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Using electronic portfolios to make learning public

Kevin Fahey, Joshua Lawrence, Jeanne Paratore

By using digital portfolios, teachers and students can not only collect and organize data but change the ways they think about, talk about, and use data.

In this article, we describe a plan for using electronic portfolios as a forum for establishing collaborative learning environments in which looking at and responding to student work assumes a place of centrality and importance. The purpose of this work was not to establish a system for collecting, organizing, and evaluating student work—a common purpose of electronic portfolios—but rather to change the ways teachers and students think about, talk about, and use data. Our work is based in two distinct contexts: urban middle school classrooms and undergraduate and graduate classrooms in a teacher education and educational leadership programs. Although outcome data from this work can be considered only preliminary, we believe sharing what we did, the early patterns in the data, and our current suppositions and understandings is consistent with the essential principle that underlies the work itself: the process of thinking about, talking about, and using data in a collaborative forum extends and deepens everyone’s understanding about a problem or issue. It is our hope that sharing our work at this stage will trigger collaborative conversations and interactions that will guide and improve our own work and the work of others.

The efforts we recount began with a conversation between Kevin Fahey (first author), a professor at Salem State College in Salem, Massachusetts, and Joshua Lawrence (second author), a middle school teacher at the Timilty Middle School in Boston, Massachusetts. Although their teaching contexts are in many ways different, they shared a common interest and a common need: They each sought ways to create more collaborative learning environments, contexts in which everyone in the class, not just the teacher, cared about each student’s learning. Their joint pursuit was based on the idea that the most powerful learning happens when it is supported by an entire community of learners (McLaughlin & Oberman, 1996; Newmann & Wehlage, 1995). It was grounded in now widely held theories that suggest that social interaction is an essential context for learning (Vygotsky, 1978) and that literacy practices, in particular, cannot be isolated from the social context (Gee, 1996).

Eventually, Fahey’s and Lawrence’s conversations and musings about how to change the learning context in their respective teaching settings led to a discussion of student work, and they talked about how looking at student work might provide a vehicle for changing the learning context in the classroom. The following was their reasoning: In many communities, looking at student work has become a central focus in the professional development of teachers. Researchers who have studied this process report that when
student work creates the context for conversations about teaching and learning, participants’ levels of engagement and interaction increase and there is evidence of positive change in classroom practices (e.g., Fisher, Lapp, & Flood, 2005; Langer, Colton, & Goff, 2003). In linking this work to their interest in creating a more collaborative learning environment in their respective classroom contexts, Fahey and Lawrence considered how they might create classroom contexts in which looking at and responding to student work assumed a similar place of centrality and importance. They envisioned a setting in which work was always public and responsibility for responding to and improving work was shared between and among teachers and students. They had a good idea of how they could take advantage of technology to create such a context, but they wondered how teachers who had never experienced such a classroom community might be able to create one. Was it reasonable to think that teachers who were only used to looking at student work with other teachers and who rarely made their work public either in their practice (Little & McLaughlin, 1993) or in their teacher preparation programs (McLaughlin & Oberman, 1996) could create such a public space in their classrooms? Was it reasonable to expect that adolescents who are so “peer-conscious” would be able to offer the type of honest and critical feedback that would lead to improved writing?

Fahey and Lawrence also wondered how school leaders who have had little experience with making their practice public and who often have worked in an isolated, competitive culture (Cuban, 1993; Evans, 1996; Fullan, 2001, 2005; Public Agenda, 2001, 2003; Sergiovanni, 2001) could support teachers’ attempts to create a very different and more public, classroom community. They were troubled by research (Cuban; Dufour & Eaker, 1998; Little & McLaughlin, 1993; Louis & Kruse, 1995; McLaughlin & Talbert, 2001, 2002; Nelson & Sass, 2005; Rosenholtz, 1989; Senge, 1990) that argued that when members of the school community—teachers, administrators, students—held very different understandings of fundamental issues of teaching and learning, schools and school systems tended to become “stuck,” and little organizational learning or substantive change was possible. Simply put, how could teachers and school administrators who had never experienced collaborative school communities in which all work was made public create such places for their students? They hypothesized that the answer might reside in the use of electronic portfolios, and they derived a plan to test their ideas in both Fahey’s undergraduate and graduate classrooms and in Lawrence’s middle school classrooms. As they began to review and reflect on their outcomes, they invited a third author, Jeanne Paratore, a professor at Boston University, to think with them, and in particular, to consider this work within the context of both literacy and language learning and professional development. In the remainder of this article, we explain the plan, its implementation, and the lessons learned to date.

