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Conference Proceedings

2017 Assessment Conference

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FORWARD

Drexel University is always searching for new initiatives, novel outreaches and sustainable projects that serve to enhance the professional growth and development opportunities of our conference participants. Once such idea offered by one of our faculty colleagues and implemented this year is the development of a virtual conference book, or proceedings of the conference, comprised of chapters submitted by session presenters that are refereed by a conference publication panel.

This virtual, *Proceedings of the Conference* will be uploaded to the Drexel Assessment Conference website for worldwide access. Each chapter submission is an expansion of a participant's conference presentation, since every effective presentation must represent a solid body of work, which cannot be fully articulated and discussed in a standard presentation delivery format. Drexel University views this as an opportunity for attendees to enhance their CV, stretch themselves professionally, and augment their professional network.

The procedures and guidelines required of participants included:

GENERAL GUIDELINES:

- Acceptance of your session proposal is required before any chapter submission material is reviewed.
- The proposal review process will be concluded by mid-September.
- The deadline for final submission of a proposed chapter is August 31, 2017.
- The list of chapter authors, their affiliation, and chapter title will be provided within the final document.
- There will be an 8-chapter limit placed on the publication.

REQUIREMENTS FOR SUBMISSION:

Submitted chapters must reflect the following criteria:

- Use APA referencing styles
- Limit chapters to no more than 5,000 words including references
- If you choose to include a table, chart, graph or illustration, it must be camera-ready to guarantee publication
- Avoid jargon – your writing should be clear and informative
- The work must be original thinking by the author presented for the first time for publication

INTRODUCTION

This online conference book is the inaugural compilation of chapters submitted by conference presenters. The Assessment Conference has become a highlight of assessment and evaluation throughout the nation and abroad. Presenters in this process underwent a rigorous vetting for this publication, and as the

conference continues to expand, we look forward to an increasing number of presenter chapters in the future. Following are short synopses of the four chapters selected for inclusion in this significant work.

The Dalelio, Barker and Selby chapter entitled ***Listening for Learning: Using Focus Groups to Assess Students' Knowledge*** presents a model for using focus groups to evaluate achievement of higher level learning outcomes through a case study approach. They suggest that traditional subjective bias involved in qualitative methods of evaluation can be reduced by using a quantitative coding schema that they describe within a research paradigm. Ozcan-Deniz whose chapter title is ***Best Practices in Assessment: A Story of Online Course Design and Evaluation,*** states that research on online course assessment methods is needed as their use is burgeoning. The chapter presents a summary of the basics of online course design and assessment, together with best practices for online assessment. The Buzzetto-Hollywood chapter entitled ***Establishing an Institutional Commitment to the Digital and Information Literacy of Under-Served College Students*** points out that despite the ubiquitous prevalence of technology in their lives, most students entering higher education today have an overestimated sense of their computer skills. The chapter reveals that there is a disconnect between reality and expectation due to a general acceptance among most higher education instructors that students come to college with the competencies necessary for college work. Student courses of study therefore do not require computer literacy and applications courses although research addressing this phenomenon have shown major skill deficiencies among students' digital literacy skills necessary for higher education success. Blumberg's chapter entitled ***Educational Development and Assessment: Simultaneously Promoting Conversations that Matter*** focuses upon learning-centered teaching where the responsibility for learning shifts to the students and the teacher becomes more of a facilitator and less of a disseminator of information. The author shares how the role of a university-based instructional mentor can not only help individual faculty improve teaching, but can affect programs, departments and even the university in terms of strategic plans and accreditation efforts. Blumberg emphasizes the effect of these efforts upon student learning.

A major theme that emerged from a University Advisory Committee (UAC) that met for two years and whose conclusions will be presented by the UAC Co-Chair who is Chair of this Assessment Conference, was recognizing the pervasive disconnect between student and faculty expectations. This phenomenon is touched upon in the Buzzetto-Hollywood chapter in terms of digital and information literacy skills. Often students do not even think about what they expect to glean from a course. Few professors employ a diagnostic approach designed to determine not only student expectations, but also if they have the prerequisite understanding to build upon the course content. Early conversations within a course is recommended with the goals of…

i. Identifying and addressing expectations disconnects
ii. Not assuming that students learned all of the course prerequisites in earlier courses.

There is little question that assessment/teaching and learning conferences such as Drexel University's Annual Conference on Assessment provide an effective platform for creative discourse and sharing. We trust this inaugural effort will be perceived as evidence in support of that statement.

By Fredricka Reisman, Ph.D
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ABOUT THE AUTHORS

Dr. Fredericka Reisman is founding Director of Drexel University's School of Education. She has served as an Assistant Provost for Assessment and Evaluation, and is a member of the University Advisory Committee [UAC] on the Evaluation of Teaching and Learning. Her research focuses on the diagnostic teaching of mathematics, especially at the elementary and middle school grades and most recently has designed and implemented the Creativity and Innovation program.

Stephen DiPietro serves as Vice Provost of University Assessment, Accreditation & Institutional Effectiveness at Drexel University in Philadelphia, PA. In this position, he has oversight of all university assessment activities, the annual conference, the program alignment and review program as well as all accreditation and compliance issues. Prior to assuming his duties at Drexel, Steve served as a Senior Manager of the College Board Middle States Regional Office for many years in the area of SAT/PSAT testing and administration. His most recent publication was "Predicting Grades from an English language assessment: The importance of Peeling the Onion" published in the Journal of Language Testing.

LISTENING FOR LEARNING: USING FOCUS GROUPS TO ASSESS STUDENTS' KNOWLEDGE

By

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ABSTRACT

This chapter makes an argument for using qualitative methods for assessing students' knowledge at the program level in order to observe their abilities and application of knowledge as demonstrated in an actual learning environment. A model for using focus groups to evaluate achievement of higher level learning outcomes is presented, drawing on a case study based on assessment of students in the communication major at Coastal Carolina University. Specifically, six focus groups with 8-12 students in each were conducted. Guided discussion, following presentations of an electronic and a print-based message led to a high level of student engagement. Case study findings showed that although students demonstrated proficiency in understanding basic communication principles and immediate implications of each message, students were less able to demonstrate higher-level critical evaluation by identifying the messages' longer-term societal implications. This model provides an opportunity for assessors in different academic contexts to identify specific weaknesses in their students' learning processes and to adjust curricula accordingly.

LISTENING FOR LEARNING: USING FOCUS GROUPS TO ASSESS STUDENTS' KNOWLEDGE

Traditionally, colleges and universities have relied almost exclusively on quantitative research methods when assessing the effectiveness of programs and curricula to achieve student learning. However, those in charge of assessing student learning may wish to use qualitative approaches to be able to observe how

their students actually apply their learning in a classroom environment. This chapter draws upon experiences and lessons learned from an innovative, collaborative, and discussion-based approach to assess mid-level program learning outcomes and proposes a model that may be adapted and applied to different contexts.

Specifically, the authors present a case study that describes the approach they used to assess communication students' ability to evaluate communication processes and messages, think critically about human interaction, and analyze principles of communication. In designing this assessment project, the assessors introduced not only an innovative research procedure and protocol, but also a mindset advocated by Angelo (1999). Angelo suggests that those planning and executing assessment projects should focus on effective ways to capture student learning rather than merely relying on the default methods and measures that are established, most frequently used, and most easily accessible.

USING QUALITATIVE RESEARCH METHODS IN ASSESSMENT

In the field of communication, specifically, there has traditionally been a strong focus on assessing foundational communication courses with tests, surveys, and rubrics (Dunbar, Brooks, & Kubicka-Miller, 2006; Morreale, Worley & Hugenberg, 2010; Rubin, 1984). The preference for quantitative assessment is not unique to the field of communication, but reflects a broader view of institutional research in higher education across disciplines (Harper & Kuh, 2007). This is problematic, as higher-order learning processes that evidence themselves in practice, such as thinking critically, analyzing key concepts, evaluating information, inquiring about assumptions, and applying knowledge gained in one area to another context have been found particularly challenging to measure through formative assessment programs (Rumunski & Hanks, 1995; Spitzberg, 2011; Torrance, 2012), yet fostering such abilities in students is typically the ultimate goal of higher education. In practice, it is through learning-oriented interactions, such as collaboration, group discussion, and self-expression, that higher-order thinking tends to develop in students; therefore, it is best demonstrated—and observed—in specific learning contexts (Torrance, 2012). It follows that assessment of higher-order student learning outcomes must also be situated in actual learning environments. In order to do so, qualitative research methods are better suited than quantitative ones.

Qualitative research approaches provide detailed descriptions of socially constructed realities and meaning assigned to particular experiences (Creswell, 2007), which makes them appropriate for studying processes that play out in specific settings (Miles & Huberman, 1994). In seeking to capture insiders' perspectives, qualitative researchers often collect large amounts of data, which are reduced while analyzed (Miles & Huberman, 1994). Qualitative data analysis involves linking related data and grouping them into categories in one fashion or the other. While the specific procedure used may dictate whether thematic or topical categories are partially predetermined or emerge in the analysis process, when coding the data, a qualitative researcher keeps these categories mutable to allow for an unrestricted and inductive analytical process (Lindlof & Taylor, 2002). Creswell (2007) described this process as follows, "Using the constant comparative approach, the researcher attempts to 'saturate' the categories—to look for instances that represent the category and to continue looking… until the new information obtained does not further provide insight into the category" (p. 160).

While qualitative research methods such as interviews or participant observation may effectively be used in assessment as well, focus group research emerges from the assessment literature as the preferred method for several reasons. First, focus groups are beneficial for both research and assessment purposes because they allow the group process to generate novel ideas and interpretations that can be traced over the course of interactions (Rakow, 2011). Second, focus groups are effective for examining the behaviors of a group. For example, they have been used in previous assessment endeavors to evaluate documents and to describe classroom interaction (Canary & MacGregor, 2008; Eubanks & Abbot, 2003). Third, focus groups allow the group facilitator to focus or concentrate on predetermined topics and issues and to guide the participants along a specific pathway (Eubanks & Abbot, 2003). Even when a highly structured protocol is used to control the direction of the discussion, deviation onto unrelated topics should be expected, and although this may seem like a drawback, the natural flow of a group conversation allows the facilitator to bring the group back on track. Fourth, the nature of focus groups allow topics to emerge during the course of the group discussion, as participants share ideas, agree, and disagree, if this is an important aspect of the assessment design. Fifth, the focus group facilitator is able to clarify, reword questions, and ask follow-up questions to obtain more elaborate responses. Haley and Jackson (1995) argue that, "evaluation is most accurate and equitable when it entails human judgment and dialogue so that the person can ask for clarification of questions and explain his or her answer" (p. 30).

Despite the clear advantages of qualitative assessment approaches in general, and focus group models in particular, many universities' assessment policies require aggregated, quantitative data to be produced in the end. Unfortunately, this perpetuates the preference for and common practice of relying on quantitative research methods in assessment (Harper & Kuh, 2007). In seeking to combine quantitative and qualitative approaches, one particular model emerges from the literature: the atomistic—holistic approach to assessment (Goulden, 1992).

The atomistic approach to assessment includes evaluating specific components, whereas the holistic approach examines a program as a whole (Goulden, 1992). The atomistic approach may be used to identify small and observable parts to create a clear and easily determined quantifiable standard. Atomistic instruments are usually simple grids or charts that identify the frequency of specific responses. Holistic instruments are qualitative in their design and may include a list of possible specific responses that can be used as a criteria inventory. While atomistic assessment protocols generate specific scores, holistic protocols generate overall findings, interpretations, and conclusions. The relationship between the two is not always clear and holistic assessment results may not equal the sum of the analytic parts assessed using atomistic protocols. Further, student response behavior (verbal and nonverbal behaviors that suggest interest, paying attention, and a desire to respond) may influence assessment of student work and response (Mottet & Beebe, 2006). Thus, combining the atomistic and holistic approach in a manner that generates meaningful and representative assessment results can be a challenge.

In academic research, qualitative methods are typically used to explore under-researched phenomena to initiate theory-construction or to re-evaluate the conceptualization of phenomena about which quantitative studies are no longer able to generate new and meaningful findings. Similarly, qualitative assessment approaches may be employed to supplement quantitative ones either at the front end or at the tail end of an assessment process. Qualitative researchers often claim that their analyses are free of quantitative elements; however, Miles and Huberman (1994) argue that the validity of the coding protocol requires attention to numbers. As they stated, "when we identify a theme or pattern, we're

isolating something that (a) happens a number of times and (b) consistently happens in a specific way… When we say that something is 'important' or 'significant' or 'recurrent,' we have come to that estimate, in part by making counts, comparisons, and weights" (p. 253).

A FOCUS GROUP MODEL FOR PROGRAM LEARNING OUTCOMES ASSESSMENT

With this understanding of the value of qualitative research for assessment purposes and the need for quantitative data in assessment reporting, the authors designed a model as part of the annual assessment initiatives at Coastal Carolina University in the fall of 2014 and the spring of 2015. The student learning outcomes for the communication major had recently been revised to reflect changes in the major, including the introduction of four concentrations. This particular assessment design was one of three that the authors developed for measuring achieved student learning as compared to projected and desired outcomes. As with all assessments, it represented a critical piece in ensuring that the department fulfilled its mission, which consists in part of offering programs that facilitate understanding of effective communication practices in varied contexts and provide opportunities for engaged learning. To illustrate this assessment model, the procedures and results from the conducted assessment will first be described. Next, lessons learned will be extrapolated into a proposal of a general model that may be applied across disciplines and fields of study.

