Developing a Model for ePortfolio Design: A Studio Approach

Russell Carpenter and Shawn Apostel   June Overton Hyndman
Eastern Kentucky University   *Georgetown College*

After developing and testing a model for integrative collaboration at Eastern Kentucky University's Noel Studio for Academic Creativity, we offer results that highlight the potential for peer review to significantly and positively impact the ePortfolio design process for students. The results of this classroom/studio collaboration suggest that students who participated in consultations at the Noel Studio were more successful in the design of their ePortfolios than students who did not. While the results have proven promising for sustained collaboration between the multiliteracy center and the ePortfolio course highlighted in this research report, the proposed collaborative model is highly replicable across many institutions.

This research report situates the ePortfolio within the context of a new, integrated space at Eastern Kentucky University (EKU): the Noel Studio for Academic Creativity. Within this new space, we have the unique opportunity to explore the ePortfolio as valuable in an integrative pedagogy that brings together students, professors, and Noel Studio staff for a hands-on learning experience. As a multiliteracy center, this space and mission appreciate the intersections and overlaps of research, writing, oral communication, and multimodal composition. Sheridan (2010) provided an introduction to the role of multiliteracy centers:

> A multiliteracy center can be both a part of the infrastructure that supports new media composing and a space where students critically reflect on and learn to exploit the infrastructural resources available to them. It can facilitate a professionally responsible approach to functional computer literacy. In short, it can be a site that welcomes the author as producer. (p. 81)

In this research report, the authors, comprised of the Noel Studio Director, Noel Studio Communication Coordinator, and education professor as co-designers of the collaboration outlined here, suggest that ePortfolios provide opportunities for students to integrate written, oral, visual, electronic, and nonverbal communication. Because previous research does not substantially address the role of peer review within the ePortfolio-design process, the research reported here serves as a starting point for future studies while shedding light on the potential for multiliteracy spaces like the Noel Studio to support the design of projects that require students to develop complex communication skills.

The Noel Studio opened in September 2010 as an integrated space dedicated to the development of effective communicators. As such, the space includes areas where students can project their visual or multimodal compositions, practice presentations using video equipment, or collaborate with group members in open spaces with writable walls and flexible seating.

The collaborative project detailed in this research report involves the Noel Studio working alongside education students and faculty from the Department of Curriculum and Instruction at EKU. The Noel Studio serves as a neutral space where these students can discuss multimodal components of their ePortfolios. At different stages of this process, students were prompted to design videos and slideshows that they would then add to their ePortfolio. In this research report, we overview a collaborative model for peer review piloted in the Noel Studio, which is replicable for other writing, communication, and multiliteracy centers.

The research discussed in this report serves as a catalyst for future collaboration. Perhaps most importantly, this article advocates for the multiliteracy center—in an integrative collaboration with faculty and students—as a productive space where students receive objective feedback on their ePortfolios. Peer review, in this case, serves as a platform for productive conversation that helps combine and isolate important rhetorical elements. Furthermore, the integrative nature of the 21st century learning space—the multiliteracy center—allows students to see how rhetorical conventions are repurposed or refashioned in ePortfolios. Through this research, we also attempt to address a gap in existing scholarship: the place of the multiliteracy center in the design process of ePortfolios.

Literature Review

While discussions of the importance of collaboration on the writing of ePortfolios abound, there is also a need for peer review of the design, layout, and organization of ePortfolios. For example, Zalatan (2001) discussed faculty coaching and technology training students received as part of the ePortfolio assignment; however, while faculty coached the writing in the ePortfolio and technology staff addressed the ability to create the digital document, there is no indication that design choices, organization, or peer evaluations were discussed as students modified the standard format offered to them in the class. And

