# Using an ePortfolio to Assess the Outcomes of a First-Year Seminar: Student Narrative and Authentic Assessment

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ePortfolios have been looked to as a tool for the direct assessment of student learning. Because the evidence used for assessment is actual student work, ePortfolios provide a view of learning that is not available through traditional methodologies such as student surveys and exams. This research examined 47 student ePortfolios completed as part of a first-year seminar course. Learning outcomes were assessed using both a rubric and identification of authentic evidence in the form of words and phrases to support rubric scores. Findings indicated that the ePortfolio is a rich source of evidence from which to assess learning and the authentic evidence was closely aligned with rubric scores. Rubric scores indicated the level of learning that occurred while student narrative provided insight into the level of student thinking and depth of thought around particular topics including understanding of self and exploration of majors and careers. When coupled together, an analytic rubric and examination of student narrative as authentic evidence provided a robust methodology for assessing student learning.

As institutions across the United States seek to find ways to increase graduation and deepen learning, educational strategies including intrusive advising and mentoring, engaging classroom pedagogies, and high-impact practices are increasingly being implemented on campuses and in classrooms. Many campuses have focused on first-year students in an effort to build foundations for critical thinking, engagement on campus, and commitment to college completion. Others have used ePortfolios as a tool for assisting students in deepening and documenting learning in a course, academic program, or across the college experience. Regardless of the strategies implemented, most institutions have measured the success of initiatives using quantitative data such as grade point average, retention rates, and graduation numbers.

This paper presents research completed to explore the outcomes of two educational strategies, first-year seminars and ePortfolios, in a way that goes beyond traditional quantitative measures of success. Using student narrative in an ePortfolio as authentic evidence of student learning, researchers sought to determine the level of achievement for five learning outcomes associated with a first-year seminar course.

## Literature Review

### ePortfolios

The electronic portfolio (ePortfolio) has emerged over the last decade as one tool for responding to the pressures facing higher education in the areas of assessment and accountability for student learning outcomes (Cambridge, 2001; Chen & Penny Light, 2010; Watson & Doolittle, 2011). Banta (2003) posited that "portfolios enable faculty to see firsthand not only *what* students are learning, but *how* they are learning" (p. 2) in addition to the observation that "portfolios also can play a role in assessing the effectiveness of the courses, curricula, and even institutions" (p. 4). The ePortfolio is also used to support and document the personal, professional, and intellectual development of students (Watson & Doolittle, 2011).

Zubizarreta (2004) referred to portfolios that support student's affective and cognitive development as learning portfolios. Learning portfolios can be used for a variety of purposes across a range of settings including the classroom, co-curricular programs, and at the program or institutional level. Across purposes and settings, Zubizarreta (2004) suggested all learning portfolios have three primary components: (a) documentation as evidence and outcomes of learning, (b) reflections on learning, and (c) collaboration and mentoring most often in the form of faculty feedback. Frequently, learning portfolios are structured to serve as living documents that emphasize the learning that occurs through the process of developing a portfolio, rather than the portfolio itself as an outcome (Seimens, 2006, as cited in Garris, 2007). Because the focus of learning portfolios is on the individual's orientation and process of learning, they often are considered to be personal or developmental portfolios.

While some see the use of portfolios for assessment and learning and personal portfolios focused on learning process and student development as two distinct types of portfolios, Cambridge (2010) posited that they both contribute to the ideal of authenticity where authenticity is undergirded by, "the principle that we do not really understand our unique selves or participate fully in life until we express our natures" (p. 13). Portfolios designed for assessment purposes allow for measurement of student learning against an established standard while

personal portfolios allow the learner to define and narrate their learning as they see it. Both provide significant information on learning to the institution or program as well as the student. Therefore, the potential for ePortfolios as tools for both assessment and support for student learning is tremendous and this potential can be maximized if the portfolio is developed beginning in the first year of college.

**First-Year Seminars**

It has long been recognized that the first year of college is a significant point in time for both the student and the institution (Barefoot et al., 2005). From the student perspective, this is a year of significant challenge and change. Students are faced with having to engage in independent decision-making, more rigorous classroom expectations, interacting with diverse people and perspectives, and a maturing sense of identity. From the institutional perspective, assisting the student in developing the knowledge, understanding, and skills that promote college success reduces the large rates of attrition seen between the first and second year of enrollment. A wide array of institutional interventions to support entering students have been employed at campuses across the United States including orientation programs, learning communities, academic advising, supplemental instruction, and first-year seminars (Upcraft, Gardner, & Barefoot, 2005).

First-year seminars are as diverse as the institutions offering them. They may be academically-focused and tied to an intellectual theme, focused on basic study skills, or serve as an extended orientation to the campus—or a combination of all three (Griffin & Romm, 2008). The seminars may serve beginning students in their first semester or through the first-year of enrollment, be offered for credit or not, and be graded or marked pass-fail. Similarly, assessment methodologies for first-year seminars are as varied as their purposes, ranging from analysis of GPA and retention to measures of critical thinking and civic engagement.

