

### Cohort I, National Coalition for Electronic Portfolio Research

**Research questions:** In fall 2004, the Northern Illinois team began a pilot study of e-portfolios in First-Year Composition (FYC) with the question: How does reflection done in the context of electronic portfolios affect student learning? NIU administrators suggested two further questions: (1) What does e-portfolio assessment teach faculty about students' strengths and weaknesses? (2) How does that information help faculty to improve the program? The pilot study focused on sections of First-Year Composition taught by new teaching assistants.

**Eportfolio template:** FYC coordinators developed an eportfolio template that could be used by students. This template was based on the program's Outcomes Statement, and presented, in a greatly simplified form, a vehicle through which students could demonstrate learning objectives. While not compelled to do so, the vast majority of students in the project did use the template. The template facilitates the construction of the eportfolio in two related portions: first, students are asked to select and revise three of their earlier graded essays for inclusion in the final portfolio as evidence of various writing skills as specified in the Program Outcomes. Second, the template promotes the creation of at least four reflective essays which are cumulative in nature. Three of these reflective essays concern areas specified in the outcomes (Audience and Genre, Evidence and Analysis, Process and Product) and the fourth is a more holistic reflective essay. Within each essay, students provided evidence, often in the form of hypertextual links, to evidence that supported their claims. That evidence was primarily taken from one or more of the three revised essays students included in their eportfolio, but students were also able and indeed encouraged to use other evidence as well, including writing occurring in other courses and in settings outside of schoolwork.

**Programmatic assessment process:** FYC coordinators worked with a team of raters trained in holistic scoring procedures (full-time instructors, supportive professional staff, and doctoral graduate students) to rate two randomly selected e-portfolios from each class participating in the pilot program. The FYC coordinators also devised and refined an assessment tool that utilized not only a holistic score, but also measured specific skill-based traits within the eportfolios, and did so with regards both to the quality of evidence for that trait or skill within the three essays included with the eportfolio, and with regards to whether that trait or skill was effectively and accurately reflected upon in the cumulative reflective essays. Each analytical (or skill/trait) based criterion, was rated using a five point scale:

1	2	3	4	5
Does not meet expectations	Occasionally meets expectations	Meets expectations	Exceeds expectations	Greatly exceeds expectations

The eportfolios were also measured on a macro or Holistic scale, which uses a six point bell-curve shaped scale, with 1 being the lowest and 6 being the highest (see Appendix 1).

Eportfolios were collected after each semester, generally within a week or two after the semester concluded. Scoring took place in a computer lab run by the department, and both reading and scoring took place on the computer.

**Evidence of Student Learning Outcomes:** The NIU team bases the research findings on: (1) the four-semester ratings of students' reflections in their eportfolios, (2) the four-semester ratings of the artifacts in students' e-portfolios, and (3) comparative rhetorical analyses of individually selected student portfolios. After two years of pilot testing, the NIU team concludes that the rubric has demonstrated construct validity (i.e., measuring what it is designed to measure) and content validity (i.e., content is based on the FYC Program's Outcomes Statement and was developed in collaboration with composition instructors). Rating of each e-portfolio is based on the scores that two raters assign to each portfolio, with 15% of the total number of portfolios used as calibration sets and read by all 10 raters. Although data generally suggests a high degree of agreement between raters, statistical percent of inter-rater reliability has not been calculated.

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Research Findings (ratings): Preliminary analysis of collected data suggests that in general, there seems to be a positive correlation between holistic reflection scores and holistic evidence scores:

**Table 1: Holistic scores, 6 point scale**

Semester/N=	Holistic Reflection	Holistic Evidence
F'04/N=47	2.76	3.31
S'05/N=48	3.11	3.12
F'05/N=70	3.55	3.70
S'06/N=50	3.17	3.23

At the same time, there appears to be little evidence to suggest that reflection about specific traits correlates either to overall quality of reflection, or to overall quality of writing. Further, assessment of the data suggests that scores on specific traits, specifically those dealing with writing process, have little to do with the holistic score of the eportfolio, and the continued inclusion of those traits as measurable program outcomes should be further discussed. For instance, many students simply did not include any evidence of significant steps of the writing process, such as brainstorming or drafting, so the "evidence" scores of those items appear disproportionately low. Conversely, many students did not reflect about their use of technology in the course, so even though their evidence for that criterion (in the form of the eportfolio itself) appears relatively high, their scores for "reflection" in that criterion appear disproportionately low.