while Peet et al. (2011) encouraged students "to seek feedback on the completed [ePortfolio] from a variety of people" (p. 17), there is also a need to obtain feedback during the design process. Moreover, even considering Arola's (2010) lament of web-design templates and the lack of design options to those who use such software, there is still "a rhetoric of the post" (p. 12), given that the pictures, colors, and layout of text still contain information that can work with, or against, the purposes of the ePortfolio composer. Those who do have full access to appropriate software or coding classes also have difficult design choices to make depending upon the purpose of their ePortfolios. These choices tend to be made not by rhetorical standards but by ability as students experiment more with design when they are more comfortable with the technology. While analyzing the ePortfolios of a class, Springfield (2001) found that "[t]he level of Web design ranged from very basic (those who just wanted something on-line) to overly complicated (those who wanted to try as much 'neat stuff' as possible) to exquisite (generally artists and computer science majors or enthusiasts)" (p. 56). While the level of technological savvy students acquire can help them shape more complex ePortfolios, there is still a need for a discussion about design choices, organization, and photo selections as they pertain to the ethos of the ePortfolio. Barrett (2001) said to

> [e]valuate the portfolio's effectiveness in light of its purpose and the assessment context. In an environment of continuous improvement, a portfolio should be viewed as an ongoing learning tool, and its effectiveness should be reviewed regularly to be sure that it meets the goals set. (p. 115)

We suggest consultations as a way to provide a more level playing field for students who come to class with a wide range of technical abilities.

Incorporating peer-review and group consultations in a studio, communication, or writing center atmosphere allows students to receive feedback from multiple sources without incorporating faculty time. This approach is how the Noel Studio answers the questions asked by Yancey (2001a):

> In some situations, faculty clearly will review electronic portfolios: during the class in the case of classroom portfolios, for example. But will portfolios be reviewed before they are submitted? Will others review them? Or will they be reviewed only once? . . . Faculty are likely to generate these kinds of questions, questions that need at least tentative answers before a plan is implemented. (p. 27)

And while faculty feedback is important, our research suggests that group, peer feedback led by a trained consultant greatly improved the overall scores of the finished product.

By incorporating ePortfolios in their consultations, writing and communication centers can begin to address the needs of the academic community as well as their students (Click & Magruder, 2004). Pemberton (2003) noted that although writing centers

> have been influenced by advances in computer technology . . . most of the interactions between students and tutors still center on the handwritten or printed texts that are placed on the table between them or, perhaps, shared in a word-processed file. (p. 9)

As college classes utilize more forms of communication in assignments (i.e., web-based portfolios and videos), the versatility to break out of the traditional structure outlined by Pemberton becomes imperative for writing centers. Indeed, Trimbur (2000) noted "writing centers will more and more define themselves as multiliteracy centers" (p. 29-30). The change from text-based to more visual-based forms of composition requires centers to take a careful look at the way in which a consultant discusses projects with students. Scholars have discussed the impact of multimodality on the 21st century writing center (e.g., Griffin, 2007; Sheridan, 2010) and the need to address multimodality in the classroom (e.g., Kress & van Leeuwen, 1996; Selfe, 2004), yet the best practices for conducting consultations involving these complex compositions remain largely under published. A notable exemption involved Clemson's Class of '41 Studio for Student Communication, which uses a rhetorical-based approach (Fishman, 2010); however, no rubric or list of questions for consultants to utilize during their sessions was provided. The rubric we adapted from Metros and Dehoney (2006) attempts to answer Yancey's (2001b) call to "think rhetorically . . . develop some key (well defined) terms that you can associate with your model of an ePortfolio, and use them consistently" while the peer review portion makes an effort to fulfill the call for a "collaborative process of development" (p. 87). As Yancey said, "students may be our best collaborators" (2001b, p. 87).

Dixon and Smith (2007) argued that productive interactivity with audiences who actively influence process, content, and outcomes displaces classroom hierarchies and the passive absorption of predetermined material. As we argue in this research report, objective peer-to-peer review outside of the classroom greatly enhances the ePortfolio design experience for students. During consultations, students discuss important topics