Kuh (2008) argued that first-year seminars and experiences are one of 10 high-impact practices that increase student engagement and learning. The most successful seminars focus on engagement of students through critical inquiry, frequent writing, information literacy, and collaborative learning. Kuh and O'Donnell (2013) went on to indicate that in order to be considered "high-impact" in their efforts to foster outcomes such as improved retention, on-time graduation, and deeper learning, practices such as first-year seminars must meet eight conditions: (1) performance expectations must be set at appropriately high levels; (2) students must invest significant time and effort over an extended period of time; (3) students must interact with faculty and

peers about substantive matters; (4) students should have experiences with diversity; (5) instructors should provide students with frequent, timely, and constructive feedback; (6) instructors should provide students with periodic, structured opportunities to reflect and integrate learning; (7) students should have opportunities to discover the relevance of learning through real-world applications; and (8) students should publicly demonstrate their competence. These conditions are also foundational principles for the use of ePortfolios. In a first-year seminar, over the course of the first semester or year of enrollment, the use of a personal or learning portfolio can be a pedagogical technique to engage students in using reflection to think critically about themselves and apply their learning to their college experience while receiving feedback from a faculty member. Thus, ePortfolios, like the first-year seminar, are quite likely a high-impact practice.

**ePortfolio as Authentic Assessment**

The electronic portfolio has become increasingly attractive to faculty who seek a more comprehensive insight into and interactive approach with respect to the authentic assessment of their students' process of learning and development (Banta, 2003). The notion of authenticity in assessment is based on the idea that a more representative evaluation of a student's learning is based on evidence that represents a reflective, intentional timespan rather than arbitrary points in time. According to Cambridge (2010),

> Putting the ideals of authenticity and deliberation into action, ePortfolios offer one means of generating a comprehensive account of students' experience of ineffable outcomes, having the promise to capture the complexity and context of students' learning in ways that more conventional kinds of assessment cannot. (p. 118)

The ePortfolio is a natural fit for a high impact practice such as a first-year seminar because of the integrative learning opportunities fostered by this structured reflection and assessment framework. Established learning outcomes can be assessed by either formative or summative means through a wide range of authentic evidence documented by a student over time (Banta, Griffin, Flateby, & Kahn, 2009). "As 'containers' of authentic evidence of student work, e-portfolios can serve as a catalyst for conversations among faculty and other stakeholders within departments and programs about common learning outcomes, coherence among courses, and professional development" (Chen & Penny Light, 2010, p. 3).

## Bringing it All Together

At Indiana University-Purdue University Indianapolis (IUPUI), all first-time full-time students are required to enroll in a first-year seminar course during their initial semester of enrollment. The course aims to support students in building a solid foundation for college success. Students are introduced to key information and skills needed to succeed at IUPUI as they explore the academic culture of the campus. One of the foundational goals of the course is to have students complete an electronic personal development plan (IUPUI, 2010).

The electronic personal development plan (ePDP) is a process that enables students to understand, implement, and chart progress toward their degree and college goals and, in doing so, become empowered to take charge of their own education. Specifically, the ePDP is a personal, developmental ePortfolio designed to foster goal commitment, academic achievement, curricular coherence, meaning-making, and student development (IUPUI, 2012). Students complete guided reflection prompts across seven distinct sections: About Me, Educational Goals and Plans, Career Goals, Academic Showcase, My College Achievements, and Resume. The guided prompts are aligned with stated learning outcomes and are evaluated using rubrics based on elements of critical thinking and cognitive development. Faculty are free to integrate as many or as few of the sections into their course as they see fit. Through professional development workshops, faculty are encouraged to purposefully scaffold each section, as well as the entire portfolio, into the course. As a result, students enrolled in a first-year seminar course in which the faculty member has chosen to use the ePDP as a tool for learning and development leave the course with a foundational portfolio that provides guidance throughout their college experience and serves as a repository for evidence and reflections on their learning.

## Research Aims

The purpose of this research project was to use the student narrative found in the ePDP as a source of authentic evidence to evaluate the stated outcomes of a first-year seminar. Specifically, this project sought to evaluate evidence of the stated learning outcomes for the ePDP across the portfolio as a whole—rather than within each individual section of the portfolio, which is the current practice associated with grading the ePDP as a class assignment. The articulated learning outcomes for the ePDP as utilized in first-year seminars are:

- Self-Assessment and Awareness: students will identify success-related competencies.

- Exploration: students research and identify realistic and informed academic and career goals.
- Goal Setting: students set short and long term goals as well as connect personal values and life purpose to the motivation and integration behind their goals.
- Planning: students locate programs, information, people, and opportunities to support and their goals and engage in reality checks.
- Evaluation: students analyze their academic programs in terms of progress toward academic and career goals.

## Method

According to Hansen and Borden (2006), "action research facilitates the connection between evaluation research results and program improvement" (p. 49). This project is a type of action research, as it sought to evaluate student learning outcomes in order to facilitate improvement in both the first-year seminar and the use of an ePortfolio as a tool for supporting learning within the course. Because the principal investigator in this project is also the project coordinator for the ePDP, the project supports Craig's (2009) assertion that action research is conducted by a practitioner studying an existing issue for the purpose of improvement.

Qualitative research is best used when the research is focused on "process, meaning, and understanding in words and pictures" (Creswell, 1994, p. 145). Since this project is focused on finding evidence of learning in student narrative, qualitative research methods were employed. This research orientation allows for the development of thick description that can describe and explain the data in a way that allows for a holistic perspective and understanding. Further, qualitative methods allow for inductive analysis in which the findings emerge from the raw data—in this case— student narrative.