The plan: An electronic portfolio forum

Using open-source, bulletin-board technology, an electronic portfolio system was developed at the Timilty Middle School. This technology ensured that all student learning—papers, drafts, analyses, pictures, videos, and so forth—was made visible to the entire classroom community. Assigned work would no longer be done in isolation, passed into the teacher, and forgotten about. In addition, a virtual space was created where members of the community could look at one another’s work, respond to it, reflect on it, and build on it. This space was intended to be thoughtful, respectful, and an essential part of any intellectual work done in the classroom. It was also designed to be visually engaging, with options for students to customize their user profile (Figures 1, 2, and 3).

On the forum, students self-register and create individualized usernames and passwords. The system tracks what students post and allows them to read and respond to one another’s work.
Users can post text directly to the forum, attach documents or image files, upload Web links, and edit their own work after getting feedback. Teachers control the forum areas in which students can view or work.

The same technology was introduced into a variety of classrooms in the undergraduate teacher preparation program at Salem State College, where teacher candidates share all of their lesson plan drafts, portfolios, rubrics, classroom material, and reflections. The undergraduates, in much the same way as the students at Timilty, are encouraged to give one another feedback, build upon one another’s ideas, share experiences, and learn from one another.

The technology was also introduced into the graduate leadership preparation program at Salem State. Again, building upon the work of Timilty, aspiring school leaders share problems of practice, build upon each other’s experience in curriculum design, give one another feedback, and challenge one another’s ideas.

We begin our account by acknowledging that, to some extent, many teachers already use a range of practices that enable students to take responsibility for their own and one another’s learning. For example, in classrooms in which teachers are using writers’ workshop (Calkins, 1994) to frame writing instruction, students routinely share their written work and give one another feedback. Students might also peer edit, work in collaborative groups, design rubrics for the class’s work, and even create exhibitions or demonstrations of what they have learned and share them with the entire community. In such classrooms, to some extent, teachers are asking students to make their work public and transparent. However, what is different about the classrooms described in this article is that students are required to make public all of their work all of
the time. In these classrooms, all student work—homework assignments, drafts, feedback, questions, and final products—are always shared with every member of the classroom community. In addition, students understand that, with the teacher, they share the responsibility for one another’s learning by reviewing this public work, giving feedback, and building upon it. The decision to make all of their assigned work public all of the time was a deliberate attempt to change the way students (and their teachers) think about writing and the nature of learning—to help them to acquire an understanding that literacy is a social act and good writers and good readers improve their comprehension and composition in collaboration with others.

**Timilty Community Forum: Implementation**

The demographic profile of the Timilty Middle School is typical of the other schools in Boston Public Schools (BPS) and other large urban public school systems (Lewis, Ceperich, & Jepson, 2002): 53.9% of students are African American and 39.9% are Hispanic. Many students speak English as a second language (37.3%) and most live in low-income homes (83%).

The academic struggles of students from low-income families who speak a language other than English or a nonstandard English dialect at home are well documented, particularly on measures of reading achievement (Snow, Burns, & Griffin, 1998). Understanding the cause of reading difficulties in adolescents is getting increased attention, but it is still poorly understood, due in part to the complexity of skilled adolescent reading (Biancarosa & Snow, 2004; Kamil, 2003; RAND Reading Study Group, 2004). However, it is clear that motivation and engagement are major factors in adolescent reading achievement (Guthrie & Wigfield, 2000) and that an approach that emphasizes the intrinsic worth of literacy activities and the building of a community that values those activities might have more impact than approaches that emphasize extrinsic rewards, especially for struggling students who may feel that they have limited opportunities for high-literacy careers in a competitive job market (Bandura & Locke, 2003; Csikszentmihalyi, 1990). The Timilty Community Forum (TCF) takes such an approach.

