

ePortfolio Activity Brief

Information Infrastructure System

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I. What is ePortfolio?

For schools pushing towards ambitious instruction, evidence about how students are progressing towards standards must be easily accessible. Organized around school standards, the ePortfolio system addresses this need by providing a central store of digitized student work that can be used a variety of ways by students, teachers, parents, and administrators. In conversations with parents and students, ePortfolio can help teachers communicate expectations and progress towards standards by pulling together work samples, exemplars, and assessment criteria. In professional development sessions, ePortfolio can be used to engage productive conversations that promote alignment of instructional goals, curriculum, and assessment methods. For students, ePortfolio helps organize student work over the course of their school careers and provides tools for reflection and presentation of work. The system also provides “student-friendly” access to school standards, benchmarks, and assessment criteria in ways that help them understand expectations and take ownership of their own learning.

II. What core problems of practice does ePortfolio address?

Our current work focuses on three broad problems of practice.

Supporting Evidence-Based Instructional Decision-Making

Teachers need to have information about student progress to school standards in order to plan instruction for their classrooms. Being held accountable to standards, teachers need to have detailed information about how well her students are progressing on a standard (or set of standards) in order to make decisions about instruction on a large scale as well as on a week-to-week or day-to-day basis. Teachers need access to current information about student progress that is presented in ways that are actionable. Using the ePortfolio, a teacher might ask, for example, *which of my students have not achieved mastery on the standard of designing scientific experiments?* This kind of query can provide a list of students in need of additional support as well as a summary of which specific benchmarks they are not achieving. A teacher might also ask the questions, *on which standards are my students showing only beginning levels of achievement? On which standards are my students showing evidence of mastery?* These questions can help identify students in need of help or more challenging work. They can also help the teacher identify gaps in instruction by pointing to standards that are not being covered through class activities. Information like this helps the teacher identify students in need of support and suggest specific learning issues on which instruction should focus.

Typically, teachers do not have immediate access to information about student progress that is organized by school standards and is indexed to benchmarks. Furthermore, student work artifacts are normally stored in separate locations and difficult to locate quickly or not saved at

all. The ePortfolio provides information about where students are according to school standards as well as ready access to student work artifacts.

Supporting Coordination of Instruction Across Classrooms

Teachers need to plan instruction in coordination with other teachers across subject areas and grades. This problem of practice is similar to the one described above but involves instructional decision-making across classrooms. In order to coordinate instruction around school standards, teachers need to know what the standards are and how they are aligned across grade levels. Importantly, they must have shared understandings of what constitutes beginning, developing, and mastery levels of progress for each standard. As a tool for promoting these understandings among teachers, the ePortfolio can support conversations that are grounded in analyses of student work artifacts and the methods used to assess them. Accordingly, these conversations focus attention to tools of assessment (such as rubrics) and assessment practices, which are typically not shared among teachers.

Ordinarily, it is difficult to quickly collect examples of student work, organize them according to levels of mastery, and represent data about them in ways that highlight important instructional concerns. Thus, the ePortfolio allows for dynamic gathering of student work artifacts and analyses of curriculum and instruction in ways that enhance teachers' capacity to coordinate instruction across the school.

Supporting Student Self-Reflection and Self-Assessment

Just as teachers need to have information about instructional goals and student progress, students must also have clear understandings of what is expected of them and where they are in their learning. By making students more keenly aware of school standards and providing them ways of gauging their own learning, ePortfolio can help promote self-assessment and taking ownership of progress towards instructional goals. As a driver for self-reflection and self-assessment, the system allows students to assemble artifacts, annotate their work, and create presentations that provide evidence of their learning to audiences that may include peers, teachers, parents, and outside judges.

III. What are the key features and functions of ePortfolio?

The key features of the ePortfolio and social practices that involve it are emerging through our process of collaboration, development, and prototyping. Unlike other IIS projects, ePortfolio does not build on a strongly established set of tools and social practices. Thus, one goal of our initial discussions and development with school staff is the articulation of problems of practice and the envisioning of tools and social practices in a future state. Brief descriptions of the basic functionalities of ePortfolio tool on which we are currently focusing are provided below.

Artifact collection, indexing, and assessment. One main function of the ePortfolio is the ability to capture and organize student work artifacts, along with descriptive information and teachers' assessments based on standards and benchmarks. The system supports the teacher in finding relevant standards and linking student work to them by using a set of

benchmarks that clarify what meeting that standard means. The teacher then decides how the work represents an *introductory*, *developing*, or *mastery* level of progress on the standard.

