-technology.

Johnson, S. D., & Aragon, S. R. (2003). An instructional strategy framework for online learning environments. *New Directions for Adult and Continuing Education*, *2003*(100), 31-43.

Khare, A., & Lam, H. (2008). Assessing student achievement and progress with online examinations: some pedagogical and technical issues. *International Journal on E-Learning*, *7*(3), 383-402.

King, C. G., Guyette, R. W., & Piotrowski, C. (2009). Online exams and cheating: An empirical analysis of business students' views. *The Journal of Educators Online*, *6*(1), 1-11.

Knowles, M. (1973) *The adult learner: A neglected species*. Houston, TX, Gulf Publishing. Retrieved from http://files.eric.ed.gov/fulltext/ED084368.pdf

Ladyshewsky, R. K. (2015). Post-graduate student performance in 'supervised in-class' versus 'unsupervised online' multiple choice tests: Implications for cheating and test security. *Assessment and Evaluation in Higher Education*, *40*(7), 883-897.

Lee, J., & L. Martin. (2017). Investigating students' perceptions of motivating factors of online class discussions. *The International Review of Research in Open and Distributed Learning*, *18*(5), 149-172.

Mabrito, M., & Medley, R. (2008). Why Professor Johnny can't read: Understanding the net generation's texts. *Innovate: Journal of Online Education*, *4*(6).

Magda, A. J., & Aslanian, C. B. (2018). *Online college students 2018: Comprehensive data on demands and preferences*. The Learning House, Inc. Retreived from https://www.learninghouse.com/knowledge-center/research-reports/ocs2018.

Mazzolini, M., & Maddison, S. (2007). When to jump in: The role of the instructor in online discussion forums. *Computers & Education*, *49*, 193-213

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of onlinelearning studies*. US Department of Education. Retrieved from https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf.

Myyry, L., & T. Joutsenvirta. (2015). Open-book, open-web online examinations: Developing examination practices to support university students' learning and self-efficacy. *Active Learning in Higher Education*, *16*(2), 119-132.

O'Reilly, M., & Morgan, C. (1999). Online assessment: Creating communities and opportunities. In S. Brown, P. Race & J. Bull (eds), *Computer assisted assessment in higher education* (pp. 149-161). London, UK: Kogan Page.

Palloff, R. M., & Pratt, K. (2013). *Lessons from the virtual classroom: The realities of online teaching*. (2nd ed). San Francisco, CA: Jossey-Bass.

Patterson Lorenzetti, J. (2013). What we can learn from students who leave online courses. *Recruitment & Retention in Higher Education*, *27*(7), 8-7.

QM. (n.d.). *Course design rubric standards*. Quality Matters. Retrieved from https://www.qualitymatters.org/qa-resources/rubric-standards/higher-ed-rubric.

Schacter, D. L., & Szpunar, K. K. (2015). Enhancing attention and memory during video-recorded lectures. *Scholarship of Teaching and Learning in Psychology*, *1*(1), 60-71.

Seaman, J. E., Allen, I. E., & Seaman, J. (2018). *Grade increase: tracking distance education in the United States*. Babson Survey Research Group. Retrieved from http://www.onlinelearningsurvey.com/highered.html.

Schaffhauser, D. (2016). How data from your LMS can impact student success. *Distance Education Report*, *20*(1), 4.

Shor, I., & Freire, P. (1987). What is the "dialogical method" of teaching? *Journal of Education*, *169*(3), 11-31. https://doi.org/10.1177/002205748716900303

Swan, K. (2005). A constructivist model for thinking about learning online. In J. Bourne & J. C. Moore (Eds), *Elements of quality online education: Engaging communities*. Needham, MA: Sloan-C. Retrieved from https://pdfs.semanticscholar.org/30a9/85a3d9e1cb72c7cd6eadddc1e959b30c76d4.pdf.

Szpunar, K. K., Khan, N., & Schacter, D. L. (2013). Interpolated memory tests reduce mind wandering and improve learning of online lectures. *Proceedings of the National Academy of Sciences*, *110*(16), 6313-6317.

Watson, G., & Sottile, J. (2010). Cheating in the digital age: Do students cheat more in online courses? *Online Journal of Distance Learning Administration*, *13*(1).