The Timilty Community Forum was established to create an online space for students to
share their writing and reflections about what they were reading every day. The TCF’s fundamental assumptions are (a) that adolescent students become increasingly sensitive to peer influence as they get older, and (b) that writing for peers would be highly engaging and intrinsically motivating to students (Eccles, 1999). The goal of the forum was to build a community where (1) everyone writes for everyone else and not just the teacher, and (2) everyone, not just the teacher, cares about everyone’s writing.

In 2003, we implemented the TCF in six homerooms as a supplemental literacy block to their regular English language arts class. As we predicted, the middle school students were motivated by the use of technology. They enjoyed sharing their thoughts and reflections and discussing one another’s ideas. One way to judge student enthusiasm and engagement is through the number of times they accessed the site (i.e., the number of “hits”). The TCF averaged 124,000 hits per month during the 2003–2004 school year. Nearly half (55) of the students we surveyed (N = 112) reported that they had logged onto the TCF during out-of-school time during the school year. The other students explained that they did not have access to the Internet at home. Nonetheless, many students continued to use the forum to stay connected with schoolwork during summer months; the forum averaged 14,000 hits per month during July and August 2004.

A full description of the classroom context in which the TCF was embedded helps to clarify the apparent readiness with which students embraced the TCF. First, the TCF reinvented the traditional notion of “computer lab.” The computer lab was reconfigured so that there was a large space for students to gather for whole-class discussion with a suite of computers at the back of the class. The lab was furnished with a sofa, easy chair, and rug, so that students could comfortably talk with one another and view a screen upon which student work was digitally projected. Every attempt was made to turn the computer lab into a readers’ workshop—that is, a place where students learned and practiced the craft of reading and writing (Calkins, 1994). In order to send the message that this was not a computer class, the computers were not used at all for the first month, so that the teacher and the class could develop a comfortable, social relationship that would allow shared writing and reflections to flourish in class and online.

As previously explained, making student work public is fundamental to the TCF classroom. Toward this end, each TCF class starts with the whole class gathered comfortably together at the front of the room. The teacher digitally projects selected portfolio entries from the previous day and leads a class minilesson on some aspect of reading or responding to literature for 10 to 15 minutes. Using student work as the basis for ongoing reading helps to clarify misconceptions that students might have, models aspects of effective student writing, and gives an opportunity for the teacher to demonstrate how to engage with students writing in a respectful manner.
An ongoing concern that we have about this approach is that some students may be reluctant to share their work with their class for fear that other students may mock them because of their writing ability or the content of their ideas. Besides providing a time for focused instruction, the minilesson also provides an opportunity at the start of every class to model how to respond respectfully to the work of others. Addressing the issue of respectful response to students’ writing ability is relatively easy. In general, the teacher emphasizes the fact that in most cases students are being asked to provide their best thinking, but not necessarily their most polished writing. Although students are asked to refrain from using Internet slang, such as writing in all capitals or excessive use of emoticons, the teacher does not comment on misspelled or mistyped words during the minilesson and asks students to focus on the content of the writing in their discussion and online responses. Many students are familiar with online environments in which spelling and syntax conventions are lax, and they seem to easily accept and adopt the TCF emphasis on meaning over format.

A more difficult and persistent challenge is establishing a safe environment in which students can share personal connections and interpretations of literature in a public setting. In all urban middle schools, classroom management can be a critical component of good teaching practice. We create an effective classroom climate by establishing systematic classroom routines, beginning with the structure of each day’s minilesson.

The minilesson at the start of every class has three distinct purposes. One is to define (or, later in the process, to remind students of) the boundaries of respectful discussion of student writing and to explain why these boundaries are essential for students to feel comfortable enough to share their thoughts and feelings. The second is to discuss earlier posts, abiding by the guidelines for respectful discussion. The third is to introduce (or review), model, and discuss a reading comprehension strategy and to apply it to a section of the focal text.

After the minilesson, students read individually or in small groups. Students’ reading is guided by the comprehension strategy that was the focus of the minilesson and by the group’s discussion of earlier posts. The last 20 minutes of class are reserved for students to respond to the reading on the TCF. Sometimes students, guided by the teacher, respond to specific questions that arise from the earlier discussion. For example, the teacher might ask students to make predictions, use connection strategies, post the meaning of words with which they struggled, or take a position on an issue that arose in the text (Beck & McKeown, 2001; Harvey & Goudvis, 2000; Pressley, 2006). When students finish their own writing, they read and respond to one another’s work. Typically, students leave the class knowing that the conversation is unfinished and that it will begin again at the start of next class with a review of the just-completed work.