## Selection of Portfolios

This study was conducted at IUPUI in the fall 2012 semester. Beginning freshmen student enrollment was 2,811, of which 2,430 (86.4%) were enrolled in a first-year seminar course during their first semester of enrollment. Of the 121 sections of the seminar being taught that term, 45 of these sections used the electronic ePDP in the course for a total of 898 students completing an ePDP. Informed consent forms were distributed to each class for students to provide permission for their ePDP to be used in institutional research; 397 students provided this consent. From the population of portfolios for which consent was provided, an initial attempt was made to randomly

select a representative sample of 50 portfolios. However, due to security problems that impeded access to individual ePDPs in the portfolio platform by the researchers, the project used convenience sampling. The 397 student portfolios were sorted by class section and then randomized to ensure distribution across first-year seminars. An attempt to access each portfolio was made with 12% being accessible to researchers in the ePortfolio platform. This sampling technique resulted in a total of 47 portfolios analyzed for this study. These portfolios were implemented in 15 different class sections of the first-year seminar, taught by 13 different faculty members. Seventy-eight percent of the portfolios were completed by female students.

### Development of the Rubric

The generally accepted definition of a rubric states that it is a tool used in scoring qualitative student work that includes both dimensions of performance and standards for achieving stated criteria (Jonnson & Svingby, 2007). Holistic rubrics provide one score for the entire product, while analytic rubrics judge essential components separately (Arter & McTighe, 2000). For this study, an analytic rubric was developed so that each learning outcome could be scored. According to Banta et al. (2009), "Portfolio assessment of key outcomes can be graded using rubrics, yielding numerical scores that are reasonably reliable" (p. 11), if deliberate, considered effort is made to design and test the rubric.

Specific to this project, two earlier faculty committee-generated documents were identified by the research team as key to anchoring rubric development. The PDP Learning Outcomes were expanded and then mapped to sections of "A Template for First-Year Seminars at IUPUI" (IUPUI, 2010), referencing the learning outcomes related to the Personal Development Plan. The descriptive characteristics of each rubric cell emerged as common themes were noted and the remaining outcomes and goals documented. Evaluative levels of achievement were guided by Bloom's Taxonomy of Educational Objectives (see Gronlund & Brookhart, 2009) and Paul and Elder's (2009) model of critical thinking. Specifically, evaluative levels were anchored around the constructs of knowledge, comprehension, application, and analysis. As a final step in the development of the rubric, the learning outcomes stated in each rubric cell were mapped to the current guided prompts provided in each section of the ePDP and then examined against the compatibility of the associated evaluative levels.

The rubric was then piloted with three faculty members who had used the ePDP in their first-year seminar course for at least two semesters. The faculty members were asked to use the rubric to evaluate one common ePDP and then a second ePDP of their choosing drawn from their own course. The group then provided feedback that informed the final iteration of the rubric used in this study.

### Data Collection and Analysis

An email was sent to all faculty who used the ePDP in their first-year seminar course during the fall 2012 semester inviting them to participate as raters in this study. Raters were provided with a gift card to the campus bookstore for their participation. Eleven faculty initially agreed to participate, with 10 ultimately following through on their commitment. The 10 faculty were each assigned nine or 10 ePDPs to review, so that each portfolio was scored by two reviewers.

The most common type of reliability associated with the assessment of student work is inter-rater reliability. Inter-rater reliability is enhanced through a well-designed scoring rubric as well as by developing both consensus and consistency. Consensus refers to the degree to which raters provide the same score, while consistency provides a measure of correlation between the scores of the raters (Reddy & Andrade, 2010). Pilot testing of the rubric helped to ensure that the rubric was well-designed and provided initial feedback on levels of consensus. In order to enhance reliability, data collection occurred on the same day, with all reviewers in the same room. The session began by testing the rubric with two sample ePDPs. As raters compared and discussed scores, clarification was provided for wording within each cell, and scoring norms were agreed upon.

After the initial introduction, which focused on developing inter-rater reliability, raters were asked to complete two tasks. First, raters provided a score for each competency on the rubric. Second, and most important for this study, raters highlighted words and phrases that supported their rubric score. Highlighting was done with colored markers so that student narrative could be associated with a specific learning outcome (e.g., all narrative that was evidence of self-awareness was highlighted in pink). The same highlighted narrative could be coded as applying toward more than one learning outcome. In addition, reviewers could highlight evidence as they saw fit. This resulted in differences in the identification of evidence; some reviewers highlighted full passages, others highlighted just phrases and words.

Only text that was highlighted was included in the transcription for further coding and analysis. All words and phrases were transcribed in a separate document for each learning outcome. The transcriptions were uploaded into ATLAS.ti, a qualitative software analysis program. Transcripts were read, and an initial list of codes was developed deductively; additional codes

emerged inductively as the actual coding occurred. Codes were applied in the form of main categories and subcategories across all learning outcomes to allow for comparison of data across outcomes. Scores were totaled and compared between reviewers; in all but eight instances (16%), the ratings differed by less than one point per learning outcome and, from this, it was determined that there was consensus in ratings and an acceptable level of inter-rater reliability.

## Results

Rubric scores on each of the five learning outcomes ranged from 0 (*no evidence*) to 4 (*level of analysis*; evidence that was exhibited at the level of analysis on Bloom's taxonomy). The mean scores ranged from 1.68 to 1.16. Mean scores for each learning outcome are shown in Table 1.

While the mean scores appear to be low when considered on the four-point rubric, because the rubric was based on levels of educational objectives and critical thinking, it is reasonable to expect that lower scores would be exhibited by students in their first-semester of college. For the purpose of this research, the types and content of responses uncovered through the analysis of student narrative within each learning outcome were as critical as the absolute score.

Through coding, nine primary themes emerged across the array of learning outcomes. The number of phrases coded in each theme by learning outcome is shown in Table 2. Each phrase that was coded indicates a piece of authentic evidence identified by a faculty reviewer in support of the learning outcome. Table 1 aligns closely with Table 2 in that the outcomes with the highest rubric scores had the highest number of pieces of authentic evidence.