such as identity and ownership. The peer-review process allowed students to refine their identity as future teachers through their design decisions. As Dixon and Smith (2007) suggested, the meta-reflective process of crafting, rehearsing, and presenting an ePortfolio persona requires the student to project the self into a digital environment through representative words, visuals, media, links, etc., thereby necessitating a certain degree of self-estrangement. Goffman (1959) suggested the performative nature of presentations of the self. As Ramírez (2011) argued, electronic performance in ePortfolio design closely resembles live theatrical performance. The design choices made in ePortfolios create presentations of the self, each student's evolving online professional persona and part of his or her identity formation. Within the frames of the ePortfolio, the student's online persona and ethos as an educator are constantly redefined and reinscribed through the rhetorical decisions the student makes. As Dixon and Smith (2007) explained, personas are honed like characters for the new theatrical confessional box, where, like postmodern performance artists, individuals explore their autobiographies and enact intimate dialogues with their inner selves (p. 3-4). Reflecting, rehearsing, and presenting the self through the ePortfolio medium requires one distinctive element crucial to performance: audience. Our research seeks to understand the way peer review in a studio setting facilitates audience awareness of design choices among students made in ePortfolios by asking the following questions:

- What impact does collaboration with communication consultants have on the design of ePortfolios?
- Can a studio complement the work taking place in a classroom environment?
- How might peer review embrace the performative role of multimodal communication in ePortfolio design?

History and Justification for a Collaborative Model

The College of Education at EKU instituted portfolios in 1992 (Hyndman & Hyndman, 2005). The paper portfolio of the 1990s was standards-based, using the EKU Teacher Standards. During fall term 2000, EKU College of Education undergraduates began creating ePortfolios using FrontPage. By July of 2004, 1,600 EKU ePortfolios were online.

In 2008, in preparation for an upcoming National Council for Accreditation of Teacher Education (NCATE) visit, the college moved ePortfolio development into a commercial system, TaskStream. Beginning in fall 2009, EKU College of Education undergraduate students not only developed TaskStream

ePortfolios but were assessed through TaskStream. Initially, TaskStream ePortfolios were little more than their 2000 FrontPage counterparts, containing basic assignments with accompanying reflective statements and indications of EKU Teacher Standards covered by each assignment as marked by students.

From 2008 to present, professors in the foundation course in which students started their ePortfolios began to explore methods to help students better understand the reflective process and to write more advanced reflections to accompany assignments. Additionally, students were expected to provide a visual for each assignment page. Initially, the visual was clip art provided by TaskStream. Later, students created visuals using their own photography and art, which could be manipulated through programs such as PowerPoint and websites such as Picnik (http://www.picnik.com/). Instead of writing a letter to the reviewer of the portfolio, students were expected to create videos with programs such as Windows MovieMaker and websites such as Animoto (http://animoto.com/). These changes in visual expectations for students allowed for expressive visual and aural elements in ePortfolio development (FitzPatrick & Spiller, 2010).

Professors involved in ePortfolio development at EKU were pleased with the metamorphosis of the ePortfolio, ever challenging students to be more creative, introspective, and technologically adept. But faculty had hit a wall. They were teacher educators with basic technology skills. The 2010-11 academic year presented EKU teacher educators with the opportunity to collaborate with the new Noel Studio, an emerging multiliteracy center. In the paragraphs that follow, we offer an overview of the model employed within this collaboration between ePortfolio students and the Noel Studio. Interestingly, Peet et al. (2011) explained, "It is not yet clear, for example, what kinds of integrative learning experiences lead students to connect, integrate, and synthesize their learning, or how ePortfolios can be used to facilitate that process" (p. 11). The model and discussion that follow extend Peet et al.'s (2011) research, while attempting to place it into context within our own research.

A Studio Model for Integrative Learning with ePortfolios

Metros (2008) explained that students lack visual acuity. Students, as Metros argued, "dismiss imagery as mere decoration" (p. 105). We view this lack in visual literacy as problematic for ePortfolio designers and seek to develop students who understand the importance of evaluating visual information, especially in relation to writing and research. Responding to Metros, we attempt to help students "identify, understand, and critically analyze visual representations

in a larger context" (2008, p. 105). The model offered below presents one perspective on the integrative learning experiences from this collaboration within the Noel Studio, along with the pedagogical approach employed in each stage (see Figure 1). The authors argue that this integrative collaborative model had a major impact in the results suggested in this project and is replicable in a wide variety of institutional settings. Following is a description of each stage:

1. *Assignment*: In the initial stages of the ePortfolio design, the education professor instructed students to develop an introductory video with a target audience of parents, teachers, principals, and/or future students. The video would not be a representation of the student now but the teacher he/she is committed to developing. Creation of the video was a multi-layered process requiring technological skills as well as the initial development of a teacher identity.
2. *Noel Studio Visits Class*: The Noel Studio Director visited all 145 education students in the lecture space to provide an overview of the collaboration; services provided by the Noel Studio, best practices for consultations, and communication-design resources offered.
3. *Noel Studio Visits Groups*: The Noel Studio Director visited the same 145 students but in groups of 20 in the education technology lab space to provide an introduction to ePortfolios and to determine a sense for where students were in the invention process. Sessions focused on generating ideas and excitement for ePortfolios, especially the development of introductory videos, which would play an important role in conveying developing teacher identity.
4. *Groups Attend Noel Studio Orientation*: The Noel Studio Director, along with the education professor, assembled each group—approximately 20 students—in the Noel Studio, a collaborative and technology-rich space located in the Crabbe Library. Orientations focused on rhetorical and design elements involved in ePortfolios and drew from Williams' (1994) CRAP principles from the *Non-Designers Design Book*, Gestalt principles as outlined by Horn (1998) in *Visual Language*, and cognate strategies as outlined by Kostelnick and Roberts (1997) in *Designing Visual Language*. These orientations also allowed students to discuss their ideas for ePortfolio design in small groups, paralleling the training received by consultants in step five

and the design of the consultations in steps six and seven.
5. *Train Noel Studio Consultants*: The Noel Studio team, in collaboration with the course professor, facilitated training for consultants that focused on elements of design, group dynamics, and digital presentation and ethos. ePortfolio trainings consisted of four one-hour sessions during the first four weeks of the semester and focused on exploring the ePortfolio system, TaskStream, rhetorical conventions for discussing ePortfolio elements, effective design strategies, and specific training in small-group communication and group dynamics.
6. *Video Consultation Small Groups*: Students visited the Noel Studio in small groups of four or five and met with a consultant to discuss options for video organization and design. These consultations focused specifically on videos that would later become components of the ePortfolio. Consultants encouraged students to present ideas to each other while offering objective feedback.
7. *ePortfolio Consultation Small Groups*: Students visited the Noel Studio four weeks later again in small groups with completed drafts of their ePortfolios. The second consultation for ePortfolio students focused on the ePortfolio as a piece of multimodal communication. Again in small groups of four or five, consultants and students discussed how visual and verbal intersect and complement one another, audience, and technological sophistication. Rhetorical elements were also key to the second small-group consultation, as students were refining their educator personae through multiple modes.
8. *Researchers Evaluate ePortfolios:* At the conclusion of the pilot, the researchers—including the Noel Studio Director, Noel Studio Communication Coordinator, and education professor—began meeting weekly to evaluate data, including the ePortfolios, consultant surveys, and consultation videos. The researchers calibrated their scores, according to the rubric (see Figure 2), which was adapted from Metros and Dehoney (2006), provided to students and consultants, and engaged in multiple group scoring sessions.

As outlined above, we argue that a number of characteristics available in this collaborative model
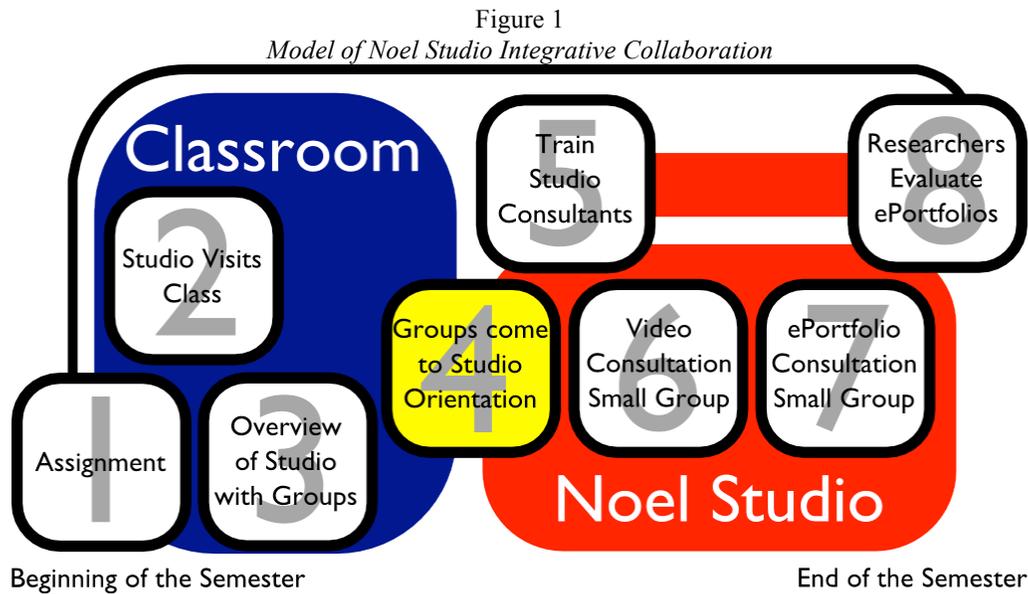
Figure 1
Model of Noel Studio Integrative Collaboration