As one might expect, it is clear that student learning style and personalities influence how and what they share online. Many students strongly prefer writing online, even when talking about personal topics. When we asked students to describe how they felt about responding to literature in public, one student enthused that “it made me feel good about myself. I can get my feelings down more on a computer.” Another student wrote,

I feel very happy about the class reading my writing because they can see how I write and what kind of style I use... In a notebook you mostly read to yourself and get bored with it and in the computer your friends can read it.

Other students are ambivalent about sharing their work. “Usually, I don’t feel comfortable sharing things [by reading aloud] with my class. So writing in the forums is a good way to share our writing with our classmates...sometimes students may like you for your opinions.”

The practice of making student work public exists, to some degree, in every classroom in the use of activities such as school or classroom.
newspapers, research reports and projects, and publication celebrations. The TCF, however, codifies the practice of making work public into a daily routine that can be effectively sustained throughout the entire academic year.

The experience of three years of work with the Timilty Community Forum suggests three preliminary understandings. First, students are experiencing and building a community that supports good literacy practice. Students are writing, sharing, and reflecting not only with their teacher but also with one another. Students come to schools with their own rich funds of knowledge (Moje et al., 2004; Moll, 1992), which they draw upon when they read. When students are writing to peers with whom they have much in common, they seem to more naturally access these funds of knowledge and reference them in their reading. This seems to result in more authentic engagement with texts. Second, the electronic portfolio process allows students to generate and explore issues that are important to them as a group. For instance, one TCF class read and wrote to one another about a novel written from the perspective of a child living in an abusive home. Students researched the issue of child abuse, wrote to one another about the meaning of child abuse in their community, and connected these online discussions to other books they had read. The technology provided access to information on a high-interest topic, and it also provided a way for students to start and maintain in-depth conversation on a complex topic. Third, the TCF electronic process is generative. The more students write to one another and reflect about what they are reading, the more they want to write to one another, share other thoughts, and support one another’s work.

Salem Education Forum: Implementation

The electronic portfolio and bulletin board work at Salem State College was built upon the work done at the Timilty Middle School and uses the same open source bulletin board and electronic portfolio technology. The Salem State initiative is also driven by the idea that when everyone in a classroom makes public all of their work all of the time and cares about everyone’s learning, all learning is likely to be deeper and more robust.

At Salem State, students in a variety of undergraduate teacher preparation classes as well as graduate students in the education leadership program post all of their work—drafts and final products—on the Salem Education Forum (SEF) website, which is open to all members of the particular class in which students are enrolled. Since April, 2005, 385 students—graduate and undergraduate—have had access to the website. These students have posted more than 4,200 examples of their work in the five semesters in which the Salem Education Forum has been operating. In addition, from the period of April 2005 to March 2006, the website had an average of more than 43,900 hits a month.

The majority of the student postings are written work; however, students can also post pictures of classroom artifacts, student art, and even videos. In addition, the technology assembles the students’ work into an electronic portfolio, which is periodically reviewed by the student, the professor, and members of the class. (Although this electronic portfolio can be used by the student to build the portfolio required for licensure as a teacher or administrator in the Commonwealth of Massachusetts, we consider this to be an entirely separate use of the technology and have not chosen to study it or report it for the purpose of this particular article.)

Salem Education Forum: Undergraduate teacher preparation program

In a paper-based, teacher-preparation classroom, when, for example, students learn to craft lesson plans, they typically work individually or in small groups to learn about a planning process, practice drafting some plans, and get some guidance and...
feedback from their professor. As students become more skilled, they create a more finished product to become part of their portfolios, and, in the best situations, try the lesson plan out in a classroom and get yet more feedback from the professor. The Salem Education Forum expands this process in three ways. First, because everyone’s work is always public, students get ideas and feedback not only from the professor but also from everyone in the class. But the SEF does more than give students feedback. It also provides a source of good ideas. In the same ways that inservice teachers are on the lookout for good teaching ideas as they browse the corridors and classrooms of their buildings or chat with their colleagues in the faculty room, preservice teachers in the Salem Education Forum classrooms can “scout” the SEF for good ideas from their peers. Tracking data tell us that every assignment posted in the fall of 2005 was downloaded by someone else in the class. Some assignments were downloaded by others as many as 15 times. We believe that this is one indication that the SEF affords students the opportunity to become members of a “community of practice,” a context many believe leads to more effective teaching practice (Florio-Ruane & Raphael, 2001).