The largest portion of student narrative in the ePDP was associated with the learning outcomes of self-awareness and exploration of majors and careers. This finding is not surprising, given that new students are deeply engaged in decisions related to their purpose for enrolling in college, which is thought of most often in terms of majors and associated careers. In addition, because of the significant transition and newfound independence that first-year students experience, this year is also a time of reflection on one's self as established views of the self are supported or challenged with each new situation a student encounters.

What is perhaps most significant is that evidence to support the learning outcomes of self-awareness and exploration of major and career was found in narrative associated with other learning outcomes as well. This co-occurrence would appear to support the idea posited by Chen and Penny Light (2010) that "e-portfolios—as both process and product—can promote *deep learning* and *knowledge transfer* by fostering the student's ability to make connections between his or her learning experiences in a variety of classroom, workplace, and community settings" (p. 3). Knowledge transfer, in particular, appeared to be captured by reviewers when evidence they identified was coded as meeting more than one learning outcome.

### Self-Awareness

Almost half of the coded evidence for self-awareness was in relation to students' descriptions of their strengths, weaknesses, traits, and characteristics. This relationship between pieces of evidence is to be expected because the first section of the ePDP, titled About Me, asks students to describe themselves and their background as well as to discuss their personal strengths. Some students listed personality characteristics such as "slightly shy," "adrenaline junky," or "easy-going, energetic, friendly, and compassionate." Others listed strengths such as "being a leader," "hard-working," "caring," and "communication skills." While most students provided a simple identification of strengths, one student expounded by providing very detailed examples of her strengths in action, how each strength was developed, and in what ways that strength will contribute to her future success.

It was clear that at least a few sections of the first-year seminar led their students through structured activities to identify their strengths as students described their Holland career code, Myers-Briggs personality style, or results from the StrengthsQuest assessment tool in their description of themselves.

As part of the discussion of themselves, students often noted the impact previous experiences had on their development. One student stated she had participated in many arts-related programs, "which I think has helped me so much on building my creativity skills." Another, "worked around 15-20 hours a week at a restaurant, which taught me a lot about work-ethic, taking pride in things I bought for myself, and effectively managing my time." Other students listed sibling order, being raised in a rural community, their religious upbringing, or high school activities as being sources of the development of their characteristics and strengths. Participation in athletic teams was often mentioned. "I feel that baseball not only brought out the competitiveness in me but also strengthened my ability to lead" and "Being on Dance Team taught me how to jump into things and be spontaneous" are examples of student comments related to team participation.

Some students were able to tie their characteristics and strengths to success in their chosen

Table 1
*Mean Scores for Each Learning Outcome*

| Learning outcome | *M* |
|---|---|
| Self-Assessment and Awareness: Students identify success-related competencies | 1.62 |
| Exploration of Major and Career: Students research and identify realistic and informed academic and career goals | 1.68 |
| Goal Setting: students indicate short and longer term goals as well as connect personal values and life purpose to the motivation behind their goals | 1.33 |
| Planning: students locate programs, information, people, and opportunities to support and reality test their goals | 1.31 |
| Evaluation: Students analyze their academic program in terms of progress toward academic and career goals | 1.16 |

Table 2
*Coded Phrases in Each Theme by Learning Outcome*

| Coded phrases | Self-assessment and awareness | Exploration of major and career | Goal setting | Planning | Evaluation | Total |
|---|---|---|---|---|---|---|
| Understanding of Self | 1031 | 303 | 58 | 98 | 314 | 1804 |
| Major and Career | 83 | 646 | 171 | 151 | 74 | 1125 |
| Values and Purpose | 177 | 91 | 69 | 39 | 30 | 406 |
| Personal Development | 64 | 34 | 57 | 120 | 83 | 358 |
| Grades | 10 | 50 | 50 | 104 | 21 | 235 |
| College Transition | 2 | 1 | 5 | 5 | 105 | 118 |
| High Impact Practice | 3 | 6 | 32 | 65 | 5 | 111 |
| Campus Involvement | 2 | 0 | 18 | 38 | 13 | 71 |
| Giving Back to Others | 12 | 8 | 16 | 26 | 7 | 69 |
| Total | 1384 | 1139 | 476 | 646 | 652 | 4297 |

major and career. "My strengths are my people skills and my persuasive skills, which I believe will help me in being a lawyer" and "I want to each English so that I can share my love of reading and writing with others" illustrate of this type of linked thinking. Another said,

> Anyone who has known me since birth has described me as very happy. They would say I am very compassionate. This is important to me because my dream is to work in an Emergency room, and feeling for the patients and relating to them will be very important. It is important to know the technical side of nursing but also the human side and be able to sympathize with the patient.

One more example of linking personal characteristics to major and career selection is, "Being a quiet and organized person will help me in the career in philanthropy because it is not always about being the center of attention, it's about being respectful, organized, and hard-working—all the things I do well."

Finally, students offered narrative that suggested they want to further develop their skills, knowledge, and characteristics through college experiences. One student stated, "If I could get myself involved in both of these areas, then I would form good communication skills, teamwork, and friendships with lots of people." Other students said, "improve my communication skills," "improve my time management skills," and less specifically, "over time develop more skills that will help me be the best I can be."

**Exploration of Major and Career**

The learning outcome exploration of major and career had the second highest number of pieces of authentic evidence cited by reviewers. The majority of students stated a specific major or career goal. Other students indicated an area of study that interested them such as the medical field or "working with charities."