In rating students' actual learning outcomes in the selected artifacts, preliminary findings suggest that what students claim they learn vis-à-vis voice, format, and use of sources corresponds closely with raters' scores. However, students fairly consistently tend to claim greater improvement in learning writing-process strategies and lower improvement in learning mechanical and grammatical skills than raters' scores show.

**Table 2: Reflection scores, 5 point scale**

Semester/N=	Uses appropriate voice, tone, level of formality	Uses appropriate format and structure	Relates own ideas to others' discourse	Questions/analyzes others' discourse	Demonstrates prewriting/drafting strategies	Demonstrates revising and editing strategies	Shows control of syntax, grammar, punctuation, spelling	Uses technology effectively
F'04/N=47	2.6	2.6	2.6	2.4	2.7	2.5	1.5	2.5
S'05/N=48	2.7	2.7	2.7	2.4	2.2	2.2	2.5	2.5
F'05/ N=70	3	2.9	2.9	2.7	2.5	2.4	2.1	1.6
S'06/ N=50	2.6	2.6	2.6	2.3	2.6	2.5	2.4	2.1

**Table 3: Evidence scores, 5 point scale**

Semester/N=	Uses appropriate voice, tone, level of formality	Uses appropriate format and structure	Relates own ideas to others' discourse	Questions/analyzes others' discourse	Demonstrates prewriting/drafting strategies	Demonstrates revising and editing strategies	Shows control of syntax, grammar, punctuation, spelling	Uses technology effectively
F'04/N=47	2.7	2.7	2.6	2.6	2.1	2.2	2.6	2.7
S'05/N=48	2.7	2.7	2.7	2.4	2.2	2.2	2.5	2.5
F'05/N=70	3.1	3.1	3.0	3.2	1.7	1.8	2.8	3.1
S'06/N=50	2.7	2.8	2.8	2.5	2.1	2.1	2.7	2.9

Initial qualitative analysis of the eportfolios by the raters indicates a neutral relationship between the use of reflection and students writing; better writers also tended to be better reflectors overall. Raters indicated that many

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students appeared to be more aware of their learning and writing processes, but that students did not therefore seem to write any “better” because of that awareness, at least in the one semester time frame being measured. Longer term effects of the relationship between reflection and learning were not a component of this project.

Research findings (rhetorical analyses): In analyzing students’ Overall Reflections, preliminary findings suggest that reflection helped them identify learning outcomes in their revised work (as compared to their drafts) such as:

- Stronger sense of voice and appeals to ethos
- Stronger understanding of audience and appeals to pathos
- Better grasp of different rhetorical situations
- Better sense of organization and types of genres
- More effective integration of students’ ideas with information from sources
- Improved use of strategies such as analysis, evaluation, claim-support, synthesis, and appeals to logos when integrating their ideas with information from sources
- Ability to use revision directed feedback to address substantive problems (e.g., contradictions of logic, poorly articulated ideas and reasoning)
- Recognition of “error patterns”
- Ability to use technology rhetorically, using links between what they claimed they had learned to specific examples in their writing that supported their claims

For a sample rhetorical analysis, see Appendix 2.

**Faculty Efforts to Improve the Program.** In case-study analyses of new teaching assistants’ e-portfolios, of reflection-oriented surveys, of interviews, and of teaching journals, preliminary findings suggest that TAs developed the following:

- Interest in using technology to improve students’ construction of reflective artifacts
- Strong incentive to change teaching practices when sensing a “disequilibrium” between programmatic objectives and students’ classroom performance
- Collaboration to achieve programmatic objectives, especially in helping each other incorporate technology in the classroom
- Understanding of the long-term benefits of e-portfolio pedagogy (teaching students to engage in reflection in particular)
- Desire to find more effective ways to teach reflection, including further study of scholarship on the topic
- Investment in improvement of programmatic preparation for new TAs teaching e-portfolios

Accordingly, programmatic changes in TA preparation include:

