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The E-pet: Enhancing Motivation in E-portfolios

Portfolios are popular in language teaching, both as a learning tool and a process-oriented assessment instrument. They require the compilation of student projects, performances, and other assignments over a semester or school year to record the growth of learning. When portfolios are used for evaluation, they are called an alternative assessment because the teacher assesses progress through the collection of student work, as opposed to basing student achievement only on scores from paper and pencil tests.

Any teaching method, including portfolio-based instruction, will not be fully successful if students are not engaged in the process. This was the situation at Thailand's King Mongkut's University of Technology Thonburi, where many undergraduate students of science and engineering saw their English classes as barely relevant and a burden. Most students were more concerned with passing the course than with learning and therefore did only the minimum work required to get a reasonable grade instead of devoting themselves to improving their English. This was in spite of the fact that their English for Academic Purposes (EAP) courses utilized paper-based portfolios, allowed students to choose learning tasks and materials from the self-access center and the Internet, and encouraged them to reflect on their learning. Unfortunately, this reflection on learning was often scanty, and portfolios were submitted with uncompleted tasks and entries copied from other students. Clearly, the students were unmotivated, and the use of portfolios had little beneficial effect.

In an attempt to improve the situation, we introduced an electronic portfolio (e-portfolio) project. While traditional portfolios are paper-based, the relatively recent inclusion of computers in education has led to the development of e-portfolios, where the coursework is typically assigned, accessed, completed, evaluated, and stored on a computer or website. In this article we will describe and evaluate this e-portfolio project and will look specifically at the *e-pet*, a special feature that keeps students motivated.

Varieties of motivation

E-portfolios have several advantages: they are easy to search, enable the use of multimedia projects, and allow efficient feedback on student work. The benefits of e-portfolios, both for learning and evaluation, suggest that they will have an increasingly important role in education (Love, McKean, and Gathercoal 2004).

Nevertheless, a key prerequisite for effective learning from e-portfolios is that students are motivated (Al Kahtani 1999; Tosh et al. 2005). If students are not sufficiently motivated, e-portfolio work becomes a chore, and students only do the minimum work to get required grades, which reduces the e-portfolio's learning benefits.

Motivation is a complex topic with a plethora of competing theories, interpretations, and strategies. In the instructional context, teachers should be aware of two types of motivation. *Extrinsic motivation* comes from a source external to the student, such as the expectation of a reward, which might be a grade, a prize, or positive feedback. *Intrinsic motivation*, on the other hand, comes from sources internal to the student, such as a sense of accomplishment or the satisfaction of successful collaboration with others.

Besides understanding motivation, teachers also need to recognize that, due to individual learning styles, different students will respond to different motivational strategies in the classroom. E-portfolios are very useful to teachers because they offer a variety of ways to motivate all types of students.

Motivating components of the e-portfolio

In attempting to make the e-portfolio motivating, we focused on two key issues: (1) getting "students to participate in learning tasks that they do not initially find interesting" (Harlen 2006, 64), and (2) retaining student interest so they will not abandon those learning tasks (Dörnyei 2001). This calls for strategies to create initial interest and make the abandonment of e-portfolios more difficult.

Establishing initial interest begins with a focus on how students perceive e-portfolio as a way to document their learning, which can encourage them to identify with the e-portfolios (Tosh et al. 2005). To interest and involve students in the process, the e-portfolio we designed included the following:

- An attractive, user-friendly webpage design that is aesthetically pleasing to students.
- A learner contract between the student and teacher that outlines a practical and concrete study plan for the completion of certain goals and activities within a set time. Involving students in decisions about assignments makes their learning more relevant.
- A personal profile page resembling social networking sites such as MySpace and Facebook that students customize with pictures and other information. Applying this feature to e-portfolios supports a sense of community and provides a system to enhance students' status. Examples of the rewards students receive for this status are the "interestingness" score for photos on Flickr and the comments from other users (Biever 2006).
- A mechanism to give students external rewards (in addition to grades) for learning new vocabulary items, grammar points, and learning strategies, such as the deposit of gold coins in treasure boxes. Although the gold coins have no real value, their symbolic value motivates students to pay more attention to vocabulary, grammar, and strategies while completing activities.
- A link that lists the best student portfolios. This will motivate the model students by publicly acknowledging their achievements, and their classmates will view the model portfolios and learn from that work.

The following website illustrates how to include these and other components in an e-portfolio project: http://arts.kmutt.ac.th/eport/overview/chart.html.

The motivating e-pet

In addition to having a good design, a student-teacher contract, personal profiles, and a system of feedback and reward, our e-portfolio was intended to enhance student motivation through the inclusion of an *e-pet.* The e-pet is based on the *Tamagotchi*, a toy developed in Japan that responds to the

actions of its owner. In its digital form, the e-pet is an important feature for establishing initial interest in e-portfolios and making abandonment of the project more difficult.

When students first register for the e-portfolio program, they are given a choice of four animated eggs. The teacher explains that these animated eggs will grow into e-pets depending on the students' work on their e-portfolios. Students can then name their pets; names given include "Ohmario," "Bobby," and "LLL."

Once a student chooses and names a pet, it enters a lifecycle consisting of eight stages dependent on the student's e-portfolio work. As the student works on the e-portfolio, the egg will hatch and begin to develop into a cute, animated cartoon animal. With each submission of quality work for the portfolio, the e-pet will grow and gain new powers, such as the ability to fly. (To see sample e-pets, visit: http://arts.kmutt.ac.th/eport/overview/petShow.html.)