The focus on exploring majors and careers appeared most often in narrative related to career research. Students spoke of job shadowing and internship experiences that guided or confirmed their

choice of career. For example, a dental hygiene student said,

> I have excellent verbal skills, while I did my externship at Pritchett orthodontics, I was responsible for seating patients and making sure they were comfortable while their braces were being placed on, or tightened. My eyesight is perfect, and I do fantastic with hands on. For example, my externship included me placing bands on patient's braces.

Another student stated,

> After going to the cancer center . . . I definitely think I'd be interested in respiratory therapy. I really liked the relationships and achievement aspect of the job. The journey you take with each patient seems so special and to see them overcome the fight and you helped them do it seems so special.

In addition, students indicated level of education, salary ranges, and occupational outlook as evidence of their career research. "To be a teacher, you need to be patient, caring, and understanding. As a teacher, you would be teaching children new skills and preparing lesson plans. As [*sic*] teacher usually needs a Bachelors degree. According to the Bureau of Labor Statistics, an elementary education teacher makes about $51,000 per year."

Many students wrote about the knowledge, skills, and interests a person in their chosen career must have. "Some personal characteristics of someone working in law enforcement would be someone who is a leader, confident, social, flexible, and strong willed." "Working with deadlines," "communicate with others," "empathetic," "good manual dexterity," and "honesty and humor" were given as examples of characteristics needed for success in their chosen career.

There was also evidence of students identifying characteristics, skills, and strengths they possessed and their relationships to chosen majors and careers. "I truly do have a passion for helping people" and "always had an interest in working with kids" are two such examples. One student wrote, "Philanthropic Studies will allow me to work closely with charities and really allow me to make a difference in the world." Most statements provided by students were stated in very general terms about wanting to help others, work with children, and make people happy.

Largely, the authentic evidence that spoke to majors and career selection was information-based and showed some links to self-understanding. As can be seen in the reviewers' low rubric scores, however, the evidence was not presented with a high level of critical thinking or depth of analysis.

**Goal Setting**

The majority of student narrative serving as evidence of goal setting was around the notion of majors and careers. Most students indicated a specific major or career objective and stated these goals. Student narrative included statements such as, "Since grade school, I have known that I wanted to pursue medical school"; "When I graduate, I would like to become a Child Life Specialist"; and "I hope to one day be promoted to a charge nurse." Students also stated goals in terms of their intended major. Others focused on more immediate goals, such as completing pre-requisite courses, changing their major, and gaining admission to a competitive academic program. Many students set specific grade-point average goals, particularly those students who have minimum grade requirements for admission to their intended major. Very few students articulated the connection between their intended major and career as well as this student, "college education with this major . . . will open many door [*sic*] to my professional goal, through the rigorous analytical chemistry specialization offered at the School of Science." Overall, students were able to state their major and career goals, but did not show clear evidence of being able to tie the major goal to career aspirations.

Some students, however, were able to identify the values and purpose that supported their choice of major or career. One student indicated that s/he wanted to "pursue a life of helping students learn." Statements of values and purpose also related to their reasons for enrolling in college. Statements such as, "I am very driven and passionate about my college education because without that life is going to be pretty tough"; "My goal is to create the foundation that helps me with my drive to get good grades and be very successful in the workplace"; and "I also want to gain the knowledge that I am going to need to know to make it in the real world" indicate that students perceive the value of college to be related to a stable economic future.

Students also articulated goals related to their personal development while in college. Some students spoke of developing skills such as time management, communication, and independence. Others spoke more broadly about their vision for their future self. "I hope that as a person, college will develop me into a more outgoing, confident human being." A common thread was for students to speak of their desire to understand different cultures. Students spoke both broadly and specifically about their desire to be exposed to diverse peoples and perspectives. A general statement was made by one student: "As a citizen, I hope to gain experiences with others from different backgrounds and walks of life, so I can better learn what it means to live and function in the society we live in." Others spoke

specifically, "I plan to travel abroad to the Dominican Republic" and

> Even for just a couple of weeks I want to study in Japan. The culture has always been a huge interest to me and I would love to be involved over there with the program as it would really give me so much more knowledge then [*sic*] just the culture and volunteering here.

Overall, there was authentic evidence that students completing the ePDP were able to articulate their goals as related to major, career, and personal development. However, the degree to which students were able to state goals clearly and relate them to personal values was mixed. Very little evidence was found of students being able to weave a coherent narrative that articulated goals, the underlying values and purpose guiding the goal, and campus opportunities that would support achievement of the stated goals. This finding was shown both through the authentic evidence as well as the low reviewer rubric scores.

### Planning

Evidence of student planning fell into three categories: course plans and schedules, high-impact practices, and campus resources to support achievement of goals. All three were presented by students as steps they would take to achieve their major and career goals. Course planning is a required component of the ePDP with a link directly to the student record system's academic planner and degree audit software. All students are required to complete a two to four-year course plan. Some students provided additional lists of courses that they planned to take in order to confirm their choice of major.

Students also identified high-impact practices in which they plan to participate in order to support their learning, career goals, and personal development. It is important to note that IUPUI encourages all students to complete at least two RISE (research, international, service learning, and experiential) opportunities before they graduate. In addition to the four curricular and co-curricular opportunities in the RISE program at IUPUI, students noted plans to get involved on campus by joining student organizations or finding on-campus student employment positions that would support their networking and allow them to gain experiences related to their major.

Study abroad was the most commonly cited high-impact practice that students incorporated into their planning. Some students spoke of international study as a way to develop career-related skills in statements such as, "there are different types of diseases in other parts of the world that are not common in the US so I could benefit by learning about the other sicknesses around the world." Others sought to participate in international experiences for personal development: "Study abroad will help me become a better well-rounded person by learning other cultures." Others indicated specific locales they wanted to visit due to personal interest or family heritage.