CASE STUDY

This assessment project at Coastal Carolina University was designed to assess students' ability to *engage in the study of human interaction* (one of three goals for the communication program). Because this overall learning goal is aimed at the midpoint of students' progress in the program, these students are expected to be able to apply their current knowledge to a critical analysis of various communication practices. The specific student learning outcomes aimed at directing students toward this goal are that students should be able to: 1) evaluate communication processes and messages for their effectiveness, strengths, and weaknesses; 2) think critically about human interaction and how professional and popular use of communication and media affect society; and 3) analyze principles of communication, identifying underlying values, assumptions, and perspectives.

Assessing these learning outcomes and evaluating students' higher-order thinking skills and embedded knowledge—as well as in-context application of these—required an innovative approach that moved beyond typical quantitative methods used to assess communication competency. The authors determined that focus groups would be the best qualitative research method to use to measure the stated learning outcomes, as it would allow them to observe the students applying these higher order skills in practice, much as they will later in their careers, by discussing and evaluating communication with a group of others who share a common knowledge base. Consequently, a procedure for conducting focus groups with students and then analyzing the collected data was developed.

PROCEDURES

Since the assessed student learning outcomes address students' ability to engage in the study of human interaction by critically evaluating communication processes in society, it was determined that specific

examples needed to be shown to the students before guiding them to discuss observed message strategies; professional and popular use of media; communication principles; underlying values, assumptions, and perspectives; and potential audience effects. The demonstrated communication practices needed to be familiar to the students and the topics engaging and interesting to them. Since the students represented four different concentrations (communication studies, health communication, interactive journalism, and public relations/advertising), the authors selected a short political speech given during a county election campaign and an altered *New York Times* article about adolescent deaths tied to energy drinks. Together, these two examples demonstrated or violated numerous principles and best practices taught in the four communication concentrations as well as in foundational courses.

This data collection protocol and analysis procedure was then pre-tested in two pilot focus groups with about 20 students, refined, and further developed with the addition of a specific coding schema. Once the assessment design was finalized, focus group facilitators were recruited and trained, and participants for six focus groups were sampled from several 200-level required communication research methods classes in the program. To conduct the assessment, students were placed in groups of 8-12 with one facilitator for each group.

IRB approval through the university was received and verbal informed consent was obtained for all focus group participants. The focus group was introduced and the students were informed that participating in the 45-60 minute focus group session would assist them in meeting student learning outcomes for their course, that they would gain experience in focus group research by being actual participants, and that their comments would have no impact on their grades in that course. They were then shown the political speech via overhead projector on a large screen. The facilitator proceeded to guide a 20-25 minute discussion following a structured question protocol while also using follow-up questions, probing techniques and nonverbal cues to promote interaction and discussion. Some questions asked students to identify basic principles from their previous coursework. For example, we asked, "what communication/journalistic principles are communicators adhering to?" and "what communication/journalistic principles are violated?" Other questions assessed higher order evaluation, such as, "what might be the effect of the communication shown in this segment on the various actors?" and "how might this segment reflect or affect society?" Next, the news article was passed out and time was allotted for reading it before a second 20-25 minute similarly guided discussion followed.

Focus group discussions were audio-recorded and transcribed, and subsequently analyzed by the authors. One primary and one secondary coder coded each transcript. The primary coder first read the entire transcript to get an overview and then proceeded to categorize responses according to a predetermined coding schema with options for adding categories as needed. For example, one category on the coding schema was "[student] considered implications of the message/communication." Some examples demonstrating proficiency in this category after watching the political candidate's speech were: 1) discussion of whether or not the political candidate giving the speech is likely to win the nomination, 2) identification of the type of relationship the political candidate is establishing with his audience, and 3) discussion of possible implications of this election for county residents, democratic process, and political culture.

Each category was examined with responses evaluated in terms of both breadth and depth. Breadth was determined based on the number of students who commented, agreed, disagreed, or otherwise engaged verbally. Depth was determined based on the level of brevity versus elaboration and

critical thinking evident in the comments. In response to the institutional preference for quantifiable assessment data that is comparable across years, numbers representing level of breadth and depth were assigned in each coded category. The secondary coder reviewed the primary coder's analysis and conducted her own analysis of the same transcript to ensure consistency among the co-investigators. To be conservative, the lower of two scores was generally retained where coding differences emerged. Once the primary and secondary coding of each of the six transcripts had been completed, the authors/co-investigators met to discuss interpretation of student responses where ambiguities existed. Upon reaching consensus, the findings were compiled and assessment scores calculated.

RESULTS

The results of this assessment indicated that learning outcomes were met at a satisfactory level or close to a satisfactory level; however, the students performed better in some areas than others. They generally demonstrated competency in identifying basic communication principles and effectiveness/ineffectiveness. They were proficient in considering the immediate implications and audience effects of a particular message. The area where room for improvement was most evident was in analyzing the various communicators' implied purposes, values, assumptions, and/or perspectives and extrapolating broader and longer-term societal implications. This requires understanding of the complexity of each of the two communication processes observed as well as higher-level critical evaluation.

In general, the students were fully engaged in each of the focus groups. Each group was appropriately sized in that the students had enough room to arrange themselves in a circle or around a conference table had better overall participation. Unfortunately, due to a logistical error, two of the groups were held in classrooms with theater seating, and this was less than ideal.

The two communication examples that had been carefully chosen and revised to engage students topically were quite effective in doing so, so much so that a couple of the groups appeared to have trouble moving past the topic and engaging in critical analysis. Still, the assessment design was a successful in that it generated new perspectives on our students' learning, both in terms of their retention of content covered early in the program and their ability to apply critical thinking skills and big-picture understanding to specific contexts.

MODEL DEVELOPMENT AND APPLICATION

A general assessment model may be developed from the case study presented here. The approach of identifying a required course at the mid-level of a particular program of study, recruiting students in this course, dividing them into groups of 8-12, holding focus groups in locations conducive to forming a circle, and having needed audio-visual equipment available is probably doable for most institutions and departments, regardless of discipline and area of study. Recruiting and training focus group facilitators is also a fairly straight-forward process, as this data collection method is well established and literature on best research practices is readily available. When training facilitators, it is important to cover techniques for redirecting a discussion thread that is headed off-track, rephrasing questions while retaining their original meaning, and probing without being overly leading. The authors noted these

potential problem areas when reviewing the transcripts. As for analyzing the data, different procedures exist. These will be discussed below.

The chief strength of this assessment approach lies in providing an opportunity for assessors to pinpoint specific weaknesses in their students' learning processes. The authors were concerned about their students' lack of competency in evaluating how strategically communicated messages affect society. This was a surprising finding, as this is heavily emphasized in the curriculum that was assessed. Another unexpected finding was that students had trouble recalling the names of specific communication principles and theoretical perspectives that are core to this area of study. This information may be used to evaluate a particular curriculum as well as teaching practices used within a program. The authors were able to share these assessment results and the concerns emerging from them with the other faculty members in their department. By being able to present specific data, an educated departmental discussion followed, and several curricular changes were proposed. The practice of assigning group projects was also examined in terms of the risk that unequal group member engagement compromises the overall learning outcomes achievement.

The proposed assessment design involving focus groups is well suited to assess program goals and student learning outcomes that fall between comprehension and acquisition of basic knowledge on one hand and synthesis and execution of skills on the other (i.e. the learning that occurs as students apply, analyze, evaluate, and think critically about embedded knowledge while moving from orientation within a particular field of study to competency and skills acquisition in this field). Assessors need to identify and select a topical focal point and develop a focus group protocol that engages students in the discussion while lending itself to uncovering the quality of their mid-level learning processes. It is highly recommended that pilot testing with a couple of groups comprised of participants in the target population be conducted to ensure that the assessment design has both construct and external validity.

The assessment discussed in the case study presented here was broad in scope, encompassing three student learning outcomes related to one overall program goal. In order to ensure that the entire scope was covered within a limited period, a structured focus group protocol was developed, which included 14 questions overall. This limited the opportunity for the facilitator to probe deeply or leave much time for silent reflection. A semi-structured or unstructured protocol and/or 60-75 minute sessions would allow assessors to take advantage of the benefits of qualitative research to a greater degree and collect richer data.

The model proposed herein assumes that assessors aim to quantify the qualitative data gleaned from the focus group discussions. If this is not the case, assessors have more liberty to analyze their data using a phenomenological approach and a thematic presentation of the findings, which is more typical for qualitative research—although, as argued earlier, there are quantitative aspects of almost all forms of qualitative analysis. However, when quantification is not an essential goal, assessors may be able to focus on describing *how* a particular student learning outcome is met rather than *at what level* it is met.

This model uses a coding schema that places a numerical value on the interpretation of student responses in a specific category that is linked to a particular learning outcome. Designing a coding schema that is appropriate for a particular assessment may require some trial and error. In their assessment, the authors used two levels to quantify their interpretations of the breadth and depth of a particular student response. Specifically, two points were assigned for a response that was expanded or verbally agreed upon by at least one other student in the focus group, as well as for an articulate and

insightful response, even if given by just one participant. One point was assigned for a brief, singular response and a response provided after a follow-up or probing cue by the facilitator. Four theme categories were identified for each of the two communication examples shown to center the focus group discussions topically. Based on the pre-testing of the design, the authors had decided that each particular category would be considered fully saturated at five points each, thereby generating a maximum of 40 points for the entire assessment. Scores for each focus group would be averaged per thematic category to generate a score representative of the assessment results.

However, when conducting the actual assessment, an unforeseen challenge emerged. The design of the coding schema was initially done with the goal of preserving the emerging themes to the greatest extent possible prior to quantifying the findings, thus responses in each category were treated in an additive fashion. Practically, this meant as responses were coded, several categories in several of the focus groups were quickly saturated, thus effectively restricting the range. The overall length of a focus group played a larger part than anticipated, in that the group that ran the longest reached saturation in every category, while the shortest group achieved the lowest overall score. Because the qualitative data were preserved and considered throughout the analysis process in this model, interpretation of the students' learning processes beyond merely the quantified scores was possible.

In revising this assessment for a second round, it was decided that the coding levels should be changed from two to three, allowing for more differentiation between brief/singular and elaborate/agreed-upon responses. Each level was further defined to account for additional features of each response, such as the use of theory-appropriate terminology or demonstration of limited understanding, as follows:

3 = well-articulated, insightful, and thoughtful response arrived at independently, or correct usage and application of theoretical terminology

2 = somewhat insightful response, or a thoughtful response provided after probing by facilitator

1 = brief response; or an elaborate response that reflects misunderstandings

Along with these changes, the four theme categories were further broken down into six. This made it easier to differentiate responses that reflected the three student learning outcomes being measured (i.e. two categories per student learning outcome). Another change was to tally sum totals for each of the theme categories rather than having a set a saturation point. This provided a better sense of what was happening in each individual focus group, a better account for variability between focus groups, and better conclusions beyond simply whether or not a particular theme emerged.

In conducting this revised assessment in the 2016-17 academic year, the new coding structure allowed to the assessors to not only calculate a sum total for each of the theme categories, which could be then be compared and contrasted, but also to look within the categories to gain a better understanding of the quality and depth of responses. For example, the theme of "evaluating communication/journalistic processes," not only generated the highest number of student responses overall, but these responses also had the highest per focus group average number of comments coded as "3." This provided richer data than simply that the students spent the most time discussing themes within this category, but also that they had more thoughtful comments and used proper terminology more often than in the other categories.

When adapting and applying this model, it is recommended that a three-level coding schema be used and that assessors calculate sum totals rather than code until set saturation points have been reached.

Conducting several rounds of the assessment is recommended in order to determine the typical range and average for scores and then set targets and goals based on those analyses.

CONCLUSIONS

The aim of this chapter was to give assessors across disciplines a broadened understanding of the innovative approaches and methods that can be used for assessing student learning, particularly higher order thinking skills and embedded knowledge. The authors explained the rationale and procedures for an assessment design that utilizes focus groups, drawing upon an actual assessment project conducted at Coastal Carolina University in 2014-2015 and in 2016-2017. In taking this approach, adherence to Angelo's (1999) admonition that student learning should be the primary goal — rather than the methods or devices that are most frequently used or most easily accessible — is recommended.

Lessons learned and best practices gleaned from this case study suggest, first, that mid-level assessment is an appropriate time point, not only because this provides an opportunity for evaluation of student learning after completion of some post high-school coursework, but also because this allows assessors to identify student needs and deficiencies and make appropriate modifications to both the content of upcoming/future coursework and teaching strategies used within these courses.