WICHE Cooperative for Educational Technologies (2010). *No significant difference*. Western Interstate Commission for Higher Education. Retrieved from http://www.nosignificantdifference.org.

Wolf, K. K., & Goodwin, L. L. (2007). Evaluating and enhancing outcomes assessment quality in higher education programs. *Metropolitan Universities*, *18*(2), 42-56.

Yates, R. W., & Beaudrie, B. (2009). The impact of online assessment on grades in community college distance education mathematics courses. *American Journal of Distance Education*, *23*, 62-70.

Zimmerman, W. A., & Kulikowich, J. M. (2016). Online learning self-efficacy in students with and without online learning experience. *American Journal of Distance Education, 30*(3), 180-191.

About the Authors

Dr. Kristyn Muller is the Impact Analyst for Open SUNY within SUNY System Administration. In this role, she evaluates the effectiveness of Open SUNY's services, analyzes how online learning impacts SUNY's overall goals, and develops ways to share data to inform the continuous improvement of SUNY's online learning practices. Kristyn serves on the SUNY Council on Assessment and the Board of Directors for the Assessment Network of New York (ANNY). Kristyn was previously the Assistant Director of Residential Life for University Apartments at the University at Albany where she was very involved in assessment initiatives on campus. She served as the part-time Assessment & Data Analyst for the Division of Student Affairs and the Co-Chair of the Residential Life Assessment Committee. She was also a member of the Council on Academic Assessment and the General Education Assessment Committee.

Dr. Susan Deane is the Dean and Professor of the School of Nursing at the State University of New York (SUNY) at Delhi. She has been teaching online in the BSN and MSN programs since 2010. In 2017, she was appointed Program Director of the online RN-BSN program at SUNY Delhi after serving two years as Program Director of Assessment. Dr. Deane has developed expertise in best practices for online learning, course and program development, and facilitation of online learning which has been her passion for many years. She holds a post-master's certificate in Healthcare Informatics and completed her dissertation investigating the use of Virtual Clinical Experiences. Dr. Deane was awarded the 2014 SUNY Chancellor's Award for Scholarly and Creative Activities. She has presented at many state and national conferences on various topics related to virtual simulation, the use of technology in nursing education, online course development, and assessment.

Dr. Michele Forte is an Associate Professor at SUNY Empire State College in the Department of Human Services. She is currently reassigned to the State University of New York (SUNY) System Administration as Project Manager for student supports initiatives in online and hybrid education. Dr. Forte's interests related to this position include holistic student supports and leveraging faculty expertise to inform student success as well as curricular innovation in distance education and advising. Dr. Forte is also a licensed, community-based mental health clinician with focus on grief/loss/bereavement as associated with changing identities appended to chronic / sudden health diagnoses.

Dr. Kathleen Gradel is a Professor in Fredonia's College of Education, where – since 2002 – she has taught online, blended, and face-to-face coursework from first-year to Master's levels. She has developed and taught courses and facilitated full programs with preservice and inservice educators for nearly 40 years, in multiple baccalaureate through doctoral preparation programs. Kathleen frequently works with higher ed faculty and support staff, focusing on technology and OER to enhance campus-based and online learning. At Fredonia, she has co-developed and co-taught the campus' required (online) course for novice online instructors, as well as building its on-demand "microcourse" preparation sequence. Over the past four years, she has taught in and facilitated Fredonia's first-year initiative, working closely with both EDP and FOP as well as cross-departmental faculty and professional staff. She works regularly with SUNY Center for Professional Development (CPD) as a professional development facilitator, where she routinely hosts online courses for faculty statewide, including a popular course on grantwriting. She has achieved the SUNY Chancellor's Award for Excellence in Teaching, in recognition of instructional innovation. And – in 2016 – earned the SUNY FACT2 Award for Excellence in Instruction/State-Operated and Statutory Campuses, for innovation in technology-enhanced instruction.

Ryan McCabe is the Associate Vice President of Academic Technology and High Impact Practices at Finger Lakes Community College. Ryan has been at FLCC for eleven years. Before coming to FLCC, Ryan worked in the Online Learning Department at SUNY Canton. His areas of responsibility include online learning, early alerts, academic technology, applied learning, and other high impact practices.