Database of curriculum goals, standards, benchmarks, and assessment tools. The ePortfolio organizes curriculum goals, standards, benchmarks, and assessment tools. Assessment tools for common types of assignments such as research papers and oral presentations can be linked to curriculum goals and shared among teachers in the school.

Portfolio creation and presentation for teachers and students. Students can use ePortfolio to gather student work artifacts, annotate them, and organize them for presentations. Similarly, teachers can pull together student work for multiple purposes, such as meetings with parents and professional development conversations.

Information visualization. To support the analysis of data from the ePortfolio, we are developing a variety of information visualizations. These displays can provide information about individual student progress over time and groups of students at classroom, grade, and school levels. We are also working on visualizations that help teachers use artifacts to develop shared assessment rubrics, identify gaps in instruction, and facilitate instructional coordination across the school.

IV. What is the anticipated added value of ePortfolio?

Individual outcomes. ePortfolio asks teachers to make the logic of their instruction and assessment explicit. They must demonstrate the relationships between student work artifacts and school standards and articulate their methods for determining how artifacts reflect progress towards mastery. We expect individual change to be driven by the teacher's continued use of ePortfolio as a tool for reflecting on her own students' academic progress and participation in school-wide conversations that are grounded in ePortfolio information visualizations. Some individual outcomes may include enhanced analytical frameworks for understanding assessment, greater expertise in using data to plan instruction, and increased capacity to coordinate individual instructional practice in accordance with school standards.

We also expect learning outcomes resulting from student use of ePortfolio. By asking students to collect their own work, self-assess according to explicit rubrics, and create portfolio presentations in coordination with instructional activities, the use of ePortfolio may lead to enhanced understandings of learning goals and criteria that can help students understand their strengths and weaknesses. A metacognitive awareness of learning can provide motivation as well as information students can use to seek help and focus their activities.

Activity level outcomes. We expect that the use of ePortfolio will engender changes in teachers' analysis of student progress and instructional planning activities. From an efficiency standpoint, the ePortfolio can quickly pull together students' assessment information from their whole school career and display it in a variety of ways that were ordinarily very difficult or impossible with a paper-based system of organizing student artifacts. The availability of information

visualizations will also aid in the analysis of assessment data and catalyze critical dialogue about standards, instruction, and assessment practices. In addition, we expect that being able to access information about student progress in the teacher's classroom relative to school standards will likely transform the way teachers plan instruction by provoking reflection and allowing for a more evidence-based practice.

Organizational level outcomes. The ePortfolio system is designed to encourage discussions among school staff about instruction and assessment by making the logic of assessment public and open to questioning. For example, organizing school standards in a database can prompt staff to discuss questions such as, *What do we want students to know and do?* and *How do I help students know and do these things?* In addition, the process of rating student work as *introductory, developing, or mastery* can engage teachers in conversations about measuring progress and what it means to indicate such ratings. By requiring information about the analytical tools they are using to make assessments, such as particular rubrics or observational checklists, the ePortfolio also prompts teachers to ask, *How do I know what students know and can do?* Bringing these ordinarily tacit assumptions and private practices into public view thus opens up the logic of assessment for discussion among the community.

Thus, as a result of teachers' use of ePortfolio for reflection, planning, and critical conversations across the school, we also expect to see a number of organizational level outcomes over time. These include:

- development of shared understandings and common language of curriculum and assessment
- enhanced capacity for coordinating instruction across the school (for example, the use of shared assessment tools such as rubrics enhances coordination)
- enhanced capacity for accountability to school standards
- improved alignment of curriculum, instruction, and assessment practices

The organizational outcomes we expect to see all contribute to a more advanced professional community with enhanced capacity to support ambitious instruction for every child.

V. How is ePortfolio being developed?

The development of ePortfolio is a collaboration between the Information Infrastructure Systems (IIS), North Kenwood/Oakland Charter School, and Center for Urban School Improvement at the University of Chicago. Our current work around the ePortfolio tool is focused on initial design work and system prototyping. The coordinated efforts of developing ePortfolio has also prompted school-wide conversations about standards and assessment, as well as a reorganization and revision of the school standards. These conversations have been crucial for guiding the design of the ePortfolio system and helping us understand the problems of practice we are addressing. Future work includes continued prototyping, development, and testing of ePortfolio, as well as further study into the tasks and social practices to which the tool can add value.

We are also exploring possibilities of integrating ePortfolio data and functionality with other information systems that are under development, such as the Clinical Case Management System and other databases such as term grades, progress reports, and standardized tests.