Internships were often noted as part of students' college plans. Unlike the student narratives on study abroad, which often included a short statement as to why the student wanted to engage in international travel, students rarely indicated the benefit of an internship or what they would learn. Most students simply listed getting an internship as a way to gain experience. Two students noted the networking that accompanies internship opportunities. One student stated, "I have heard that both internship programs are good, plus there are graduating students and professors that have ties to both of them, which would make it easy for me to get one." Another indicated, "By participating in an internship, it could help you get inside connections and potentially allow you to get a job easier."

Students cited a wide range of people and campus resources that they planned to utilize to enhance their college and career success. Friends, campus mentors, academic advisors, and faculty members were often cited as individuals who could provide both information and support. Campus resources including the Math Assistance Center, academic mentoring sessions, and the library were referenced as academic supports that would support earning good grades. Overall, student statements about people and resources were presented at the lowest level of Bloom's taxonomy through statements or lists of resources; few artifacts contained more in-depth information on how the resource would specifically assist the student. This perhaps could be attributable to the fact that first-year students had not yet acquired much direct experience in using these resources, though they clearly were aware that they existed and could support their college experience.

### Evaluation

The evaluation outcome had the lowest rubric scores. Thus, one would expect to see the lowest number of artifacts. This expectation, however, did not hold true, suggesting that students did indeed show beginning evidence of evaluation, although their narratives reflected the lowest levels of Bloom's taxonomy and relatively weak critical thinking. Most evidence of evaluation was related to the transition to college and understanding of self. This type of narrative is to be expected in that the first-semester of college is one in which students face great transition and, in doing so, are continuously measuring their current skills,

abilities, knowledge, and identity against new challenges and opportunities.

Most often, students spoke of the transition to college in terms of challenges faced and of what was learned. Students frequently used the phrase "culture shock" to describe the transition to college. The culture shock referred to the size of the campus, being in an urban environment, and not being with friends and family. Some spoke of independence and responsibility:

> When I came to college there was *[sic]* a few things I had to adapt to right away. For example I didn't have my parents to depend on anymore. I think this was the biggest shock for me. It was the first time I have had to fully depend on myself.

Students named making doctor's appointments, opening bank accounts, and using an insurance card as new challenges. One student said,

> It has been a struggle to figure out how to function on my own as an adult. I was never used to creating my own budgets, doing all of my own shopping, cooking, and cleaning in an apartment by myself. I've struggle [*sic*] with balancing these things with school.

Other students noted the differences in college-level learning. One student stated,

> Going off what I said before about college being much harder than high school, I think that it is just a whole other level of learning. It is more self-learning based . . . You are just expected to figure out more on your own.

Another agreed by stating, "College learning puts more responsibility in our hands."

Narrative did show students identifying things that assisted them with their transition to college: "I took advantage of spring and fall preview days" and "I also came [and] visited the school multiple times." "One thing I used to help my transition in IUPUI was participating in my learning community." Friends who had previously attended IUPUI were also named as assisting with the shift to the new environment.

Within the evaluation learning outcome, student narrative indicating self-understanding fell primarily into two categories: understanding of self in relation to others and college success skills. Students spoke about participation in activities such as visiting an area prison, volunteering at a homeless shelter, and touring facilities related to future career goals. One student stated, "[The activity] made me want to get way more involved with my community and maybe even outside of my community." Another wrote about meeting "The kind of people I want to work with for the rest of my life and I was more thankful for being there than they were for me being there." Another related the experience directly to career goals: "I can definitely relate this to my future career because these are the kinds of things I want to do and the type of people I want to work with once I obtain my law degree."

The transition to college, as related to evaluation of progress toward academic and career goals, was seen in artifacts focusing primarily on time management and the heavy load of studying. Perhaps one student said it best:

> The differences in time management have been something new to college. Instead of going to school at 8 am every morning, I have to remember that I go to school at 9 am on two days and 3 pm on other days. This means that I have to set up different schedules for different days, which is not something I'm used to. I had trouble with maintaining a regular sleeping schedule, and was tired all the time. However, I have learned to go to bed at the same time each night and to wake up at the same time each morning. This kept my sleeping schedule regular, and meant that I alternated when I did other things, rather than when I slept. This was one of the most important lessons I learned this semester. Keeping on top of my schedule will help ensure that I can succeed in later semesters.

Other students spoke more generally about struggles with time and workload: "I think that the biggest challenge I faced was managing the time from homework and classes to spending time with my friends"; "Challenge in terms of finding success was time-management"; and "One of the biggest challenges I have faced this semester is time management and getting my priorities in line." As in the previous section, one student was able to relate the insights from evaluation to career goals:

> Throughout the semester I have used his tips, advice, and even his silly games to take the stress off me. This made me realize that I can actually be good at school and that I could possibly uses [*sic*] these techniques with the children I want to help as a psychologist when I am older.

Several artifacts indicated evaluative insights gained from the first semester at college. One student stated, "This experience is far off from what I was told in high school." Another spoke more specifically by stating, "College has increased my maturity, my work ethic, and my determination."

In summary, using an analytic rubric designed to evaluate student narrative in an ePortfolio, reviewers

found low-level evidence across all five learning outcomes for the first-year seminar course. Authentic evidence supported the low-level ratings in that student narrative was presented at the initial levels of Bloom's taxonomy—primarily identification and description. It is important to note that in most cases, students do not revise and resubmit work presented within the ePDP during the first-year seminar, as it is assumed revision will occur when the students update their portfolio throughout their college career. Therefore, the low-level ratings are a measure of learning at a specific point in time and after one occurrence of responding to the reflective prompts.