Figure 2
Adapted Noel Studio Rubric

Noel Studio ePortfolio Rubric

Dimension	Beginning	Developing	Prepared	Comments
Concept Originality Ability to define problems, explore various possibilities, and develop unique solutions.	Provides little or no evidence of new thought, inventiveness or creativity.	Concept supports design task; demonstrates some new thought, inventiveness or creativity.	Concept effectively addresses the design task; extends others' approaches in inventive ways; may show significant evidence of originality and inventiveness.	
Aesthetic Quality Sensitivity to the principles of design and successful fulfillment of project criteria.	Visuals are either too simplistic or cluttered and busy. Graphic effects fail to support the message and hamper communication of content; graphics are gratuitous. Concept fails to support design task.	Visual elements relate to content. Visual design criteria (balance, contrast, proportion, harmony, etc.) expressed. Graphical elements reinforce content and are functional.	Skillful handling of design elements creates unique and effective style. Visual elements and content reinforce each other. Design strategy supports message. Overall, an effective and functionally sound design.	
Digital Presentation Display of technical skill, ability to follow directions, craftsmanship.	Poor craftsmanship given available technologies. For multimedia, no attempt to manipulate timing, flow, transitions, for effect. Production errors not addressed. Project fails to address assignment criteria.	Acceptable craftsmanship. No obvious easily correctable errors. For multi-media projects, elementary efforts to control timing, flow, transitions. Project fulfills assignment criteria.	Clear effort to achieve high production values and to use production techniques to enhance product. Craftsmanship or presentation may approach professional quality. Project goes beyond assignment criteria.	
Writing Display of writing skill through grammar, diction, and structure as it relates to audience and purpose.	Multiple instances of inappropriate grammar and word choice considering the audience; arrangement of ideas is illogical and lacks a clear purpose.	Word choice and sentence structure basic but effective for the audience; arrangement of ideas is inconsistent in logic and purpose. Mistakes in grammar do not interfere with content.	Word choice, sentence structure, and grammar are appropriate to the topic and audience. Ideas are logically arranged and demonstrate a clear purpose.	
Formatting Sensitivity to the audience reading the text on the screen.	Text is difficult to read on the screen due to size and/or color choice; no usage of space or paragraphs.	Text is legible most of the time; some usage of space or paragraphs to make the text more accessible for the reader.	Text is easy to see and read; text is divided into easily scanned sections; section heads and subheads provide easy access.	
Sources/Citations Authors may need to correctly cite sources.	One or more resources not cited; multiple citation errors.	All resources cited; some citation errors or formatting inconsistencies.	Resources well researched and thoroughly and correctly cited.	
Accessibility All projects should be authored in accordance with W3C or campus accessibility guidelines.	Not accessible and no consideration of accessibility concerns.	Errors and inconsistencies in labeling; fully annotated but technical difficulties (for example, displaying alt text).	Product is completely compliant according to universal design standards, the law, and your campus guidelines and policies.	