1. A rationale of how students benefit from creating e-portfolios, so new TAs can explain it to students
2. Revised common syllabi for ENGL 103 and 104, which schedule training in technology and teaching reflective writing more strategically
3. Simple, functional models of student e-portfolios that clearly demonstrate Web-sensible features and good reflective writing
4. A staff of experienced TAs specifically trained to assist new TAs with e-portfolio design, troubleshooting, and classroom procedures
5. An online “library” of experienced TAs’ teaching e-portfolios that attest how pedagogical theory applies to e-portfolios
6. E-portfolio templates with basic features that can be customized easily
7. An online teaching manual designed by experienced TAs—with step-by-step handouts for students—as back-up reference for web design
8. Course texts and materials for TAs that clearly explain the theory and pedagogical practices of reflection

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Appendix 1: Holistic Scoring Rubric

SCORING SCALE					
DESCRIPTORS: UPPER HALF			DESCRIPTORS: LOWER HALF		
--4--	--5--	--6--	--3--	--2--	--1--
Reflects consistent awareness of desired impact on audience	and effectively appeals to audience expectations	and involves or engages the audience in the topic.	Reflects inconsistent awareness of desired impact on audience	and may occasionally violate audience expectations	and apparently has no awareness of audience impact; alienates audience.
Establishes a voice appropriate to the topic	and maintains control of voice	and may use that voice creatively.	Does not always establish an appropriate voice for audience and purpose	or uses an inappropriate or inconsistent voice	or creates an image of the writers that undermines and jeopardizes credibility or sympathy.
Adequately develops and represents an idea, experience, or text	and further analyzes its significance	and offers original insight..	Does not adequately develop or represent an idea, experience, or text	and may partially misrepresent it	or appears to have misunderstood the idea, experience, or text.
Arranges sufficient material to establish a clear focus	and supports that focus effectively	and may support that focus compellingly.	Fails to arrange material effectively	and may show a lack of focus	and may confuse readers.
Demonstrates the conventions of an appropriate genre	and masters those conventions	and can manipulate those conventions.	Does not adequately observe conventions of the implied genre	and violates some of its conventions	and appears to have misunderstood generic considerations.
Controls sentence level features of written language, including grammar, spelling, punctuation, and usage	and shows mature command of these features, particularly as regards clarity and precision	and exhibits mastery of these features in an especially effective or innovative rhetorical style.	Loses control of one or more elements of written language at the sentence level	or reveals only rudimentary knowledge of the conventions of standard written English, thereby impeding the communication process	or fails to acknowledge these conventions.

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## Appendix 2: Sample Rhetorical Analysis

The following is a sample rhetorical analysis of the Overall Reflection in a student's e-portfolio, as extracted from an article submitted to *Computers and Composition*:

The student, a Ukrainian immigrant fluent in English as her second language, had completed middle and high school in the U.S. Her homepage first presents links to her essays. Then—following a graphic that she related to themes in her written work—she provides a menu for: (1) her personal profile (“About Me”), (2) her Overall Reflection (“My Writing”), (3) a commentary on her changing writing process, (4) a list of personal error patterns she noticed, and (5) questions from her interview assignment. Each document is interlinked. Emphasis in the Overall Reflection remains on what the student learned. The technology is not slick; it is functional and suits its purpose. The four essays the student included in her e-portfolio were:

- A personal narrative on how women's fashion advertising affected her
- An interview on how differently such advertising affected a friend and her mother
- A review of an opinion piece against mothers serving as soldiers
- A controversial argument urging American parents to consider adopting children from Ukraine

In considering her overall selection of work from ENGL 103, the student felt her sense of audience had changed significantly, from “the teacher and my classmates” for the first and second essays, to “a lot of people” (particularly women) in the newspaper-reading public for the third essay, to Americans interested in adoption for the fourth.

The student noted that her grasp of organization had also progressed. She dubbed her personal narrative on the effect of advertising on women a “typical academic essay,” noting only how her introduction set up the argument and how her development consisted of shuttling between the ways that advertising affected her personally and “general facts of how advertising effected [sic.] the whole population.” In reflecting on her interview essay, she noted that her selection of evidence had an impact on organizing the piece, since she focused first on a friend who had an American perspective, then on her mother who had a European one, and finally on her own, which fit somewhere in-between. Afterwards, she commented on adding a section where “evaluating the results was very important.” In the third essay, the student saw structural difficulties in clearly separating her own opinion from that of the writer whose article she reviewed—a problem that complicated her analysis, leading to a contradiction between her thesis and conclusions.