This chapter has addressed traditional concerns about qualitative methods of inquiry being associated with subjective bias and demonstrated how such concerns can be reduced through quantification of qualitative data by using a quantitative coding schema with sufficient degree of differentiation and a coding procedure that preserves some of the richness of the qualitative data. In conclusion, a focus group is an appropriate method that can be used effectively and efficiently across disciplines for assessment of basic proficiency as well as ability to perform higher-level critical evaluation beyond the classroom.

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ABOUT THE AUTHORS

Corinne Dalelio is an Assistant Professor in the Department of Communication, Media, and Culture at Coastal Carolina University. She earned her Master's degree and PhD in Communication from Rutgers University. Dr. Dalelio has served as the chair of her department's assessment committee since 2013. She also has six years of professional experience in education and outreach at Rutgers Institute of Marine and Coastal Sciences, where she was involved in the development and design of several innovative and collaborative online educational portals. Her research investigations focus on digital media and online communication, and she enjoys teaching classes on topics related to interactive media and media literacy.

Gina Barker teaches in the Department of Community Care and Counseling at Liberty University, Lynchburg, VA. She served as a faculty member in the Department of Communication, Media and Culture at Coastal Carolina University, Conway, SC 2011-2015, where she developed an undergraduate concentration and taught courses in public relations and strategic communication in addition to serving on the department's student learning committee. Born and raised in Sweden, Barker earned her Bachelor of Science and Master of Science degrees in Media and Communication from the University of Gothenburg, Sweden, specializing in public relations. She completed her Doctor of Philosophy degree in Communication with a specialization in international and intercultural communication at Regent University in August 2004. Barker's research focuses on intercultural adaptation and acculturation processes; intercultural marriage and family communication; cultural influences on news, advertising, and public relations; and third-culture individuals. Her work in these areas has been published in the *International Encyclopedia of Intercultural Communication,* the *International Journal of Intercultural Relations,* the *Journal of International and Intercultural Communication,* the *Journal of Intercultural Communication Research,* the *International Journal of Cross-Cultural Management,* the *Southern Communication Journal,* the *International Communication Gazette,* and *Global Perspectives on Intercultural Communication.*

Dr. Selby is an Associate Professor of Communication at Coastal Carolina University in Conway, South Carolina, where she has been since 2010. She received her BA and MA in Communication from the University of Dayton in Ohio and her doctorate in Health Communication from the University of Kentucky. While at Coastal Carolina University, she developed the concentration in health communication. Her service at CCU includes serving on the department's Student Learning Committee (Assessment Committee), which has inspired the current presentation. Dr. Selby's research interests revolve around media and health communication, specifically focused on health campaigns and message design to promote positive and deter negative health behaviors.

ESTABLISHING AN INSTITUTIONAL COMMITMENT TO THE DIGITAL AND INFORMATION LITERACY

of

Under-Served College Students

By

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ABSTRACT

Successful assessment is an ongoing cycle predicated on the identification of objectives, the gathering and analyzing of data, discussions, recommendations, implementing changes, and reflection, with the goal of improving student outcomes (Buzzetto-More, 2006). Among the crucial learning goals that are frequently the subject of institutional assessment, but which commonly include only a cursory examination is digital and information literacy.

The research shows that despite the ubiquitous prevalence of technology in their lives, most students entering higher education today have an overestimated sense of their computer skills (Hanson, Kilcoyne, Perez-Mira, Hanson, and Champion, 2011; Marakas, Johnson, and Clay, 2007; Mishra, Cellante, and Kavanaugh, 2015; Nataraj, 2014). Compounding this problem, is the misbelief held by many educators that students come to college with the competencies necessary for success, therefore making computer literacy and applications courses unnecessary. This fallacy has consistently been disproven in studies which have shown major skill deficiencies among students (Mishra, Cellante, and Kavanaugh, 2015; Hanson, Kilcoyne, Perez-Mira, Hanson, and Champion, 2011). Finally, the digital divide remains a significant concern in the United States, with race/ ethnicity, income level, and education contributing to inequalities with the use of digital technologies. This chapter discuses an assessment and assurance of learning initiative focused on the digital and information literacy skills of primarily first-generation students attending a mid-Atlantic historically Black university.

The assessment initiative under discussion began with a campus-wide survey and resulted in the adoption of the IC^3 Fast Track assessment to evaluate students' digital literacy skills, combined with course redesign, and use of a remediation system. Five years' worth of student performance data as well as the results of pre and post testing will be explored and discussed accordingly. The meaningfulness of these findings as well as the relevance of assessing and addressing the digital and information literacy skills of students will be articulated. This topic is relevant as institutions struggle to meet the needs of incoming students with varying levels of technological readiness so as to insure that all students have the digital literacy skills necessary for higher education success.

LITERATURE REVIEW

Several studies have examined the differences between students' perceived technology competencies and their actual skill levels noting measurable gaps (Hanson, Kilcoyne, Perez-Mira, Hanson, and Champion, 2011; Marakas, Johnson, and Clay, 2007). For example, focusing on the self-confidence of students in their abilities to successfully use computers and relevant computer applications, Grant, Malloy, and Murphy (2009) compared students' computer self-efficacy ratings with their actual performance on an

author-developed computer skills test. The study found a measurable difference between students perceived self-efficacy and their actual assessed skills. Hargittai (2005) examined students' technological literacy through both observations and survey questions. The findings concluded that students express an inflated sense of confidence in their digital literacy because they have mastered the small portion of familiar technologies that they use on a daily basis. That narrow band of mastery that they have acquired subsequently results in a false overconfidence. A 2013 study conducted in Alberta, Canada (Smith, Given, Julien, Ouellette, and DeLong, 2013) also found a significant gap between the perceptions of students and their actual skills. After analyzing the findings, the authors concluded that students entering college lack the information and digital literacy skills required to succeed in higher education. Similarly, Nataraj's (2014) research concluded that students do not develop the necessary technology skills in high school and therefore come to college ill prepared. Nataraj used pre and post testing of freshmen students enrolled in a course titled Introduction to Computers and found that an introductory computer course offered early in the academic experience results in a significant improvement in students' computer literacy.
Mishra, Cellante, and Kavanaugh (2015) explain that while students are generally proficient in the locating of information online through search engines, they are less skilled in the use of productivity software commonly found in business and industry. In particular, they noted that use of spreadsheets and databases, operating systems, core software applications, computer ethics, and cyber security are all areas in which they found lacking when students were pretested prior to taking a college-level introductory computing course. As a result, they concluded that entering freshmen have not developed the basic technology knowledge and skills in order to be successful in academia and the workplace and that computer concepts courses are crucial at rectifying these deficits.

In a large-scale ECAR study, Dahlstrom, Walker, Dziuban (2014) reported that 34% of participating students wished that they had come to college with a better understanding of basic software applications, and 44% wished that they had been better prepared to use institution-specific software and technologies when they came to college. They explained that students still need guidance as to what technologies to use and how they can best be utilized.

A 2015 paper published in the *The Internet and Higher Education* (Parkes, Stein, and Reading) focused on e-learning readiness. According to the authors, students come to college prepared to use e-learning technologies; however, that preparedness is only superficial. When socio-economic factors were considered, a 2013 paper published in the Journal of Higher Education (Relles and Tierney) examined the technology skills of 91 low-income students enrolled in writing remediation. The authors found that a lack of computer literacy and the technology demands placed by the remediation software exacerbated the preparation gap and academic challenges of students.

Socio-economic factors and technology access, use, and readiness have been a topic of discussion for some time among academicians. As such, the digital divide remains a significant concern in the United States, with race/ ethnicity, income level, and education contributing to inequalities with use of computers and reliable and expedient access to the internet (Morgan & VanLegen, 2005). A study conducted at the University of Maryland Eastern Shore and Fayetteville State University (Buzzetto-More and Sweat-Guy, 2007) examined the perceptions and experiences of freshmen students at two Historically Black Universities with respect to their technology ownership and usage and their information acquisition habits. The findings showed that technology access and ownership is less prevalent than what has been reported out of majority institutions, but more importantly, that HBCU

freshmen are less prepared to use the internet and digital library/scholarly resources for academic pursuits.

A lack of technological competency has been shown to be associated with a lower quality of life with higher risks of unemployment (Sparks, Katz, and Beile, 2016). Further, employers are concerned about the technological proficiency of individuals entering the workforce (Hart Research Associates, 2013) with studies finding that while recent graduates are savvy when it comes to social media and the internet, but are frequently lacking in the use of core productivity tools and applications (Head, 2012).

Professional associations and accrediting bodies are identifying information and technological skills as a fundamental learning outcome (Sparks, Katz, and Beile, 2016). For example, groups such as, but not limited to, the American Association for Higher Education, the Middle States Commission on Higher Education, the Council for the Accreditation of Educator Preparation, the Association of College and Research Libraries, the Western Association of Schools and Colleges, the Northwest Association of Schools, Colleges and Universities, the Southern Association of Colleges and Schools, the Association of American Colleges and Universities, the New England Association of Schools and Colleges, the North Central Association of Schools and Colleges – Higher Learning Commission, the Association to Advance Collegiate Schools of Business, and the Accreditation Board for Engineering and Technology all have identified digital literacy skills as a core competency.

BACKGROUND

The critical mass of African American college students can be found at Historically Black Colleges and Universities (HBCUs), which represent less than 3% of U.S. colleges and universities but produce 25% of our nations Black college graduates as well as the preponderance of African American doctoral degree recipients (Adams, 2012). Despite the high success rates of HBCUs, studies have shown that Black students who attend HBCUs score lower on standardized tests, come from lower socio-economic backgrounds, and be less prepared for college than black students attending majority institutions (Buzzetto-More and Sweat-Guy, 2007; Ukoha and Buzzetto-More, 2007).

Founded in 1886, the University of Maryland Eastern Shore (UMES) is a Historically Black, 1890 land grant institution. It is a member of the University system of the State of Maryland and primarily serves first generation, low income, and minority learners. The student population is approximately 4400, as of the fall of 2015, with a student body that is approximately 78% African-American, 9.6% white, 1.4% Hispanic, and 11% international, primarily coming from the continent of Africa and/or from the Caribbean region. The gender distribution of the University is 64% female and 36% male. The freshmen-to-sophomore retention rate is 71%, and the graduation rate is 41%. The student to faculty ratio is 15 to 1 and 85% of students receive financial aid.

The University of Maryland Eastern Shore, has a required general education curriculum designed to build a comprehensive core educational base upon which a student's major concentration is constructed. Technological literacy and competency is covered at the freshmen and/or sophomore levels in the course BUED 212 (Computer Concepts).

A survey of UMES entering freshmen in 2009 found that most students are strong in the use of Email, the World Wide Web, and basic use of Microsoft Word. Less experience, however, was found in

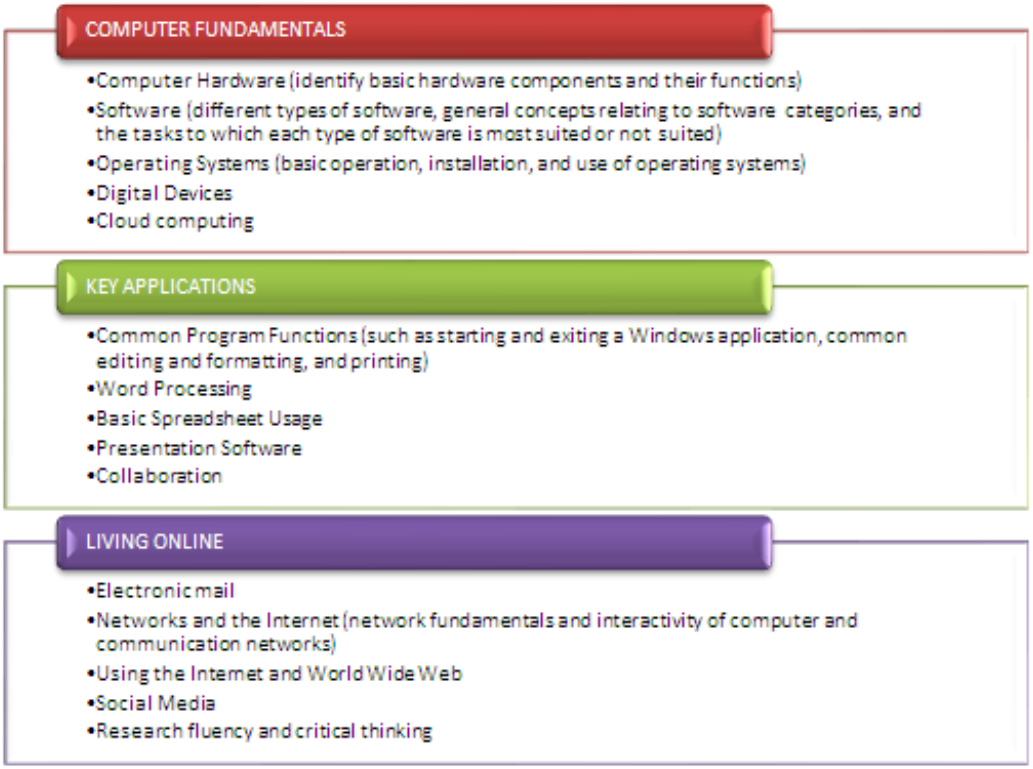
the use key software applications to develop spreadsheets; create databases; formulate presentations; and prepare newsletters, brochures, reference lists, formatted papers and proposals, and/or mailings. In 2010, in response to the survey findings as well as feedback from faculty involved with the teaching and coordination of the computer concepts courses, a committee was formed and the technological and information literacy learning goals of the University were reexamined. It was decided that although all departments are required to include a technology course in their programs of study with most using the service course BUED 212 taken traditionally in the sophomore year, more attention needed to be placed on entering freshmen. It was recognized that a significant population of freshmen may be adept users of social technologies yet lack the foundational digital skills to effectively perform basic academic tasks essential for success in college. As such, they fall behind simply because they are not able to access, process, utilize, and exchange information at the speed of their peers. A detailed review was conducted and it was decided that an instrument designed to provide external professional validity for meeting digital literacy would be adopted and used as a placement test. Several options were considered and the IC³ (IC3) standard and examination was selected.