Alexandra M. Pickett gives leadership and direction to Open SUNY Online Teaching. She is the former the director of the Open SUNY Center for Online Teaching Excellence, and the former associate director of the award-winning SUNY Learning Network (SLN). Working with the 64 SUNY institutions, she has directly supported or coordinated the development of more than 6,000 online faculty and their web-delivered courses. She also teaches Introduction to Online Teaching in the online CDIT master's program at the University at Albany. She was the principle investigator on the SUNY/SLN NGLC grant-funded project, an elected member of the National University Technology Network advisory board, and on the steering committees of the OLC Accelerate and OLC Innovate conferences. She is the co-recipient of a number of awards recognizing excellence in online faculty development, distance learning innovation, online effective practices, and institution-wide programming and systematic progress.

Rob Piorkowski is the Assistant Director of Online Teaching for Open SUNY. He has extensive experience in online faculty development, instructional design, and online teaching. He is the principal designer of Open SUNY's Instructional Designer Certificate Program, for which he drew input from SUNY's instructional designer community. Currently, he is focusing on the implementation of online teaching supports, services and resources for continuous improvement in online course quality (OSCQR) and online teaching skills (Faculty Supports). Rob was an online adjunct instructor for Cayuga Community College, where he taught French online for 16 years.

Kim A. Scalzo is the Executive Director of Open SUNY, SUNY's online learning initiative, which provides a range of services to SUNY campuses in support of their online learning initiatives. She is also Interim Executive Director for Academic Technologies and Information Services with oversight for SUNY's Center for Professional Development and Academic Innovation initiatives. For the past two years she served as a lead facilitator for Communities of Practice across SUNY to drive innovation and build campus capabilities in Student Success and New Models for Enhancing Enrollment and Completion. Kim was previously Director of the SUNY Center for Professional Development at SUNY and Director of Academic Outreach Programs and Professional and Distance Education at Rensselaer Polytechnic Institute. She is a co-founder of the IACEE (International Association for Continuing Engineering Education) Quality Program for continuing education organizations and a co-founder of the Open SUNY Institutional Readiness program to implement quality standards for distance learning organizations. Kim serves as Past-President for the IACEE and has previously served as Chair and Director of the Executive Board for the Continuing Professional Development Division of the American Society for Engineering Education (ASEE-CPD) and as a member of the National University Telecommunications Network (NUTN) Advisory Board.

Rachel Sullivan is a Graduate Assistant at Open SUNY. She is currently a PhD candidate in Sociology at the University at Albany, SUNY, where she also received her MS in Educational Policy & Leadership. Rachel's research & teaching interests include the sociology of education, stratification, organizations, & qualitative research methods.

About NILOA

- The National Institute for Learning Outcomes Assessment (NILOA) was established in December 2008.
- NILOA is co-located at the University of Illinois and Indiana University.
- The NILOA website contains free assessment resources and can be found at http://www.learningoutcomesassessment.org.
- The NILOA research team has scanned institutional websites, surveyed chief academic officers, and commissioned a series of occasional papers.
- NILOA's Founding Director, George Kuh, founded the National Survey for Student Engagement (NSSE).
- The other co-principal investigator for NILOA, Stanley Ikenberry, was president of the University of Illinois from 1979 to 1995 and of the American Council of Education from 1996 to 2001.

NILOA Staff

Natasha Jankowski, *Director*

Gianina Baker, *Assistant Director*

Katie Schultz, *Project Manager*

Erick Montenegro, *Communications Coordinator and Research Analyst*

Verna F. Orr, *Post-Doctoral Researcher*

NILOA Senior Scholars

Peter Ewell, *Senior Scholar*

Pat Hutchings, *Senior Scholar*

Jillian Kinzie, *Senior Scholar*

George Kuh, *Founding Director and Senior Scholar*

Paul Lingenfelter, *Senior Scholar*

David Marshall, *Senior Scholar*

Nan Travers, *Senior Scholar*

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For more information, please contact:

National Institute for Learning Outcomes Assessment (NILOA)
University of Illinois at Urbana-Champaign
51 Gerty Drive
Suite 196, CRC, MC-672
Champaign, IL 61820

learningoutcomesassessment.org
niloa@education.illinois.edu
Phone: 217.244.2155