Rubric adapted from Metros, S. E., & Dehoney, J. (2006). *Communicating visually: New fluencies for the academic community conference workshop.* San Diego, CA:

EDUCAUSE Learning Initiative.

contributed to its richness and potential for success. First, students were able to see ePortfolio design as a process through the collection of a variety of educational experiences communicated in multiple modes: written, visual, oral, and multimodal experiences. Moreover, the process-oriented nature of the ePortfolio collaboration encouraged students to collect and communicate a range of experiences, which encouraged a depth of context in the ePortfolios beyond the use of images that are merely aesthetically pleasing in favor of images that were rhetorically effective. The process encouraged students to delay evaluation of the ePortfolios until the components were in place to view it as the sum of its component parts. With an emphasis on collaboration and process, the teaching spaces involved in the project became student-centered. Control shifted to the students engaged in ongoing design. The collaboration encouraged students to grow over the course of the semester gradually and incrementally through several contacts with the Noel Studio during the semester, especially in the early weeks, rather than attempting to learn effective design techniques at the end of the semester when such strategies could no longer be implemented in the final product. The approach, as described above, echoes Hamp-Lyons and Condon's (2000) earlier work on portfolio assessment when they explained that

> [p]ortfolio-based assessment, with its combination of performance assessment and delayed evaluation, gives learners the means of assuming responsibility for their learning, lets teachers become genuine mentors for learners, and creates a time period, a space, within which learning takes place. (p. 100)

Furthermore, the collaborative model outlined here extends Kimball's (2002) process: "To ensure that your web portfolio is as polished as possible, regularly go back and assess how your finished product compares to the standards by which it will be judged—then work to make the two match" (p. 129). In the pages that follow, we discuss our approach to assessing ePortfolios and reflect on our observations.

Method

Our participants include undergraduate sophomore and junior students enrolled in the EDF 203 course in the Curriculum and Instruction department within the College of Education at EKU taught by Dr. June Hyndman. All 145 students are education majors in varying tracks, but all students designed the ePortfolio with the intention to communicate an educational ethos to potential employers. While all students participated in steps one through four in the model above (see Figure 1), some students visited the Noel Studio twice,

once during the first half of the semester during the invention stages and once during the second half of the semester during the final revision process to discuss elements of their ePortfolios, including videos, static images, text, and sound. Other students chose not to use the Noel Studio during their ePortfolio and video development.

Evaluators reviewed and discussed five ePortfolio samples from a previous semester as part of the norming process, calibrating each category of the rubric. At the conclusion of the study, eight students were randomly selected from the nineteen of those who came to the Noel Studio twice and eight students were selected from the twenty-nine who did not use the Noel Studio at all. The ePortfolios were evaluated based on the rubric provided to the students and Noel Studio consultants—discussed in detail below (see Figure 2). The rubric uses seven dimensions: concept originality, aesthetic quality, digital presentation, writing, formatting, sources/citations, and accessibility. The researchers viewed the ePortfolios together via a large screen but kept their evaluations private until the end of the evaluation process. ePortfolios created without collaboration in the Noel Studio and those created with collaboration in the Noel Studio were shown randomly with researchers not knowing which group each ePortfolio was in. Additionally, researchers scored independently and scores were averaged afterward. Evaluators' ratings of the ePortfolios were found to have an acceptable inter-rater reliability (average measures ICC = .90).

Limitations

One limitation of this study is self-selection bias. Students either took advantage of the Noel Studio consultations or they chose not to visit. It is acknowledged that students who visited for feedback may be more conscientious communicators and their ePortfolios would be of higher quality. However, one could also argue that many students who use the Noel Studio experience communication anxiety and thus use the additional feedback to build confidence in their communication products. We suggest that the results of this pilot study are more indicative of the classroom-Noel Studio relationship because students volunteered to visit for consultations.

Results

The average rating for those participating in two Noel Studio consultations ($M = 133.2$) was found to be significantly higher than those who did not participate in a Noel Studio consultation ($M = 32.3$; $t(14) = 2.24$, $p < .05$). As the research suggests, students who collaborated with their peer group and consultants in

the Noel Studio scored 25% higher using the rubric than those who did not collaborate. The rubric (see Figure 2) served as the basis for conversations between students and consultants.

Discussion and Implications

While the results suggest value in the Noel Studio-classroom collaboration in the design of ePortfolios, the study identifies valuable areas for reflection as well. In addition to the results of the quantitative study, the authors offer perspective on both the Noel Studio and classroom sides that should guide the design of future collaborations.