The IC³ is the abbreviation and registered trademark of the "Internet and Computing Core Certification." The IC³ is a global certification program that is designed to certify an individual's digital literacy skills associated with basic computer and Internet use. IC³ is the first computer certification to be recognized by the National Skill Standards Board (NSSB). Approved by the American Council on Education (ACE) for college credit and endorsed by the International Society for Technology in Education (ISTE). The IC³ is based on Global Standard 4, an internationally recognized standard for digital literacy and reflects the most relevant skills needed in today's academic and business environments.

The IC³ examination is developed and delivered by the Certiport Company and at present has been adopted at several colleges and universities include Salve Regina University, Tallahassee Community College, and the University of Maryland Eastern Shore. It can also be found at the high school level in such places as, the Jefferson County Public School District that uses the IC³ in order to standardize a computer literacy course district-wide, which serves to satisfy the Kentucky computer literacy requirement (Certiport, 2016).

Each IC³ examination consists of multiple choice, matching, and “hands on" performance-based questions. The exam is comprised of three major coverage areas: computer fundamentals, key applications, and living online. These categories and the performance-based outcomes that are assessed are presented in Figure 1.

Figure 1: IC³ Exam Sections



In 2010, the UMES Center for Student Technology Competency and Certification (CSTCC) was created. The CSTCC is a Title III sponsored initiative dedicated to enhancing the technological literacy and professional productivity of the UMES community. Additionally, the CSTCC exists to strengthen the University's capacity to effectively prepare and assess students' technological competencies. Operating within the School of Business and Technology, the Center is an official Microsoft IT Academy as well as a fully licensed Certiport Authorized Testing Center.

The IC³ Fast Track has no established passing score; rather this decision is left to the discretion of the adopting institutions. The test is based on a combined score of 1000 points generated through completion of three sections. The passing score for UMES was established by the Office of the Vice President of Academic Affairs at the time of adoption and was set at 500 out of 1000. As of the fall of 2016, 2690 IC³ Fast Track examinations had been administered to students at the UMES.

To assist students in preparation for the IC³, or in remediation and skill building, the Internet and Computing Mentor is used. The tutoring functionality of the Internet and Computing Mentor enhances the digital learning experience for users by offering multiple levels of assistance. If a question is answered incorrectly, the system will graphically guide them in finding the correct answer. In addition, study guides enable prescriptive/just-in-time learning. Finally, the Mentor's reporting capabilities allow users to assess current status of skill sets, required remediation, skills progression and testing readiness.

Students receiving a passing score on their first attempt have been encouraged to continue forward throughout their degree program, and take whatever technology course is required for their program (usually BUED 212: Computer Concepts). Particularly, high scoring students are encouraged to take the more advanced BUAD 213: Business Software Applications as well as to attend voluntary

Microsoft Office Specialist training sessions in order to earn professional certification. Students who do not pass on their first attempt have been able to attend review sessions and utilize the Internet and Computing Mentor in order to enhance and build their skills as well as prepare for, and take, re-tests. For students, who either fail to return for retesting or who do not pass after two attempts, no specific additional program has been introduced; however, they are urged by representatives of the UMES CSTCC to attend additional trainings and enroll in BUED 212: Computer Concepts without hesitation. It is important to note, that student participation in remediation and/or training sessions is completely voluntary.

The BUED 212 general education course was redesigned and strengthened as part of this initiative. Emphasis in this course is placed on various computer concepts with respect to hardware, networking technologies and software applications. Contemporary computer software for world processing, presentation delivery, spreadsheet design, and basic database development relevant to business and industry are explored. Highlights include information literacy sessions held with the assistance of library staffers, an information literacy project, skill building using the SAM (Skills Assessment Management) system, and the development of e-portfolios.

METHODOLOGY

Five years of student scores, representing a population of 2690, were collected and examined and comparative analyses performed. Pass rates, means, and variance were considered. Comparisons across test sections were also made and the pre and post testing of students who had completed the introductory computer applications course were also examined. The following hypotheses were explored.

H_1- Incoming college freshmen students are information and technologically literate.

Hypothesis 1 is tested by examining the average overall IC^3 scores of incoming freshmen for a five-year period. If >70% of students received a passing score, then the threshold is deemed as having been met.

H_2- Freshmen students have the knowledge of computer fundamentals necessary to succeed in college.

Computer fundamentals includes knowledge of basic hardware components and their functions, types and uses of software, basic use of operating systems, cloud computing, and digital devices. This hypothesis was tested by considering the scores of students on the Computer Fundamentals section of the IC^3 examination. If >70% of students received a passing score, then the threshold is viewed as having been met.

H_3- Freshmen students have the online skills necessary to succeed in college.

Online skills are considered based on knowledge of network fundamentals and the interactivity of digital computer and communications networks, use of the Internet and World Wide Web, social media, searching, research fluency, and electronic mail. This hypothesis was tested by examining the scores of students on the Living Online section of the IC^3 examination whereas if >70% of students received a passing score, the hypothesis was affirmed.

H_4- Freshmen students have computer applications skills necessary to succeed in college.

Computer software applications includes word processing, basic spreadsheet usage, presentation software, printing and editing, and collaboration. This hypothesis was tested by considering the scores of

students on the Key Applications section of the IC³ examination whereas if >70% of students received a passing score, then the hypothesis was affirmed.

H_5- Computer concepts courses are still a necessary part of a college curriculum.

The general education service course BUED 212 (Computer Concepts) was utilized in order to test this hypothesis. The course is offered by the Department of Business, Management and Accounting and is taken by almost all students enrolled at the University. In the spring of 2016, four sections of BUED 212 representing 65 students were considered and pre and post testing occurred. The scores were subsequently compared and an improvement of >20% was set as the target.

DISCUSSION

In the discussion section each of the hypotheses are tested and related back to the literature.

H_1- Incoming college freshmen students are information and technologically literate.

Hypothesis 1 was tested by examining the average overall IC³ scores of incoming freshmen for a five-year period. It was decided that if >70% of students received a passing score, the threshold would be met. These results are depicted in Table 1 and show that with an average pass rate of 73%, Hypothesis 1 is affirmed. These findings differ from what has been reported in the literature by Hanson, Kilcoyne, Perez-Mira, Hanson, and Champion, 2011; Marakas, Johnson, and Clay, 2007; Mishra, Cellante, and Kavanaugh, 2015; and Nataraj, 2014; however, the deviation reported in this study may be explained by the low passing score threshold of 500 out of 1000 possible points that has been established by the University administration.

TABLE 1: IC³ EXAM RESULTS OF ENTERING FRESHMEN 2011-2016

ACADEMIC YEAR	N	WEIGHTED	PASS RATE	UMES PASSING SCORE *OUT OF 1000*	MEAN SCORE	VARIANCE
2011-2012	172	0.0639	62.21%	500	530.2	11.1
2012-2013	624	0.2319	75.8%	500	573.1	10.4
2013-2014	489	0.1817	71.12%	500	561.3	11.1
2014-2015	589	0.2189	70.54%	500	566.9	12.3
2015-2016	816	0.3033	76.23%	500	571.4	12.1
TOTAL	**2690**	**1.00**	**73.34%**	**500**	**557**	11.4
WEIGHTED	**2690**	**1.00**	**73.06%**	**500**	**566.34**	11.5

H_2- Freshmen students have the knowledge of computer fundamentals necessary to succeed in college.

Computer fundamentals includes knowledge of basic hardware components and their functions, types and uses of software, basic use of operating systems, cloud computing, and digital devices. The highest possible score on the exam section is 25. This hypothesis is considered by comparing the scores of students on the computer fundamentals section of the IC³ examination and examining mean scores, pass rates, and variance. These results are depicted in Table 2 and the findings show that with a mean score of 14.41 and a pass rate of >70%, Hypothesis 2 is affirmed. While these findings differ somewhat from what has been reported in the literature, they can be explained by Hargittai (2005) who reported that students have a mastery of most basic concepts.

TABLE 2: IC³ COMPUTER FUNDAMENTALS EXAM RESULTS OF ENTERING FRESHMEN 2011-2016

ACADEMIC YEAR	NUMBER OF STUDENTS TESTING	COMPUTER FUNDAMENTALS		
		% PASS RATE	MEAN	VAR.
2011-2012	172	70.93	14.1	3.38
2012-2013	624	76.28	14.6	3.03
2013-2014	489	71.57	14.5	3.16
2014-2015	589	70.54	14.3	3.11
2015-2016	816	76.23	14.57	3.03
TOTAL	2690	73.11	14.41	3.14

H_3- Freshmen students have the online skills necessary to succeed in college.

This hypothesis was examined by comparing the scores of students on the Living Online section of the IC³ examination. These results are depicted in Table 3 and show a mean score of 15.88 out of 25 and a pass rate of 86.38%, well over the >70% threshold. The scores on the Living Online section are unfailingly the highest scores of any of the sections and the findings are consistent with what has been reported by Mishra, Cellante, and Kavanaugh (2015) who found that students are skilled at locating information online through search engines, navigating the World Wide Web, e-mail, and social media.

TABLE 3: IC³ LIVING ONLINE EXAM RESULTS OF ENTERING FRESHMEN 2011-2016				
ACADEMIC YEAR	NUMBER OF STUDENTS TESTING	LIVING ONLINE		
		% PASS RATE	MEAN	VAR.
2011-2012	172	79.65	15.1	3.52
2012-2013	624	89.58	16.2	3.09
2013-2014	489	83.44	15.8	3.65
2014-2015	589	89.25	16.1	3.27
2015-2016	816	89.97	16.2	3.07
TOTAL	2690	86.38	15.88	3.32

H_4- Freshmen students have computer applications skills necessary to succeed in college.

Computer software applications include word processing, basic spreadsheet usage, presentation software, printing and editing, and collaboration. This hypothesis was examined by comparing the scores of students on the Key Applications section of the IC³ examination. These results are depicted in Table 4 and show a mean score of 11.86 and a pass rate of 43%. Because the mean score is <70%, Hypothesis 4 cannot be affirmed. Student's at UMES consistently perform poorly on the Key Applications portion of the IC³ indicating that they are desperately underprepared to use the basic productivity software expected of a college student. These findings are consistent with what has been reported in the literature (Parkes, Stein, and Reading, 2015; Mishra, Cellante, and Kavanaugh, 2015; Hanson, Kilcoyne, Perez-Mira, Hanson, and Champion, 2011).

TABLE 4: IC³ KEY APPLICATIONS EXAM RESULTS OF ENTERING FRESHMEN 2011-2016				
ACADEMIC YEAR	NUMBER OF STUDENTS TESTING	KEY APPLICATIONS		
		% PASS RATE	MEAN	VAR.
2011-2012	172	30.23	10.9	4.32
2012-2013	624	45.67	12.2	4.36
2013-2014	489	43.59	11.8	4.61
2014-2015	589	51.83	12.3	4.58
2015-2016	816	44.75	12.1	4.28
TOTAL	2690	43.21	11.86	4.43

H_5 Computer concepts courses are still a necessary part of a college curriculum.