Second, using SMART Board technology (an interactive whiteboard connected to a computer), entire classes view, describe, and think together about examples of their own work. Teacher preparation candidates use a structured conversation—the Collaborative Assessment Conference (Allen, 1998)—to talk to one another in a rigorous way about the work they are doing. When students use this protocol rather than rushing to evaluate student work and teaching practice, they first are asked to describe this work without judgment. This simple first step encourages students to be more thoughtful and to see the complex nature of student learning and teaching practice. In the second step, students list the questions that arise from the work. Again, this step encourages students to be more thoughtful and allows presenting students to hear about their lesson plans without having to defend them. It is only after the class has described the work, asked questions, and speculated about the context that the presenting student presents some of the context of the lesson. Again the focus is on describing and building a shared understanding of a teacher’s work. At the very end of the protocol, the group discusses the implications of these draft lesson or unit plans for their own teaching practice (Allen). This process is carried out both in the classroom and electronically on the forum.

Third, students publicly evaluate one another’s work. In the SEF classes, students are asked to examine the work that is posted and to use a common set of rubrics, based on state and National Council for Accreditation of Teacher Education standards, to give one another feedback. The process of evaluating lessons and articulating and posting a response is valuable both for the student serving in the role of evaluator (who begins to build an understanding of state and national standards) and for the student receiving the critique (who gets feedback from a variety of perspectives).

After two years of work with undergraduates on the SEF, some patterns are becoming clear. First, students are taking advantage of the website to look at one another’s work. Prior to the SEF, students rarely shared their work with anyone but the teacher. Now, on average, every post is viewed five times by someone else. Second, students are more committed to completing work and posting it in a timely manner because they are all responsible for one another. Instances of late, missing, or incomplete student work are rare. Third, students have a clearer understanding of the standards by which they are evaluated. Because students have seen many examples of student work and have publicly evaluated the work many times, there is little mystery left in the evaluation process. Finally, students frequently share their impressions that they write better. In a reflection session in the spring of 2006, one student commented, “Doing work in public was very interesting. It kept me focused and my writing was extremely purposeful.” Another wrote, “Knowing that anyone could potentially view my
thoughts through the writing assignments caused me to be more thoughtful about not only the purpose of my writing, but especially about how I expressed myself.”

Salem Education Forum: Graduate leadership program

Graduate students preparing to be school administrators also participate in the SEF, which helps them assemble electronic portfolios that can be used in the licensure process. However, for the school leaders, participation in the SEF also models an important leadership idea: that effective leaders are able to do their work in public and as part of a professional community (Fullan, 2001; Heifetz & Linsky, 2002; Sergiovanni, 2001; Wagner & Kegan, 2006). Participation in the forum allows aspiring leaders to practice this important idea in three ways.

First, students post their work throughout their master’s degree program on the SEF. During their course of study, they make public and share their work in such diverse areas as finance, community building, and professional development. One candidate reflected,

Never having made my course work public [made doing so] very difficult to do at first. The idea of someone other than the instructor reading my materials and passing judgment made me anxious. As I worked through the process, however, I found my attention to detail became more sophisticated. It became a practice that I feel facilitates deeper leaning and understanding.

Second, the group uses a Consultancy Protocol (Allen, 1998)—another structured conversation—to ask one another clarifying and probing questions about their work, to raise questions, and to share thoughts about implications for leadership practice. The value of this protocol is that it allows a practitioner to present a problem of practice to a group of peers without feeling that he has to defend or justify his actions (Annenberg Institute for School Reform, 1996; Blythe, Allen, & Powell, 1999). The practitioner presents a problem, but then is required to listen for a substantial period of time while his or her colleagues talk about the dilemma. At the end of the session, the presenter can respond to any parts of the conversation that he or she felt were helpful or interesting. The goal is for the group to help the practitioner think more deeply or differently about the dilemma, not simply solve it (Annenberg Institute for School Reform). This process, done in class and on the SEF, allows for all of the expertise and learning of the group to be a resource for everyone.