As mentioned earlier, one of benefits of using ePortfolios is the transfer of knowledge across concepts. There was some evidence of this transfer of knowledge in the fact that faculty coded student phrases as aligning with multiple learning outcomes, particularly across the constructs of self-awareness and exploration of major and career. However, often students did not articulate clearly connections between learning across outcomes suggesting, again, that students were in the initial stages of this connected thinking. It is possible that the appearance of transfer of learning may have been facilitated by the order in which the seven distinct sections of the ePDP are implemented. For example, most faculty assign the foundational About Me section first, followed by Educational Goals and Plans and Career Goals. It is reasonable to assume that students might utilize the narrative provided in the About Me section to support their educational choices and career goals.

## Discussion

### Implications for the Use of the ePDP in First-Year Seminars

The findings of this study reveal several implications for the use of an ePortfolio in a first-year seminar course. First, in terms of the research methodology, it became clear through the coding process that while there was an acceptable level of inter-rater reliability on the individual rubric cells, there frequently were differing interpretations of the overall learning outcome. These differing interpretations were revealed when reviewers had similar rubric scores but used evidence in very different ways. For example, a student comment about wanting to help people could have been coded as an underlying value guiding choice of major and career by one reviewer (therefore supporting the exploration of major and career learning outcome), or as evidence of understanding of self (self-awareness learning outcome) by another, or even possibly both by yet another reviewer. Consistency in rubric scores suggests that the rubric was a reliable tool

for the study, but that clearer definitions and agreement on the learning outcomes needs to be developed.

In terms of implications for practice, a determination needs to be made about the level of outcome desired from first-semester students enrolled in the course. This study revealed a preponderance of rubric scores that aligned with the most basic levels of Bloom's taxonomy. These low level scores could be considered appropriate given that the students are in their first-semester of college. However, with the use of appropriate pedagogical strategies, it is possible for first-year students to demonstrate higher levels of learning. Rubric scores provided an objective measure of learning; whether or not the objective measure matches the desired learning outcome must be determined by faculty. Because the ePDP is designed for use across students' four years of enrollment, lower levels of proficiency for learning outcomes have, to date, been deemed acceptable for the first-year seminar course. It is assumed that evidence of higher levels of achievement on Bloom's taxonomy and aspects of critical thinking will be found as a student continues to revise the ePDP as they progress through college.

If, however, it is determined that a higher level of achievement is desired from the first-year seminar (on all or some of the learning outcomes), the scaffolding and guidance associated with the ePDP will need to be enhanced. For example, if greater connections between individual strengths, choice of major, and career selection are sought, students will need to be led through a series of classroom activities designed to help move students from identification and descriptions of strengths, majors and careers to provision of examples and statements of integration. Higher levels of achievement may also require more classroom focus on scaffolding critical thinking and critically reflective writing (Ash & Clayton, 2009).

Greater focus on the pedagogy associated with the use of an ePortfolio in the first-year seminar also has implications for faculty development. In fact, in the model for ePortfolio use developed by the Making Connections National Resource Center (2013) Connect to Learning project indicates that faculty development is a major component of ePortfolio implementation. As related to this study, faculty development around the meaning of stated learning outcomes needs to occur. The learning outcomes are part of a common document provided to all first-year seminar instructors (IUPUI, 2010) but because there are over 100 sections of the course offered each fall, the learning outcomes become subject to the individual interpretations of instructors. Further, faculty involved in this study had differing levels of experience using rubrics; some had used a rubric to grade the ePDP while others had not. Faculty involved in this study indicated that using this rubric helped them think through not only the outcomes and

implementation of the ePDP in their course, but also their methodology for grading. Faculty development on both grading student narrative and assessment of learning outcomes using a rubric is an important component of using an ePortfolio in a course.

## Limitations

Two primary limitations must be considered when interpreting the results of this study. First, because of limited access to ePDPs in the portfolio platform, a convenient sample was used. Consequently, and keeping in mind that qualitative research is not meant to be generalized, the portfolios reviewed may not constitute a representative sample of all ePDPs submitted in the fall 2012 semester. Second, this study did not consider the implementation or pedagogical methods associated with ePDP. As mentioned earlier, each faculty member is able to implement the ePDP in their course as he or she sees fit. Therefore, it is likely that the scaffolding and guidance for reflection varied across first-year seminar sections which, in turn, may have affected the depth and focus of students' narrative.

## Suggestions for Future Research

The results and limitations of this study lead to additional questions that could enhance the understanding and use of student narrative found in ePortfolios as a source of authentic assessment. Co-occurrence of evidence in this study became apparent through the numerical summary of data across learning outcomes. Because this finding arose inductively from the data, student narrative was not coded with co-occurrence in mind. Research with coding structures that clearly identify instances of one data point being used to support multiple student learning outcomes— that is to say, the ability of students to connect their learning and thinking across conceptual lines—would contribute to the literature on folio thinking (Chen & Mazow, 2002, as cited in Chen & Penny Light, 2012) Further, while inklings of the ideal of folio thinking were found in some aspects of the analysis, to truly test the power of ePortfolios as tools for students to engage in the transfer of knowledge and weave a consistent and coherent story of themselves, their college experience, and their goals, the ePDPs should be studied individually with a rubric that focuses on using aspects of critical thinking to assess the ability of the student to make connections across content and sections of the ePDP.