The general education service course BUED 212 (Computer Concepts) was utilized in order to test this hypothesis. In the spring of 2016, four sections of BUED 212 representing 65 students were considered and pre and post testing utilized. The scores were subsequently compared and an improvement of >20% was set as the target. The results are depicted in Table 5 whereas the findings show an initial mean score of 532 with a pass rate of 58% on the pre-test administered in the second week of the academic term and a mean score of 672 with a pass rate of 88% on the post test administered during the 14th week of the term. With a pass rate improvement of >20% Hypothesis 5 is affirmed, and is evidence that an introductory computer course offered early in the academic experience results in a significant improvement in students' computer literacy. These finds are consistent with what has been reported in the literature (Mishra, Cellante, and Kavanaugh 2015, Nataraj, 2014)

TABLE 5: IC³ EXAM RESULTS OF BUED212 FOR 4 SECTIONS				
ACADEMIC YEAR Spring 2017	NUMBER OF STUDENTS TAKING TEST	FINAL PASS RATE	TARGET/PASSING SCORE *OUT OF 1,000*	MEAN SCORE
2/2017	55	58%	500	532.5
5/2017	58	88%	500	672.4

TABLE 6: IC³ EXAM RESULTS BY SECTION OF BUED212 FOR 4 CLASSES				
Spring 2017	N	COMPUTER FUNDAMENTALS ADJUSTED PASSING SCORE 7.5 TOTAL POINTS AVAILABLE 15	LIVING ONLINE ADJUSTED PASSING SCORE 7.5 TOTAL POINTS AVAILABLE 15	KEY APPLICATIONS ADJUSTED PASSING SCORE 7.5 TOTAL POINTS AVAILABLE 15
		% PASS RATE	% PASS RATE	% PASS RATE
2/2017	55	52.7	63.6	43.6
5/2017	58	75.9	96.6	75.9

SUMMARY

The University of Maryland Eastern Shore is a historically Black University that serves primarily first generation minority college students. A Center for Student Technology Competency and Certification (CSTCC) was established in 2010 dedicated to enhancing the technological literacy and professional productivity of the UMES community. The IC³ assessment has been chosen as a valid, and reliable, tool for evaluating the information and digital literacy of learners, and this chapter reports the findings of five years of IC³ exam data, which was used to test several hypotheses. According to the data, incoming college freshmen have a basic level of information and technological literacy; arrive with a rudimentary knowledge of computer fundamentals; and are well versed in the use of email, social media, conducting online searches, and navigation of the World Wide Web. When it came to the use of core computer applications, students were shown to be woefully deficient.

While the Internet and Computing Mentor and remediation sessions have been shown to result in small improvements in student performance, the results of a first level computer concepts course was explored through pre and post testing. The results of the pre and post testing showed a >30% improvement in student IC³ scores proving that introductory computer courses still play a vital role in the general education curriculum.

LIMITATIONS

The greatest limitation of this study is that is focused exclusively on students attending a single institution. However, at the same time, this study provides research on a population that is expanding in numbers in higher education and that many educators, and much research, reports as being under-prepared for academic success (Allen, 1987; Hull, 2005; Morgan & VanLegen, 2005; Pearson & Young, 2002; Sax, Ceja, & Teranishi, 2001). This paper builds on the findings of a number of similar studies that have been conducted at majority institutions and a small handful of studies that were reported out of HBCU's a number of years earlier.

Another possible limitation of this study is the institutionally designated passing score on the IC³ which applies what is could possibly be a lower standard than may be utilized at other institutions; however, this is difficult to know without an institutional score comparison.

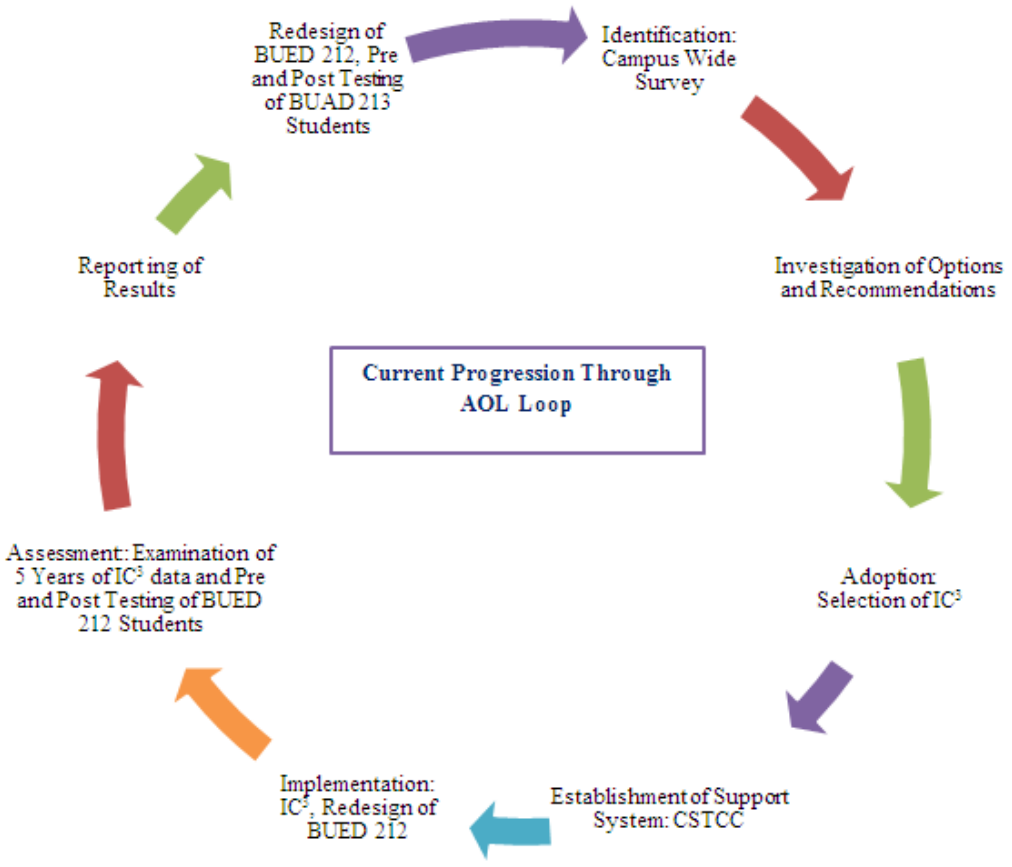
FUTURE WORK

The overarching goal of assessment is assurance of learning and continuous improvement. The results of the 5 years of IC³ data as well as the pre and post testing of students enrolled in the introductory computer concepts course have been highly informative. The results are helping to inform the redesign of the course BUED 212 during the summer of 2017. Additionally, the results of this study have encouraged the authors to both replicate and expand the research. In the fall of 2017 an examination of student learning will occur in the second level service course BUAD 213 using pre and post testing. Additionally, in 2017-2018 a technology skills perception student perception survey will be conducted.

All of the information will be reported to the University and hopefully used to improve student learning. It is important to note that in the past few years the University has had several changes in leadership in terms of academic affairs and with respect to the general education curriculum and that continues into the fall of 2017. I hope that when the new leadership is properly installed they will demonstrate the same commitment to assessment and insurance of learning moving forward.

Assessment is a recognized as being part of an ongoing continual process, figure 2 depicts the progress of this assessment initiative through the assurance of leaning loop.

Figure 2: Project Progress



CONCLUSION

The research conducted in recent years has consistently reported that students have a false overconfidence in their technology skills. Further, studies have found that many students are arriving to college deficient in the technology skills that they need for academic success. The findings from this project show that while freshmen students arrive with the overall information and technical skills necessary to succeed (with serious deficiencies in computer applications), additional computer concepts and applications coursework is necessary in order to provide students with the depth of content knowledge and the skills necessary to succeed in college and the workplace. More importantly, the findings indicate that institutions of higher education should invest in a thorough examination of the information and technology literacy skills of students both coming into the institution as well as following course completion.

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BEST PRACTICES IN ASSESSMENT: A STORY OF ONLINE COURSE DESIGN AND EVALUATION

By

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ABSTRACT

The demand and increase in online courses have brought the need to research on online course assessment methods. As the success of course delivery and the quality of education can only be measured by proper assessment, best practices in online assessment requires specific strategies in course design and assessment activities. Due to the unique nature of online delivery that lacks prompt feedback and face-to-face interaction, the challenge in assessing online student learning is apparent. This study focuses on the best practices to assess online courses to optimize online course delivery, while using the most out of the readily available tools such as Blackboard as the Learning Management System (LMS). The discussions will help readers to decide on how they can successfully assess their own online courses.

Key words: Online Course Design, Online Course Assessment, LMS, BB

INTRODUCTION

Online courses use the online environment to set up and deliver all class material and activities. With the lack of physical attendance, it is very hard to track students' progress and learning of course topics. Assessment methods come into the picture at this stage, however, a general misconception includes creating exams on an LMS, and assuming it will perform the assessment on instructor's behalf. Traditional assessment activities of giving students assignments and midterm/final exams do not work in a fully online environment, as the course design and students' expectations are very different from a face-to-face (FTF) setting. Ideally, the online course should still have the same learning outcomes as an on campus version of the class with enhanced assessment activities.

There are various studies on matching assessment techniques with learning outcomes. Bloom's Taxonomy has been the base of learning and education objectives since 1960s. It describes a hierarchical level of learning from knowledge to evaluation by increasing the difficulty of the tasks involved (Cannon & Feinstein, 2005). Learning outcomes are created based on six levels in the Bloom's taxonomy, such as *remember, understand, apply, analyze, evaluate, and create.* Assessment methods for *remember or understand* may include answering knowledge-based questions in an assignment, while assessment for *evaluate and create* may be a final report or project. The improvement in the levels results in increasing the difficulty of the task and its content. Previous studies suggest sample assessment techniques associated with Bloom's taxonomy levels as given in Table 1 (Thede & Sewell, 2009).

Table 1. Sample Assessment Techniques

Bloom's Level	Suggested Assessment Techniques (Thede & Sewell, 2009)
Remember	Flash cards, games, quizzes
Understand	Simulations, animations, tutorials
Apply	Interactive tutorials, simulations, instructional games, case studies
Analyze	Virtual labs, computer simulation models, case studies, multiple choice questions
Evaluate	
Create	

Suggested assessment techniques need to be evaluated and modified as needed to assess online courses successfully. This paper will give an overview of online course design to come up with the best practices to assess online courses.

ONLINE COURSE DESIGN AND ASSESSMENT

In online courses, instructors need to design their courses to line up interactive learning and assessment activities with the learning outcomes (Sewell, Frith, & Colvin, 2010). Therefore, a successful online course design is extremely essential to make sure students can reach the information conveniently, and experience a welcoming environment in the online portal. The path from learning outcomes to assessing students' learning lies in hands of the instructor based on how they will set up their course design with the tools as given in Figure 1.

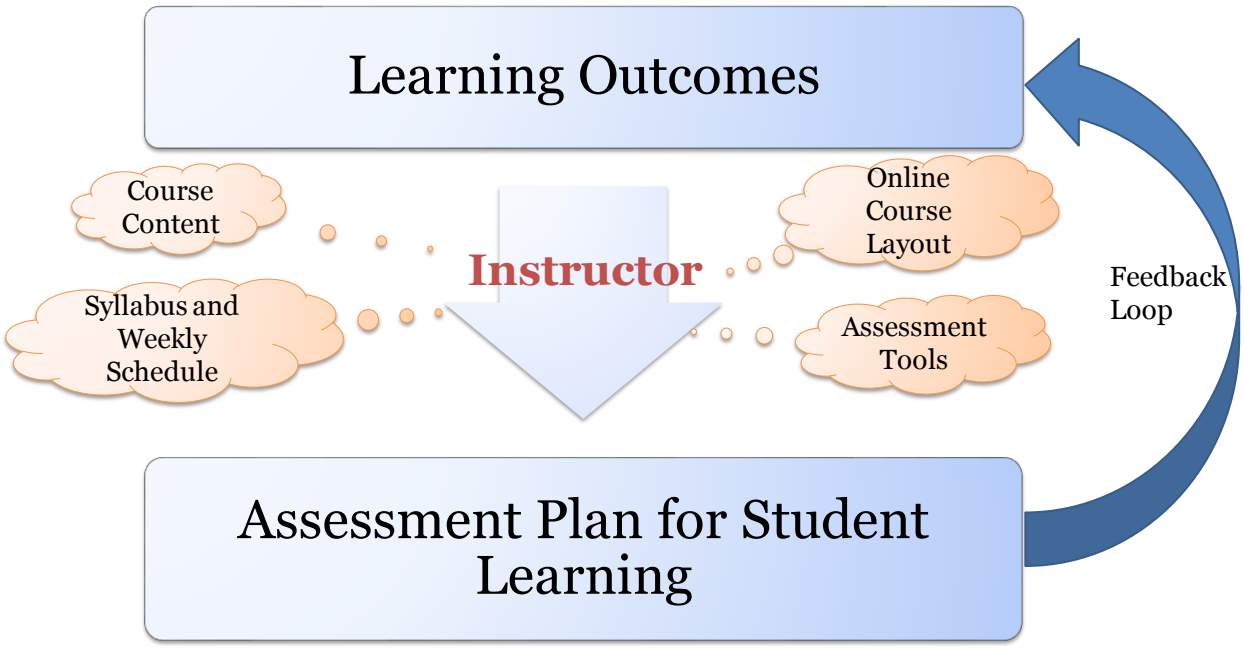

Figure 1. Learning Outcomes vs. Assessment Plan

Students should be able to find the course content and weekly schedule in an optimal setting in the LMS system. Student learning outcomes should be identified clearly at various levels of the Bloom's taxonomy and should be given to students in the Syllabus. A suggested approach is to set weekly learning

outcomes that feed into the course learning outcomes, and that eventually ties up to program and institution's learning goals (Figure 2).