Noel Studio Reflection from the Study

Barab, Barnett, and Squire (2002) stated that students' portfolios serve five critical functions: evidence of teacher readiness; evidence of teacher potential; a model of best assessment practices; an opportunity for reflection on areas of strength and growth required; and a vehicle for personal and professional growth. The students who scored the highest according to the rubric used in this study had a highly original concept—often a theme that communicated their ethos as teachers—carried throughout the ePortfolio. The two most successful ePortfolios included visual elements that created energy around teaching. Students communicated who they are as teachers through static images and video. Importantly, though, they employed themes such as hands-on learning, creativity, and the use of technology to help viewers envision them as future teachers. Students who scored highly wrote concisely for web readers. They also conveyed clear audience awareness through word choice, sentence length, tone, and consistent formatting.

Students who visited the Noel Studio twice exhibited strong information literacy skills, using full documentation with visuals, quotes, and videos. These students researched resources thoroughly and cited them correctly. The rubric facilitated a rather complex conversation about the rhetorical nature of visuals and design decisions in general. Consultants were not education majors, and students were not graphic designers accustomed to composing texts in electronic environments. While the training involved in this collaboration certainly informed students' feedback, this process has also impacted positively how ePortfolio design will be taught from the professor's perspective, encouraging the College of Education to engage the rhetorically significant appeal that multiliteracy scholars call "ethos" (Carpenter & Apostel, 2012) and educators call "teacher identity" (Shulman, 1998).

The early success of the research project and collaborative relationship fostered by integrating the Noel Studio into the EDF 203 ePortfolio-design process is suggestive of the potential for peer-to-peer feedback traditionally reserved for print-based texts to also enhance students' ability to make rhetorically effective design decisions that integrate written, oral, visual, nonverbal, electronic, and aural communication elements in ways that show an understanding of how these areas interact and complement one another. Rather than making decisions for purely aesthetic reasons, or based on convenience, consultations in the Noel Studio created a supportive physical and intellectual space where students, consultants, and at times the professor met to collaborate and discuss strengths and shortcomings of their design process. We began the collaborative process understanding the value added by objective peer-to-peer student feedback on written communication products. However, we also realized that there was similar potential for peer-to-peer feedback on texts that are not produced on the printed page. This move would prove valuable as the Noel Studio grew into its space and role on campus, while serving a committed role by providing a space where students could receive feedback on their ePortfolios where no feedback outside of class was available before. Consultations provided students with the opportunity to explore the performative nature of ePortfolios, including the design process. That is, they began to isolate and combine communication modes while seeing their work as necessarily rhetorical and the enhanced or diminished ethos as a critical piece of their consultations. While the feedback received in class was valuable, there were not opportunities for students to explore or express in any in-depth way the rhetorical nature of their design decisions, whereas in the Noel Studio consultants are trained and prepared to discuss these elements with students.

Teacher Educator Reflection from the Study

Shulman (1998) likened teaching to dry ice at room temperature. It evaporates and leaves no visible trace. This study reveals that ePortfolios can make explicit the preconceived notions of identity as a teacher and promote the re-examination of underlying beliefs and values in light of practical experience and reflection, and thus serve as bases for change and improvement. As Mitchell et al. (2010) argued, the ePortfolio research process is cross-disciplinary. The integrative collaboration discussed in this research report is also necessarily cross-disciplinary. Thus, it was important to ground consultations at least initially as a starting point for both sides. The rubric used in this study served as the basis for conversations between students and consultants. The rubric, in this case, facilitated a rather

complex conversation about the rhetorical nature of visuals and design decisions in general. While the training involved in this collaboration certainly informed students' feedback, this process has also impacted positively how ePortfolio design will be taught from the professor's perspective.

Collaboration with the Noel Studio illuminated pedagogical possibilities for instruction in the classroom far beyond and more in depth than technological literacy with the ePortfolio system. Foremost, the collaboration highlighted the need for students to receive additional feedback and guidance on text alignment, consistency, and contrast. Furthermore, the orientations held within the Noel Studio during the early stages of the collaboration foregrounded the need for students to think critically and creatively about how they integrate color, photographs, and illustrations into their ePortfolios and how these choices had significant implications about how potential employers would perceive them as emerging professionals and teachers.