## Conclusion

This study found that student narrative from an ePortfolio can be used as a reliable form of evidence for authentic assessment to measure learning outcomes associated with a first-year seminar course. Findings indicated that students achieved the learning outcomes at the identification and description levels of Bloom's taxonomy and provided authentic evidence supporting these scores. The student narrative identified as evidence generally lacked the depth, analysis, and connections found at high levels of learning.

The results from this study have important implications for literatures related to ePortfolios, first-year seminars, assessment and, perhaps most important, the intersection of all three as a way to maximize the efficacy of high-impact practices and assess the outcomes of such interventions. The authentic evidence uncovered through the ePDPs supported Banta's (2003) assertion that portfolios can provide insight into what students are learning ,as well as how they are learning, as both content and levels of learning were uncovered. It is posited that the degree to which student learning outcomes were met (or not met) is influenced by the classroom activities and guidance surrounding the use of the ePDP as a pedagogical tool, suggesting that learning in first-year seminars can be impacted by the inclusion of an ePortfolio. The use of student narrative as a source of evidence about learning outcomes, while time-intensive, provided depth of understanding related to student achievement that is not available through more traditional course evaluation methods. The transformation of higher education to enhance student success and learning can be maximized when powerful practices are brought together.

## References

Arter, J., & McTighe, J. (2000). *Scoring rubrics in the classroom: Using performance criteria for assessing and improving student performance*. Thousand Oaks, CA: Corwin Press.

Ash, S. L., & Clayton, P. H. (2009). Generating, deepening, and documenting learning: The power of critical reflection in applied learning. *Journal of Applied Learning in Higher Education, 1*, 25-48.

Banta, T. W. (Ed.). (2003). *Portfolio assessment uses, cases, scoring, and impact: Assessment update collections.* San Francisco, CA: Jossey-Bass.

Banta, T. W., Griffin, M., Flateby, T. L., & Kahn, S. (2009). *Three promising alternatives for assessing college students' knowledge and skills: Occasional paper #2.* Retrieved from http://learningoutcomesassessment.org/documents/AlternativesforAssessment.pdf

Barefoot, B. O., Gardner, J. N., Cutright, M., Morris, L. V., Schroeder, C. C., Schwartz, S. W., . . . Swing, R. (2005). *Achieving and sustaining institutional*

*excellence in the first year of college*. San Francisco, CA: Jossey-Bass.

Cambridge, B. L. (Ed.). (2001). *Electronic portfolios: Emerging practices in student, faculty, and institutional learning.* Washington, DC: American Association for Higher Education.

Cambridge, D. (2010). *Eportfolios for lifelong learning and assessment.* San Francisco, CA: Jossey-Bass.

Chen, H. L., & Penny Light, T. (2010). *Electronic portfolios and student success: Effectiveness, efficiency, and learning.* Washington, DC: Association of American Colleges and Universities.

Craig, D. V. (2009). *Action research essentials*. San Francisco, CA: Jossey-Bass.

Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.

Garris, J. W. (2007). E-Portfolios: Concepts, designs, and integration with student affairs. In J. W. Garris & J. C. Dalton (Eds.), *E-Portfolios: Emerging opportunities for student affairs: New directions in student services* (No. 119, pp. 3-16). San Francisco, CA: Jossey-Bass.

Griffin, A. M., & Romm, J. (Eds.). (2008). *Exploring the evidence: Reporting research on first-year seminars* (Vol. IV). Columbia, SC: University of South Carolina, National Resource Center for the First-Year Experience and Students in Transition. Retrieved from http://www.sc.edu/fye/resources/fyr/index.html

Gronlund, N. E., & Brookhart, S. M. (2009). *Writing instructional objectives* (8th ed.). Upper Saddle River, NJ: Pearson Education.

Hansen, M. J., & Borden, V. M. H. (2006). Using action research to support academic program improvement. *New Directions for Institutional Research, 130*, 47-62. doi:10.1002/ir.179

Indiana University-Purdue University Indianapolis (IUPUI). (2010). *A template for first-year seminars at IUPUI.* Indianapolis, IN: IUPUI University College.

Indiana University-Purdue University Indianapolis (IUPUI). (2012). *University College personal development plan.* Retrieved from http://pdp.uc.iupui.edu/

Jonnson, A., & Svingby, G. (2007). The use of scoring rubrics: Reliability, validity, and educational consequences. *Educational Research Review, 2*(2), 130-144. doi:10.1016/j.edurev.2007.05.002

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

Kuh, G. D., & O'Donnell, K. (2013). *Ensuring quality and taking high-impact practices to scale.* Washington, DC: Association of American Colleges and Universities.

Making Connections National Resource Center. (2013). *Homepage*. Retrieved from http://www.lagcc.cuny.edu/connections/default.aspx

Paul, R., & Elder, L. (2009). *Critical thinking: Concepts and tools.* Tomales, CA: Foundations for Critical Thinking Press.

Reddy, Y. M., & Andrade, H. (2010). A review of rubric use in higher education. *Assessment & Evaluation in Higher Education, 35*(4), 435-448. doi:10.1080/02602930902862859

Upcraft, M. L., Gardner, J. N., & Barefoot, B. O. (2005). *Challenging and supporting the first-year student.* San Francisco, CA: Jossey-Bass.

Watson, C. E., & Doolittle, P. E. (2011). ePortfolio pedagogy, technology, and scholarship: Now and in the future. *Educational Technology, 51*(5), 29-33.

Zubizarreta, J. (2004). *The learning portfolio: Reflective practice for improving student learning*. Bolton, MA: Anker.

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