Figure 2. Progression of Learning Outcomes from Weekly to Institutional

The author's suggested online course design starts with the Course Policies (Figure 3). The Syllabus and Weekly Schedule should be updated to serve to the purposes and conditions of the online delivery. It should also be noted that the online student body might be different from the on campus student body, as adult learners, who work for part-time or full-time and who have family responsibilities at the same time, tend to take online courses frequently. The policies as well as the learning outcomes should be clear. These learning outcomes will be the basis of the online course assessment, so they will set the standards on what to assess and how to assess. Secondly, course material need to be created and/or updated to be suitable for online delivery. At this point, the instructor has the decision to go with *synchronous or asynchronous* lectures. *Synchronous* teaching means live lectures with a real-time online setting, whereas *asynchronous* lectures include recorded videos. Jefferson's Masters for Construction Management (MCM) Online Program preferred *asynchronous* setting as many of our students work full time and prefer the flexibility of watching online lectures wherever and whenever.

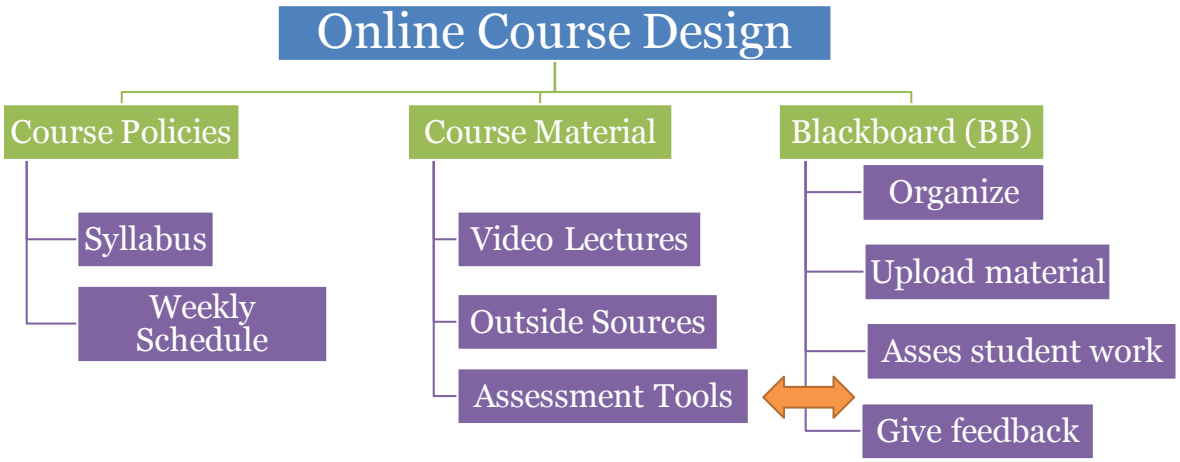

Figure 3. Online Course Design Chart

On campus, assessment tools should be reviewed to see if they are suitable for the online setting. As mentioned before having midterm and final exams that hold a great percentage of students' overall evaluation in one setting may not be suitable for online delivery. Having an exam of 20-30% of grade will not allow the instructor to track students' progress successfully throughout a time frame. Besides, it can create extra stress on students due to the high percentage grade associated. It will be beneficial to use activities that are associated with small grade points throughout the semester for online courses. There are two main assessment techniques as given in Figure 4. Summative assessment activities evaluate students' learning at the end of a learning period. For example, midterm exams assess students' knowledge at the mid-term stage. Formative assessment is an ongoing evaluation of students' learning through providing continuous feedback in smaller increments of time. While many on campus courses

can benefit from summative assessment, formative techniques work best for online students, whom we need to make sure the interaction, feedback, and evaluation is continuous. The pros and cons of online assessment activities will be discussed in detail in the next section.

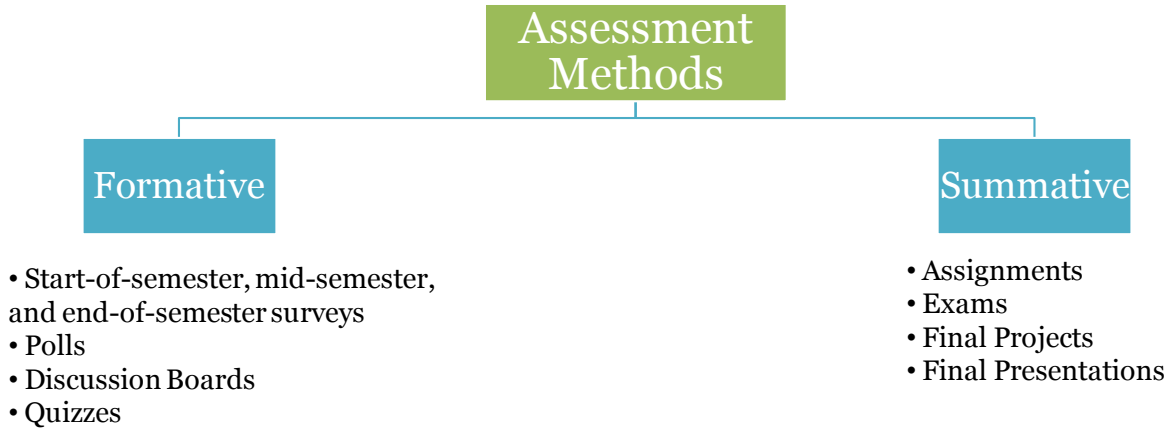

Figure 4. Formative and Summative Assessment Methods

At Jefferson's MCM Online Program, we use the same course template on Blackboard (BB) in all on campus and online courses to give all students the same look and feel in the BB environment. This creates a consistent organization for all our courses and makes it easier for students to navigate and find the information. After creating the video lectures and supplementary material, all should be uploaded to BB. Additionally, the assessment activities should be created with room for feedback. It should be noted that the assessment methods should be updated after each online course offering based on students' feedback and the assessment results. Some activities may work well for a certain course type, while some others should be eliminated. Details of assessment methods will be discussed next.

ONLINE COURSE ASSESSMENT METHODS (PROS AND CONS)

SURVEYS AND POLLS

Surveys and polls can be used to collect students' perceptions in the class content and online delivery at any time during the semester. Surveys given at the beginning, at the middle and at the end of the semester will allow instructors to evaluate students' experience throughout the semester better. Same or similar questions can be used in these surveys to see the knowledge of students at the beginning and at the end of the class. This will allow the instructor to see which topics were delivered successfully and which topics or areas need further attention. Whenever an innovative approach is used in class, a short assessment poll can show the instructor whether the new technique works or not. It is beneficial to keep surveys and polls anonymous to make sure students answer questions honestly. There are many tools available to be used to create the surveys and polls. BB has its own surveys, however, the analysis of the survey results may not be easily documented. Using, Socrative, Survey Monkey, or Polldaddy can be helpful due to the ease of creating and distributing surveys, as well as saving the results of the analysis. The cons of surveys are due to the fact that most of the time they are optional and may result in a low response rate. The author prefers to assign small grade to surveys and polls to increase its effectiveness. As the surveys are anonymous, students are asked to upload the thank you page of survey tools such as Survey Monkey to BB as a proof of completion to receive the grade associated.

DISCUSSION BOARDS

Discussion Boards are preferred in online courses due to its potential to trigger in depth conversations with easy access and moderating. BB had a discussion board tool, where all posts are recorded for grading. Although the discussion boards are flexible in their nature, it should be noted that students need clear directions on when to post and what to post. An online grading rubric will answer these questions and will help the instructor to grade student work fairly. With the full participation of the class students, instructors will be able to assess students' learning as well as communication skills with online discussion boards.

QUIZZES AND EXAMS

Formative assessment is suggested for online courses, however summative assessment techniques cannot be ignored. Quizzes and exams provide opportunities to assess if students have learned a considerable part of the class material. They can be created in BB as graded tests or quiz questions can be embedded in video lectures if the format allow. For example, if the video lectures are recorded by using MS PowerPoint with voice over PPT option, Office Mix add-on can be used to create quiz questions in between slides. This type of quizzes helps the video lecture to be more active, rather than student watching videos without interacting. When quizzes and exams are created on BB, the system allows instructors to create a pool of questions, which can be distributed randomly to students. The order of questions and how the questions will be seen (one at each time or all together) can also be decided by the instructor. One of the cons is that it is very time consuming to create and set up these exams on BB. Another common concern with giving tests in an online environment is the test security. Previous studies mentioned the ways of promoting honesty, while simultaneously using other sources to control the test security (Sewell, Frith, & Colvin, Online Assessment Strategies: A Primer, 2010). As online exams are open book exams for sure, fixed answer questions may be limited to include more short answer questions to receive unique answers from students. Additionally, third-party tools such as *Respondus LockDown Browser* can be used in connection with BB to prevent students from using other documents during the exam. It locks out students from all other programs and internet, and only allows them to see the exam on their laptop/PC. Some institutions are implementing the webcam recording requirement together with the *Respondus LockDown Browser* to have students record themselves during the exam. The reliability of the assessment data will surely increase with implementing lockout applications for these online unproctored exams.

FINAL PROJECTS

Final Projects are great opportunities to collaborate in both on campus and online courses. As online students do not get to know each other in a physical class setting, teamwork assignments to create a final project will challenge students to work together. In this case, students should be comfortable with BB and should find other online means of communication. They can use Dropbox or Google Drive to share files, and can perform conference calls to discuss the details and share their word. As final projects mostly use real case studies, they assess critical thinking and students' response to the teaching strategies in the online class. They also require specific rubrics to be evaluated effectively.

SUMMARY OF BEST PRACTICES IN ONLINE ASSESSMENT

Per the online course design strategies and assessment methods discussed before, the top three best practices in online assessment can be summarized as:

- Identify clear standards
- Include a variety of assessment methods
- Think of students' background and skills

Online assessment requires clear standards. The instructor should have the learning outcomes defined clearly and updated for online delivery. The topics of the class, as well as communication skills can be assessed in online classes. Assessing written communication skills will be easier, however if one of the learning outcomes requires assessing oral communication skills, the instructor should find alternative tools for students to record their presentations for evaluation. When the learning outcomes are decided, online assessment methods should be defined with a target level. On campus, target levels may not work for online courses, and the levels of achievement expectation should be updated accordingly.

When the assessment methods are in consideration, both formative and summative assessment activities should be included. Surveys and polls are great for formative assessment, but they allow collecting indirect data. If the surveys and polls are not mandatory, it will not be possible to evaluate the whole class and a small sample may not reflect the status of the whole. Discussion Boards can also be used for formative assessment, if they are distributed evenly throughout the semester. Assignments and exams work as summative assessment methods, as they tie a considerable portion of students' grade to the knowledge and application of several topics. Final Projects are also a summative in a sense that they allow students to create the output project based on their cumulative knowledge of topics. Using three or more methods will bring variety and will increase the reliability in the online assessment process.

Students' background and skills play an even more important role in online courses compared to on campus courses. In on campus courses, the instructor has the ability to judge his/her audience with the help of the FTF contact. In online courses, the backgrounds of students are more diverse. This diversity may be based on students' technical knowledge or technological knowledge. Some students may be very successful in using online systems like BB and other tools, while some students may have serious technical issues. Learning cannot take place in online courses if the technology becomes a problem. The institutions Information Technology (IT) department, as well as the instructor should work hand in hand to solve technical emergencies. Additionally, students, who have not been involved in online courses before may have misconceptions that should be clarified before the learning can take place. The most common misconception is to see the online course easier that an on campus course, which is not the case. Online courses require self-motivation and self-organization of students. Students should take the responsibility of learning in hand and be sure to communicate with the instructor immediately when in need. As instructors, we can see the need of a student in an FTF setting. However, as we do not share a physical classroom with them, we will not be able to see, if the online student is in need unless they contact with us directly. Virtual attendance and formative assessment activities help in this process up to some point. Still, they do not allow us to track students' understanding before they submit the activity. Therefore, online students should be reminded of their responsibilities, and even invited to take an online course preparedness questionnaire to see if they are ready to take a class online.

CONCLUSIONS

This paper summarized the basics of online course design and assessment, together with best practices for online assessment. The course design steps at Jefferson MCM were shared with readers to tell them the extents of developing an online course. Various formative and summative assessment methods were explained and evaluated on their suitableness for online courses. It was suggested to use at least three formative and summative assessment methods to evaluate students learning throughout the semester. BB was also evaluated in its extents to be used with certain online assessment methods. In some cases, like surveys, BB was found ineffective due to its limits in documentation of results. As an important portion of assessment included evaluating the results, documentation, and ease of creating assessment activities become very important from an instructor and an assessor's perspective.

Three top best practices in online course assessment were created based on previous studies and experience. It was suggested (1) to identify clear standards for learning outcomes assessment, (2) to include a variety of formative and summative assessment methods for sustaining the reliability of the assessment data, and (3) to think of students' background and technical skills during the development of the online assessment activities. Using various tools and software packages will help in adding variety to assessment techniques to reach out to a diverse student population. Names of some software packages were mentioned previously to help readers on this topic.

Successful assessment –online or on campus- still lies beneath matching learning outcomes with the most suitable assessment methods. Formative assessment helps instructors to assess in pieces, and summative assessment methods allow instructors to evaluate the whole class content and delivery. Constant interaction with online students via emails or other means of communication will surely increase learning. Online students need timely feedback, which can only occur when the instructor is responsive. Prompt feedback may be missing due to the lack of a physical setting, however continuous feedback on formative assessment activities are needed to achieve successful learning and assessment.