Conclusion

Although this collaboration involves students in education, the model described here is replicable across the disciplines. More specifically, this model outlines a process whereby ePortfolio students receive feedback and interact in multiple settings intended to promote conversation from the initial stages of their invention process to video development and then toward analysis of the entire ePortfolio and its components. One of the primary goals of this collaboration is to develop multiliteracy skills in ePortfolio students, providing them with feedback throughout the process that will guide them in the future. Through this process, students are better able to articulate elements of their portfolios and sufficiently prepared to integrate compelling written, oral, visual, electronic, and aural elements into their ePortfolios. This development extends beyond the completion of the ePortfolio or degree program. Students see a process emerge that was not as apparent beforehand. As ePortfolio designers, students benefit from a more refined process, as they are better able to assemble components and articulate objectives for their own projects as they begin envisioning their place in the professional world—in this case as educators in the classroom. Through ePortfolios, students have the opportunity to employ a grammar of visuals, as Kress and van Leeuwen (1996) suggested, to convey a professional ethos. This opportunity is unlike that of traditional research papers or interviews alone. In the design of ePortfolios, multiple modes come together to form a more powerful communication product. The multiliteracy center is the ideal home for these projects, one that complements the classroom and provides

unparalleled potential for complementary feedback that extends instruction provided by the course instructor.

ePortfolios provide the ideal context for discussions about multimodal communication and the rhetorical nature of these texts. The integration of time for students to reflect critically on their practices in a supportive, collaborative space like the Noel Studio increases opportunities for students to receive focused, quality, and objective feedback from students outside of the classroom. The feedback, in turn, informs teaching practices in the classroom, also providing the professor with the chance to reflect on current practices for ePortfolio design. However, since reflection is not a goal in itself, but is rather intended to stimulate teachers to change and improve, further research should focus on examples of how the reflective process has changed various aspects of their teaching.

Students, in their consultations, reflected on design choices employed in their ePortfolio. Consultations focused on reflective practices that took students outside of the context of the course and consultation and required that they put themselves in the role of the teacher. Thus, students gained strategies for ePortfolio design that will benefit them long after they leave this course. As part of the reflection process, we learned that while the design of the rubric used in consultations and for evaluating ePortfolios generated useful feedback and productive conversation, future iterations could be more streamlined as a quick reference as consultants become more versed in these categories and training is developed. By distilling the content in each category, the rubric could be more portable and manageable for use in consultations. Future training for consultants should include an increased emphasis on visual literacy and multimodal communication.

As a result of our experience integrating the Noel Studio into the ePortfolio process within the curriculum of a foundational education course, we foresee implementation of similar models in a wide variety of settings and campuses. We recommend implementing ePortfolios as part of an integrated assessment system by

- starting simple, collaborating with communication consultants trained in written, oral, visual, electronic, and group communication;
- building upon work completed in the classroom environment; and
- embracing the performative role of multimodal communication in ePortfolio design.

As this experience suggests, there is great potential for consultations to enhance the design process for ePortfolio students. We began with a visionary

collaboration and have developed a model that will allow the two areas to complement and extend one another with EKU staff, faculty, and students learning side-by-side with one another.

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RUSSELL CARPENTER, recipient of the Von Till Outstanding Newcomer award from the National Association of Communication Centers, is director of the Noel Studio for Academic Creativity and assistant professor of English at Eastern Kentucky University. Carpenter received a Ph.D. in Texts & Technology from the University of Central Florida.

SHAWN APOSTEL is the communication coordinator at the Noel Studio for Academic Creativity at Eastern Kentucky University. His research interests include visual communication, digital ethos, and instructional use of cloud-based composition programs. Apostel received a Ph.D. in Rhetoric and Technical Communication from Michigan Technological University.

JUNE OVERTON HYNDMAN is an assistant education professor at Georgetown College. Her research interests include teacher reflection, online teacher portfolios, and the history of American Public Education. Hyndman received a Ph.D. in Educational Policy Studies and Higher Education from the University of Kentucky.