The student's fourth essay pleased her the most, because she felt she'd: (1) stated a clear thesis about the importance of considering Ukrainian orphans for adoption, (2) described the children's plight accurately, as she'd witnessed it in person, (3) analyzed the situation well, using statistics and facts that differentiated between problems of trying to adopt “native” American children and the relative ease of adopting Ukrainian children, and (4) closed with an appeal to the international brotherhood that adopting Ukrainian children would engender. In her selection of evidence, she notes how she “tried to play with the feelings of the audience and tried to create a feeling of sorrow and sadness, when I described the lives of children in Ukraine,” yet she also provided empirical evidence to support her analysis because “Most of the adults find facts and statistics very persuasive.”

In the reflections summarized above, the student implies that she experienced a maturational process in the course, deepening and broadening her scope of understanding about writing in a way that moved her beyond herself—not merely in using sources, but also in anticipating rhetorical contexts (Colby, 2005; Rodgers, 2002, p. 854).

A longer excerpt from the student's Overall Reflection further reveals not only how she reflects upon audience, organization, evidence, analysis and synthesis, but also how she reflects on her writing process and demonstrates her use of technology. The excerpt comes from reflection on her less successful editorial review, showing what she learned from her teacher's feedback. Boldfaced, underlined terms link to passages in her draft:

**The audience** was very important for this essay, since I responded to a newspaper article. If I had chosen to publish this essay, a lot of people would have read my commentary.... I tried to incorporate my own views of the topic as well as my evaluation of the author; however I did not succeed.... The comments that I got back represented the confusion of my teacher. My **conclusion** contradicted with the thesis in the first paragraph....

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His comments reflected on my **poor organization** skills and **poor clarity**. As well this essay had a poor structure, since I combined to [sic.] separate paragraphs into one. Looking back at this essay, I learned to group my ideas and thoughts better, and not to go off the main subject. Also, this essay proved that adding more and more information does not necessary [sic.] make your argument stronger.

In this passage, the student brings her awareness to bear on a “constructive direction, toward ‘intelligent action’ . . . characterized by forward movement rather than stagnation”—she doesn’t ignore her teacher’s feedback or respond to it slavishly, but formulates her own insights about paragraph construction, grouping ideas logically, focusing, and selecting relevant evidence (Rogers, 2002, p. 847). She shows a sense of agency rising out of social interaction (with her teacher), and she aims to convince her readers/ evaluators that she can produce salient, transferable evidence of benefiting from the course’s pedagogy: she will avoid padding future essays with irrelevant information and examine theses and conclusions for consistency (see Yancey, 1998, p. 201). Her analysis of elements in her essay is explicitly rhetorical, and, as a “collaborative interlocutor” who rereads her text through her teacher’s eyes, she even suggests a nascent grasp of the rhetorical theory that should inform her writing when she shapes it to address such a public forum (Yancey, 1998, p. 105; Vygotsky, 1978, pp. 86-87).

The student’s hypertext link to **audience** leads to a yellow highlighted passage on the essay’s draft webpage, where she provides extra commentary about her projected readers being “all women in the world, here I do not exclude any . . .” Other links also supplement her Overall Reflection, e.g., **conclusion** leads to commentary that specifies how it “does not agree with the main sentence and idea in my introduction”—that she does not believe that “women’s number one role is as a mother,” even if the author of the editorial does. The commentary appears beside the concluding passage where she asserts her own point, that mothers should serve as soldiers, because it’s “better for a mother to die fighting for her country’s and baby’s freedom”—but the draft reads as if she’s reiterating the author’s opinion instead of her own. Her revision clarifies whose opinion belongs to whom. Thus, links are not gratuitous; they lead to information that amplifies the text of the Overall Reflection and “authentically highlights her growth” in terms of logic and adaptation to her teacher’s commentary (Rice, 2001, 40).

Sources:

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