Because the Consultancy Protocol is a regular feature of each group’s work, student work is viewed by other members of the leadership program at a rate even higher than in the undergraduate program. One candidate summed up the experience by writing,

It is interesting to me that the process of doing our work in public tends to draw out more thoughtful responses. When we sort through our ideas and dilemmas we write differently. I found this process much more beneficial and real compared to the isolated research papers we did in the past.

Third, the SEF also supports the creation of work groups that span a variety of school districts and school levels. Often students are asked to form work groups—much as “real” school leaders are—and collaborate to solve a dilemma of leadership or organizational practice. Both the group’s deliberations and final product are shared on the SEF to get feedback from and act as a resource to other students.

Although significant work remains to be done to formally study the short- and long-term impact of the SEF, three promising ideas have surfaced. First, students in the educational leadership program use the SEF to look at one another’s work at an even higher rate than the undergraduates. In the undergraduate classes, every piece of work is, on average, examined by someone else five times; in the graduate classes, the average is almost six. Second, although graduate students’
initial rates of SEF use are lower than those of undergraduates, their participation exceeds the participation of undergraduates as they proceed through the program and become more comfortable with sharing work and giving one another feedback. Third, because much of the work that graduate students share is based on “real work” dilemmas of practice, students report that the suggestions, feedback, and learning that they get from their colleagues not only strengthens their thinking but also frequently changes some aspect of their practice. Students in the educational leadership program regularly report that they have tried out some idea or suggestion made on the SEF in their own school or classroom.

**Final thoughts**

Commonly, electronic portfolios are perceived as a solution to the many problems of paper-based portfolios—a manageable system for collecting, organizing, storing, or displaying all of the writing, videos, presentations, project, and artwork students produce. Both the Timilty Community Forum (at www.timilty.org) and the Salem Education Forum (www.salemedforum.org) are electronic portfolio and bulletin board systems, and, as such, they are capable of addressing these needs. However, that is not what we set out to do when we began this work. Rather than change the ways teachers and students collect and organize data, we sought to change the ways teachers and students think about, talk about, and use data. In fact, we wanted to change the conversation of the classroom in significant and substantial ways—to make learning an ongoing process of collegial inquiry. In the case of adolescent learners, we posited that a classroom context of this type would contribute to higher levels of motivation and engagement, and as a consequence, improved opportunities for literacy learning. In the case of undergraduate and graduate students, we expected that these more collaborative classroom contexts would contribute to a deeper understanding of teaching and learning. To accomplish these goals, we made sharing, peer review, and peer evaluation an everyday occurrence—an expected, predictable, and inescapable routine. Although rigorous study of electronic portfolios remains to be done, we observed some consistent and promising patterns. First, everyone—middle school students and undergraduate and graduate students—shared and continue to share large amounts of their work. In each setting, students who had rarely submitted their work to anyone but their teachers quickly learned to make their work public to everyone in the class. Second, students who were rarely asked to give feedback learned to evaluate their classmates’ work, share ideas, build on those ideas, and use the feedback to leverage further learning. In these forums, students not only shared work but also they used, reacted to, and learned from what others shared. Third, the forums encouraged students to generate and focus on ideas that were personally compelling. The Timilty Community Forum encouraged students to identify areas of personal interest and to explore those areas of interest with members of the class. The Salem Education Forum encouraged aspiring teachers and school leaders to make public the dilemmas of practice and to use the feedback they received to change their practice. Both forums encouraged students to connect their work to their own interests and passions.

Although the story of these forums is an optimistic one, it remains only a story. Many questions remain. One question relates to the nature of the sharing and feedback that occurs. It is clear that in these classrooms, students share and give feedback to one another at a much higher rate than ever before. However, we have not yet documented the effects of these interactions. Is the quality of student work better? Are their reflections increasingly insightful? Does feedback become more thoughtful? Are there downsides, especially to particular groups of students, to making work public, as suggested by Finders (1997) in her work with working class and less popular girls?
A second question relates to effects on teacher or leadership practice. Does participation in the forums build teachers’ or leaders’ understanding of collaborative, learning communities? Does it change teacher–student discourse? Does it change the final grading process?

Although the forums themselves are a rich source of data for answering some of these questions, others will require the collection of additional evidence, including achievement test scores, classroom observations, and transcripts of teacher and student talk.

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