Best practices in online assessment have been created with generic wording so that instructors in various disciplines can adopt and use these suggestions. Future research opportunities can include specializing in certain types of online courses for best practices, as well as detailing the assessment process such as questioning data, data validation, and the desired level of learning for online delivery.

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Dr. Deniz teaches core courses and electives in undergraduate and graduate Construction Management (CM) programs at Jefferson with a variety of delivery methods such as *on campus, hybrid, and online.* She is a LEED Accredited Professional, a member of Construction Management Association of America (CMAA) and Sigma Lambda Chi ETA V Chapter, and has experience in commercial and LEED certified buildings. She has been developing the Online Masters of CM (MCM Online) Program in collaboration with the CM faculty, and is currently working as *the Assessment Leader of the CM program* in College of Architecture and the Built Environment (CABE). She is a member of *the CABE College Assessment Committee* that is responsible to collect and evaluate Middle States assessment reports. She has been developing program and course learning outcomes in relation to the institution's student learning outcomes. Currently, she is working on establishing, revising, and assessing *the Accreditation Board for Engineering and Technology (ABET)* student learning outcomes for the CM program.

Dr. Deniz has performed research in Building Information Modeling (BIM) and sustainable design and development, as well as in construction education. She has published and presented related to *teaching, learning, and assessment* in various national and international peer-evaluated conferences. She has served as a reviewer of education-related journals and conferences. She has been working on project grants related to *innovative capstone course experiences, Virtual Reality (VR) in construction education, and best practices in delivering online independent study courses.* Her studies continue in the areas of BIM and VR use in construction education and online education and assessment.

EDUCATIONAL DEVELOPMENT AND ASSESSMENT: SIMULTANEOUSLY PROMOTING CONVERSATIONS THAT MATTER

By

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ABSTRACT

This chapter illustrates why educational developers should become involved with ongoing assessment projects. When developers broaden their scope from working with individuals to collaborating with departments or colleges on programmatic assessment, they are poised to improve the overall educational quality of programs. Using the popular assessment cycle as an organizing framework, this chapter discusses scholarship of teaching, learning, and assessment about the implementation of learning-centered teaching. Throughout this cycle, educational development and assessment mutually complement each other by way of conversations that matter.

Keywords: educational development, assessment cycle, stakeholder input

INTRODUCTION

Educational developers work with faculty in various capacities: faculty developers help them to improve their teaching, curriculum developers help faculty to develop or revise educational programs or courses, and instructional developers assist faculty to teach online more effectively. As they work with faculty members, they frequently provide formative feedback. Yet, educational developers often do not think of themselves as being formally associated with assessment. It is not a big leap from what educational developers currently do to conducting assessments since the assessment process implies the systematic collection, analysis and use of data for the purpose of improvement (Palomba, 2001).

When educational developers enlarge their focus from supporting individuals to collaborating with committees, departments, or colleges, they can have greater impact on faculty than having many one-one consultations (Schroeder, 2011). Furthermore, if educational developers become formally involved with departmental or college assessment efforts, they can impact the strategic direction of the institution and be effective in their efforts to improve the educational experience for students. This increased scope leads to educational developers becoming more central to the institution as a whole. Because of their unique roles, educational developers are often trusted by both faculty and administration. This trust positions educational developers as potentially good change agents to promote institutional development through assessment efforts. Educational developers also are very knowledgeable about educational programs and can be a good source of useful information to institutions for accreditation reporting.

The purpose of this chapter is to demonstrate how all types of educational developers can become involved with programmatic assessment. When they integrate assessment into their traditional responsibilities educational developers can effectively promote overall educational quality improvement.

Since educational developers may be new to assessment, this chapter shows how Suskie's (2009) popular and research-based assessment framework, called the assessment cycle, can be applied to their own work. This chapter uses this assessment cycle to describe a teaching and learning center director's efforts to integrate assessment and faculty development, as an example of educational development. Further, this chapter shows how both were well served through this process. This author, the center director, reports on a combined faculty development and assessment effort relating to the implementation of learning-centered teaching (Blumberg, 2009; Weiner, 2103). Conversations are a powerful vehicle to achieve these integrated efforts. After reading this chapter, educational developers will be able to use Suskie's assessment cycle to guide intentional conversations that can lead to improvement efforts, pragmatic assessment, and data for accreditation reports.

DESCRIPTION OF THE UNIVERSITY WHERE THE FACULTY DEVELOPMENT/ ASSESSMENT PROJECT OCCURRED.

This combined project occurred at a small, private, specialized science and health professions university. Since this university is tuition-driven, faculty and administration value good teaching and teaching improvement. This university has had a well respected Teaching and Learning Center for at least twenty-five years (University of Sciences, Teaching and Learning Center, 2005). This center has promoted a culture of sharing about teaching through faculty presentations, poster sessions and many informal discussions (Blumberg, 2004). This culture of sharing about teaching has added to the value that faculty and administrators place on teaching (Shulman, 2004). For over a dozen years, this center has strongly promoted the use of learning-centered teaching.

In learning-centered teaching, the responsibility for learning shifts to the students and the teacher becomes more of a facilitator and less of a disseminator of information (Blumberg, 2009; Weimer, 2013). Research shows that increased use of learning-centered teaching techniques increases student learning (Doyle, 2011; Weimer. 2013). The teaching and learning center's promotion efforts led to incorporation of learning-centered teaching practices into the university's mission and value statements. The strategic plan of half of the colleges within this university state that they will use learning-centered teaching.

Prior to 2013, and consistent with national trends (Ikenberry & Kuh, 2015); assessment was conducted sporadically while gathering documentation for accreditation self-studies. Thus, assessment was largely done for the purposes of reporting data to regional and specialized accreditation agencies. This situation was so obvious that in 2013, the site visitors for the Middle State Commission on Higher Education stated that although the institution collected a plethora of data, these data were not used to drive improvement efforts.

Since 2013, assessment assumed and continues to assume a much more important role in the overall university. This turn around can be attributed to external pressures coming from the accreditors, and society at large as well as changes in the highest levels of administration. Currently the president and the provost value on-going assessment for the purposes of improvement and not just accountability for accreditation. In 2013, the provost asked the director of the Teaching and Learning Center to co-chair the University Assessment Council because the provost understood that the faculty needed to learn about the importance of assessment and how to use assessment to make decisions. This council has held many

educational events to assist faculty, staff and administrators to design and conduct more meaningful assessments, which provide data to help complete the assessment cycle. Members of this council review all annual assessment reports and provide feedback to departments and units. This feedback sometimes sparked rich conversations about how to improve the assessment efforts and how to promote changes.

HOW AN ASSESSMENT STUDY SERVED FACULTY DEVELOPMENT EFFORTS.

To gain a better understanding of the implementation of learning-centered practices across the university, the director of the Teaching and Learning Center and as part of her new role as an assessment leader, conducted a study to identify the use of these practices among faculty. This study assessed the impact of long term and continuous faculty development efforts. Using interviews with faculty within the two colleges that mention learning-centered teaching in their strategic plan, this study provided additional assessment insight into whether these colleges achieved this part of their strategic goals of implementing learning-centered teaching. While the original purpose of this study was to assess to what extent are learning-centered teaching practices being implemented among faculty in their courses, the one-on-one interviews used for data collection, and discussion of the results with the stakeholders also served faculty development roles. The purpose of this chapter is not to describe the research study itself, as the methods used to collect the data and the results of the study are reported elsewhere (Blumberg, 2016a, 2016b, 2017). Instead, this chapter shows how conversations that matter and opportunities for development can occur throughout the steps of the assessment cycle.

THE ASSESSMENT CYCLE AS BOTH AN ASSESSMENT HEURISTIC AND A FRAMEWORK FOR EDUCATIONAL DEVELOPMENT

Figure 1 shows Suskie's (2009) assessment cycle. This cycle is commonly used in higher education to highlight why data should drive actions, commonly called closing the assessment cycle. However, assessment data do not easily translate into actions (Ikenberry & Kuh, 2015; Kinzie, Hutchings, & Jankowski, 2015). When assessment results are analyzed, interpreted and shared with all relevant stakeholders, they are more likely to be used to plan changes that should lead to improvements. Assessment data take on meaning and value when faculty and administrators use them to make changes to current practices (Kinzie, et al., 2015, Suskies, 2015). Such data should also be used to help prioritize resource allocation decisions. If faculty and educational developers make a commitment to quality improvement, assessment becomes a vital part of the entire teaching process (Maki, 2010).

Figure 1 Assessment Cycle (Suskie, 2009)

Figure 2 takes the concepts of each step of Suskie's (2009) assessment cycle and makes them more specific to the combined faculty development and assessment effort. If the goal is met, then the assessment cycle can be used to create new goals. In place of the commonly used IMRD (introduction, methods, results and discussion) section titles, the headings in the rest of this chapter are the steps of the assessment cycle as they apply to this project and as shown in Figure 2. This organizational structure frames how educational developers can use the assessment cycle in their work. Intentional conversations that mattered occurred at each step of this assessment cycle. Instead of reporting on the results of the study as commonly done in research reports, this chapter focuses on discussions with stakeholders and how the data were used to promote faculty development conversations. Thus, this chapter illustrates how Suskie's (2009) assessment cycle can be implemented as a continuous improvement vehicle for educational development.

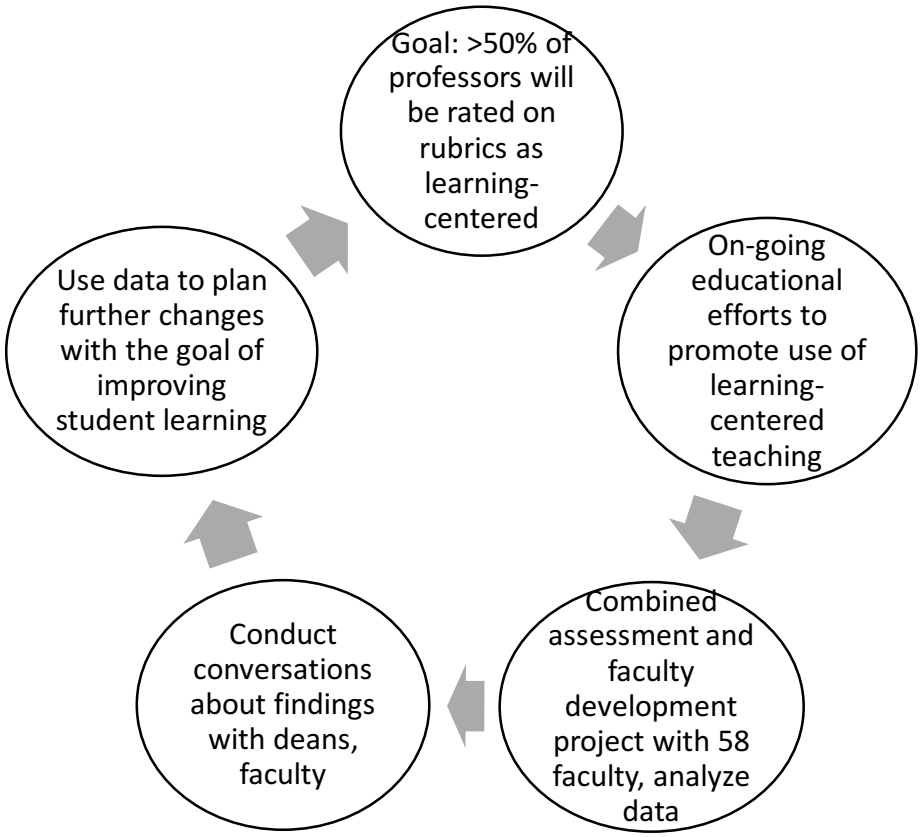

Figure 2 Assessment Cycle as Applied to Learning-Centered Teaching Educational Development and Assessment Efforts

Goal: >50% of the professors will be rated on rubrics as learning-centered

Learning-centered teaching has five dimensions: the function of content, the role of the instructor, the responsibility for learning, the purposes and processes of assessment, and the balance of power (Weimer, 2013). Blumberg (2009) further defined these five dimensions into thirty-two different components of learning-centered teaching and developed a four-level rubric to measure each of these components. The four levels are instructor-centered (1), lower level of transition (2), higher level of transition (3), and learning-centered (4) (Blumberg, 2009). When the rubric scores from a cohort of faculty are aggregated, the rubrics assess the aggregated use of each level on each component (Blumberg and Pontiggia, 2011). Thus, this literature established a method to determine the extent of implementation of learning- centered teaching.

An effective assessment cycle begins by goal setting and establishing criteria for success. Ratings on these rubrics determine the criteria for success. Collaboratively the deans and director determined the desired benchmark score that faculty needed to achieve on the rubric, which met the expectations of learning-centered approaches in their teaching practices. They agreed that scores of either higher level of transition (3) or learning-centered (4) indicated the use of learning-centered teaching. The deans felt that if majority of their professors were implementing learning-centered teaching, they would have an easier time convincing the minority of the faculty to change how they teach. Thus, the criterion for successfully meeting the goal was set at > 50% of the professors interviewed would be using learning-centered

approaches. They determined an acceptable criterion for success with the intention of using the data to stimulate more faculty to use learning-centered approaches.