Table 1 shows how each of the eight lifecycle stages is activated by students; the quantity and quality of students' work on their portfolios affects the development of their e-pets. While working on the e-portfolio, students submit at least three worksheets containing their reflections on learning; the higher the score on the third worksheet, the healthier the e-pet becomes. If, after submitting the three worksheets, a student is not happy with the progress of his or her e-pet, the student can submit additional worksheets to increase the health of the e-pet. In addition, guidance on how to work on the portfolio is given through written messages apparently originating from the e-pet, and if students do not log in to the e-portfolio for a month, they will receive a startling reminder email from their pet that it is "close to death."

Table 1: The Eight Lifecycle Stages of the E-pet

Lifecycle Stage	Description of E-pet	How Students Activate the E-pet
1.	Egg	Students select an egg when they first register
2.	Cocoon	Students submit their first worksheet
3.	Worm	Students submit their second worksheet
4.	Normal	After students submit their third worksheet with an average mark of 5
5.	Healthy	Students submit their third worksheet with an average mark of 6 or 7
6.	Happy	Students submit their third worksheet with an average mark of 8 or more
7.	Unhappy	Students submit their third worksheet with an average mark of less than 5
8.	Close to death	If students do not log in for a month

Evaluating the e-pet

How did the desire to develop their e-pet and prevent its death affect students' work on their e-portfolios? To answer this question, we collected data from two sources: (1) journal entries written by the teacher after each lesson, and (2) questionnaires answered by 64 students from two classes.

Teacher's journal results

When students first register for the e-portfolio project, they have to choose an egg, a task that generates intense initial interest, which is reflected in the teacher's journal entry:

> Choosing an egg and naming it wasn't as simple as I thought it would be. Students were asking questions and sharing information among themselves. When someone found that they chose the same egg as their friends, they seemed satisfied. The most asked questions were "What will the pet be like?" and "What is the difference between the pink egg and the green one?" I told them to work on their portfolio and they would see the development of their pet.

As the students worked on their e-portfolios, the e-pet became a crucial motivating factor. Another comment from the teacher's diary:

> It seems to me that students are competing with their friends to see whose egg will hatch and whose will grow first. Most students have already submitted their second or third worksheet, which I think is amazing, and I have never seen students working so quickly when using the paper-based portfolio.

Student questionnaire results

The student questionnaire requested feedback regarding all of the features of the e-portfolio project. The results clearly show that the inclusion of an e-pet was highly motivating, including naming and contributing to the development of the pet. Importantly, the e-pet appeared to motivate students to log in to the e-portfolio program on a regular basis, as they reported on the questionnaires:

- After I submitted my work, the egg changed to be a little bee. When I work on the computer with loudspeakers, I can hear the sound of the pet, which I think is cute—and it's very cute when it moves. This makes me enjoy the program. Sometimes I log in to the program to see if my pet has grown.
- I chose the purple egg. I think it may be a frog. It has a tail now. I want to see what it will become. I often log in to the program because I want to know what my pet will be like.

Because students log on so often, the feedback from teachers should be prompt and meaningful. In addition, teachers should be prepared for an increase in assignments from students who turn in extra work to develop their e-pets. Instead of completing only the three required worksheets, some students submitted up to nine worksheets in the hope of gaining higher marks to help their e-pet grow. This is reflected in the student comments:

- I prefer to enjoy my work rather than working seriously. The pet makes me feel not too serious. If I want the pet to grow, I will work more.
- I feel that my pet should have grown more. I think it can grow more than this. I think it motivates me to work more because I want to see what my pet will be like when it grows.

From our experience, e-portfolios are a valuable tool for supporting English language learning. Motivating students is a key issue in using e-portfolios, and, in our case, both the teacher's observation and the students' responses indicate that the e-pet has a major motivational role. The initial interest created by the e-pet was nurtured and sustained because students found it difficult to abandon the e-portfolio project.

Designing an e-portfolio project

For teachers who are comfortable with programming, creating an e-portfolio is worth serious consideration. The details on the e-portfolio website (http://arts.kmutt.ac.th/eport/overview/chart.html) may help such teachers with their own e-portfolio design. Additionally, our in-house project used PHP (PHP: Hypertext Processor)—an easy-to-learn open source code for creating webpages. (See http://us3.php.net/tut.php for complete instructions.) Further useful advice and guide-

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lines are found in Ali (2005), Dubinsky (2003), Pullman (2002), Rogers and Williams (2001), and Wade, Abrami, and Sclater (2005). Teachers are free to copy and use the e-pet animations discussed in this article. (See http://arts.kmutt.ac.th/eport/overview/petShow.html.)

An alternative to designing an e-portfolio from scratch is to use the portfolio module in the open source learning management system *Moodle*. (For a demonstration, see http://docs.moodle.org/en/Portfolio_module and http://moodle.spdc.org/moofolio.)

Although e-pets are difficult to transfer to non-electronic media, some of the features of the e-portfolio are easily adapted for paper-based portfolios. Learner contracts are a common educational technique, as is using stars or coins as rewards and acknowledging the best students in a manner similar to how companies acknowledge employees of the month. As an alternative reward system, teachers could give cards related to popular culture as a reward, either with the goal of collecting a complete set of cards about a particular topic, or as pieces of a jigsaw puzzle that together become a picture of some cultural icon.

Conclusion

Teaching and assessing an e-portfolio project requires students to undertake a substantial amount of independent work. The design and application of such a project can be a challenge for teachers, who might have problems getting students to show and maintain interest in the project. The challenge is lessened when the components of an e-portfolio—including the e-pet—are attractive to students. We found that the e-pet is an effective way to initiate and maintain student interest. We hope that the information presented in this article will encourage other teachers to develop innovative ways to stimulate motivation and effective independent learning.

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