ON-GOING EDUCATIONAL EFFORTS TO PROMOTE USE OF LEARNING-CENTERED TEACHING

The Teaching and Learning Center has been the campus leader promoting learning-centered teaching for over a dozen years. Over the years, the Center has used a number of approaches to encourage this teaching including numerous workshops given by external experts, peer-to peer presentations made by faculty who are implementing learning-centered teaching, awarding peer-reviewed prizes to faculty who were successfully using this approach, sponsoring faculty to attend educational conferences and collaborated with faculty to engage in scholarship of teaching, learning and assessment to determine why learning-centered teaching led to better student learning. The director also modeled this teaching approach in her many one-to-one consultations with faculty.

In 2003, the Center hosted a half-day consensus conference where faculty discussed how consistently they could implement learning-centered teaching throughout the university. More than half of the faculty participated in this conversation. Faculty had the opportunity to interact with others both outside their department and those who teach very different types of courses. At the end of the consensus conference, the faculty established defining characteristics of what learning-centered teaching looks like at this university (Blumberg & Everett, 2005). This was such a significant conversation that more than a decade later, a few faculty still point to that conference as a turning point in their teaching. The Center held subsequent workshops to continue to help faculty enhance their teaching practices using these agreed upon characteristics.

Since that consensus conference, all new faculty participated in workshops on how to implement learning-centered teaching as defined at this university. In addition, the Center offered practical workshops, which emphasize specific learning-centered teaching techniques for all faculty. In these workshops, faculty could work individually or in small groups to develop changes to their teaching and have a chance to share their ideas and get feedback from their peers. Over the past dozen years, more than 75% of the faculty participated in at least one of these workshops, with some faculty attending many of them.

COMBINED ASSESSMENT AND FACULTY DEVELOPMENT PROJECT WITH 58 FACULTY, ANALYZE DATA

In consultation with the deans of the colleges where their mission incorporates learning-centered teaching, the director of the Teaching and Learning Center developed a plan to assess the extent of implementation of this approach. The university's IRB approved this plan. As part of the invitation to participate, the director stated that all responses would be aggregated and individual answers would never be associated with individual faculty. The director aimed to interview at least 50% of the full-time faculty in these colleges. While the director invited all faculty to be interviewed about their teaching practices, she more persistently asked those faculty who rarely attend Center events. This was done intentionally so that the sample was not overly represented by those faculty who already knew about used

learning-centered teaching approaches. All interviews were set up at the convenience of the faculty and occurred in their offices.

Out of the 99-full-time faculty in these colleges, 58 (60%) faculty voluntarily were interviewed using a semi-structured questionnaire. The director conducted all the interviews that provided consistency to the study. During the interview, the director asked questions about the faculty's implementation of the learning-centered practices as agreed upon at the consensus conference and discussed in the literature. If the faculty member did not understand a question or a learning-centered concept, the director explained the concept and gave examples of how other faculty used it. During the interview, the faculty member provided support for how he or she teaches by sharing course artifacts usually the course syllabi or class activities. At the end of the interview, the director asked a few debrief questions to determine how the faculty perceived the interview and if it was useful for him or her.

While most concepts were clear after only a brief explanation, a few were more obtuse to many faculty, especially those who did not attend educational development workshops or read education literature. The interviews met best practices for content validity since the director was well informed in learning-centered teaching practices and therefore could identify if the components were are not well understood. From conducting training sessions over the years, the director knew that two components are hard to understand. She developed a script to explain these two least understood components and these explanations were incorporated into the interview process.

The director rated the faculty responses on the rubrics according to the previously published reliable and valid methods (Blumberg, 2009; Blumberg & Pontiggia, 2011). The questionnaire asked several questions about each practice to provide enough information to rate the faculty on each of the rubrics. The rubric scores were analyzed on a four-point Likert scales from a low of 1, instructor-centered to a high of 4, learning-centered (Blumberg & Pontiggia, 2011). This resulted in a score from 1-4 for each faculty member interviewed on each learning-centered component. These ratings were collapsed into a dichotomy score of either instructor-centered (1 or 2 on the rubric) or learning-centered (3 or 4 on the rubric). This dichotomous scoring is consistent with the benchmark established where the top two levels would be classified as learning-centered teaching and is supported by Suskie's (2009) recommendations that data be grouped and reported simply for ease of understanding and interpretation by diverse stakeholders who may not be familiar with statistical tests. This scoring led to summary tables that listed the percent of faculty members rated as either instructor-centered or learning-centered for each component. Scores on each component indicated how much the interviewed faculty implemented learning-centered practices. Inspection of the results indicated which components were frequently or infrequently used. Also, when all the components are added together, the result is an overall score to determine whether the goal of >50% implementation of learning centered practices was met. Both the specific component scores and the overall scores are good stimuli for intentional conversations with faculty and administration.

ASSESSMENT DATA

Faculty in both colleges met the criteria of successfully employing learning-centered teaching with 74% of the faculty in college of arts and sciences and 92% of the faculty in the college of health professions employing at least half of the learning-centered practices with fidelity. The five faculty members who

were using the most learning-centered approaches were either assistant professors or recently promoted associate professors. These faculty have also participated in the most conversations about teaching. The results of this study support the hypothesis that such conversations during workshops are effective educational development tools. Four of the five faculty members using the most instructor-centered approaches were professors.

Three components were extensively used in a learning-centered way. Among the interviewed faculty, 93% indicated that they promoted student engagement with the content. They cited various methods to promote this engagement including requiring students to write reflections on their learning, asking students to talk about the content in their own words, or graphically or non-verbally represent content. 89% of the faculty agreed that they created an environment for learning to occur and to foster student success. The most common method of implementing this component was being available frequently for students either in person or electronically. Faculty also stated that they created a safe environment for students to make comments and to ask questions. In addition, 89% of the faculty provided formative feedback that can be used to help the students improve. This was implemented differently: by using audience response systems, providing feedback on drafts, and providing specific comments on student-created artifacts (Blumberg, 2017).

Three components were used infrequently in a learning-centered fashion. Less than 25% of the faculty used the two the components that involve peer and self-assessment, including self-assessment of learning or peer and self-assessment of strengths and weaknesses. Among the interviewed faculty, 72% did not describe why they were using learning-centered approaches either on their syllabus, on the learning management system or orally to the students (Blumberg, 2017).

All interviewed faculty indicated that they learned from the interview. They, especially the more research-focused faculty who often did not attend programs offered by the Teaching and Learning Center, indicated that this one-on-one interview format was an effective educational development vehicle for them. These researchers indicated that they participated because their dean endorsed the study; they received persistent requests, but also out of respect that this was a legitimate research effort. They observed that this was a comfortable venue to talk about teaching whereas they were not motivated to come to teaching improvement workshops. Most faculty indicated that they appreciated the explanations and examples given when they did not understand the concept. Further, they indicated they had not thought about teaching that way before. Some even said they might use some of these techniques in the future.

CONDUCT CONVERSATIONS ABOUT FINDINGS WITH DEANS, FACULTY

Maki (2010) stresses the importance of conversations about the assessment results with relevant stakeholders. These conversations are mutually beneficial for the stakeholders including the faculty and administrators as they serve as a catalyst for changes in educational practices. Conversations with the deans, chairs and faculty about the overall results of the implementation of learning-centered teaching led to further ideas about educational development.

These conversations revealed negative aspects of implementing learning-centered teaching, which provided an instant opportunity for educational development. Faculty who have been using some

learning-centered teaching components expressed the concern that their students may not understand why they are teaching this way. They fear that students may resent the more active roles and taking on more responsibility for their learning that are essential to learning-centered teaching. Students perceive learning-centered courses as harder and require more work than traditional instructor-centered courses. In response to these concerns, the successful learning-centered faculty identified that they need to be consistently explicit to students about why they teach this way and how the students should engage with the material. The syllabus and online course materials should explain the learning-centered practices used and why they are used. These explanations help students to accept their new roles and realize that these approaches will help them to learn and retain the material. As the semester progresses, students need to be reminded of their roles and responsibilities and how they foster learning. Faculty explained that they teach students how to work in teams and how to read primary literature. These continuous explanations mediate the negative consequences of implementing learning-centered teaching.

USE DATA TO PLAN FURTHER CHANGES WITH THE GOAL OF IMPROVING STUDENT LEARNING

The deans used the data to further institutionalize the use of learning-centered teaching. There was even some talk about putting the implementation of learning-centered teaching on the annual faculty evaluation form, but it has not yet happened. Prior to the study, the deans did not know how many faculty were using learning-centered practices. Armed with the data that majority of the faculty were using this teaching approach, the deans decided that they would have conversations with their chairs to encourage them to engage faculty who continue to resist teaching this way. A new goal might be to increase the number of arts and sciences faculty using learning-centered teaching practices to 90%. This dean used the argument with the chairs that faculty in this college should strive for greater consistency in teaching.

In addition, the director used the results to plan further faculty development programs. One of the guiding principles that she uses in planning events is showcase faculty who teach using best practices. Generally, faculty are flattered that they are asked. The director and faculty member-workshop leader discuss how to conduct a program and what to include. The director also uses workshops as opportunities for conversations among faculty across the university in a supportive environment.

As a result of these interviews, the director knew which faculty were using learning-centered techniques and invited them to lead faculty development workshops. Some of these faculty are applying for tenure soon and appreciated the leadership and visibility opportunity. In one workshop, faculty learned how to incorporate peer and self -assessments from several health professions faculty who use such assessments for students in their courses. These faculty who demonstrated how they taught in this workshop were assistant professors. In this workshop, the participants had a meaningful conversation about the rationale and value of peer and self-assessments for all students. Some faculty expressed their own discomfort conducting self-assessments, but recognized that it is a skill worth learning.

The director developed workshops on how to implement the practices that were minimally used together with those that were least understood by faculty. For example, she hosted a panel discussion where the five most learning-centered faculty discussed their teaching practices. In advance, the director asked each one to especially address how he or she implemented a specific infrequently used or poorly understood component. The conversation focused on how to use various learning-centered practices in

different types of classes. The audience was a mix of faculty who use learning-centered teaching and those who were most likely encouraged by their chair to attend. In the debrief activity at the end of the session, everyone present agreed that they had learned at least one new technique or how to incorporate more learning-centered teaching.

IMPLICATIONS AND GENERALIZATIONS OF THE COMBINED FACULTY DEVELOPMENT- ASSESSMENT PROJECT

When faculty members talk about instruction, teaching becomes shared and valued community property (Shulman, 2004). Faculty members at this university frequently discuss their teaching. The fact that teaching is valued as community property may have contributed to the success of these combined development and assessment efforts. The university culture fostered the acceptance of the information gathering, faculty development, and assessment efforts. The same shift in value can occur when faculty members and administrators talk about assessment. These conversations can occur within departments, but educational developers are well poised to foster inter-departmental or university wide dialogues. These conversations about assessment should use various formats to attract as many people as possible.

The combined faculty development and assessment project identified a symbiotic relationship between conversations that matter and assessment. Intentional conversations at each step of the assessment cycle lead to enriched development and assessment. Intentional conversations inform and enrich the understanding of the assessment process, the data obtained, and closing the assessment cycle by using the assessment data. The assessment cycle is also a stimulus for conversations that matter. This chapter shows the value of educational developers when they engage with ongoing institutional assessment projects.

Effective educational development always involves conversations between the presenters and the participants. Faculty developers should recognize and takes full advantage of the potential impact for conversations that matter through different development formats. One powerful tool that can be used more often is a consensus conference among faculty. Consensus conferences highlight conversations as purposeful agents with the goal of an agreed upon end product. Through discussions during workshops, the participants learn how others are implementing effective teaching practices. Educational developers can also use what they learned from ongoing faculty development efforts to guide future development efforts.

Even though using one-on-one interviews is time consuming, this study showed that they could be valuable time investments. While collecting assessment data about teaching practices in semi-structured one-on-one interviews, the educational developer can also disseminate information especially to faculty members who rarely attend educational, professional development events. Thus, data gathering can also function as teachable moments for faculty. Combining assessment and educational development might make both processes more acceptable to faculty, especially the research-oriented faculty who rarely attend events focused on teaching. Because assessment data gathering interviews were one-on-one and not in focus groups or in faculty development workshops, faculty may be more comfortable with the combined efforts and more likely to be truthful about their teaching practices. Such assessment-development interviews may motivate faculty to try new ideas they learned about during the interview.

Data from assessment studies can lead to rich conversations with faculty and administration. Discussions about assessment data can be powerful tools for motivating change. However, these conversations do not occur as often as they should. When assessment data are reported in writing or

placed on the university or departments Internet or Intranet, without conversations among stakeholders, opportunities for expression of new insights and ideas for change are lost. Assessment data conversations can lead to a greater valuing of the assessment process, allowing assessment to also become a valued community enterprise that is done for improvement and not just for accreditation. When assessment on teaching practices is discussed, faculty share the varied ways they teach. Thus, everyone can learn ways to improve their teaching. If handled in a formative feedback manner, the assessor/educational developer can gain political capital. This fosters the changes necessary for continuous improvement, which ultimately impacts student learning.

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