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ABSTRACT

This study examined whether sending frequent encouraging electronic mail (e-mail) messages to elementary and special education student teachers would improve their teaching skills and performance on the Praxis II Principles of Learning and Teaching examination. In 2001, 43 elementary and special education student teachers enrolled in a professional seminar course were randomly assigned to one of two groups. All 43 student teachers received e-mail messages from the professor regarding exams, job openings, and links to helpful Internet sites. Both groups also received inspirational e-mail messages tied to Pathwise competencies encouraging them to maintain a high level of performance. Twenty-one student teachers were assigned to receive more frequent encouraging e-mail messages from the professor, and 22 student teachers were assigned to receive less frequent encouraging e-mail messages. The group that received frequent messages earned a higher mean score on the Principles of Learning and Teaching examination than the group that did not, but the difference was not statistically significant. The two groups scored similarly on a measure of teaching performance adapted from Pathwise. The group that received frequent e-mail messages responded to a placement survey sent via e-mail at a higher rate than those who did not. (Author/SM)

## Encouraging student teachers via electronic mail

Linda H. Thornton

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Presented at the Annual Meeting  
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### **Abstract**

The purpose of this study was to determine whether sending frequent encouraging electronic mail messages to elementary and special education student teachers would improve their performance in teaching skills and on the Praxis II Principles of Learning and Teaching examination. In January 2001, forty-three elementary and special education student teachers enrolled in a professional seminar course were randomly assigned to one of two groups. All 43 student teachers received e mail messages from the professors regarding exams, job openings, and links to helpful internet sites. In addition, both groups received from the professor inspirational e mail messages tied to Pathwise competencies encouraging them to maintain a high level of performance. Twenty-one student teachers were assigned to receive more frequent encouraging electronic mail messages from the professor, and twenty-two student teachers were assigned to receive less frequent encouraging e mail messages. The group that received frequent messages earned a higher mean score on the Principles of Learning and Teaching examination than the group which did not, but the difference was not statistically significant. The two groups scored similarly on a measure of teaching performance adapted from PATHWISE. The group that received frequent electronic mail messages responded to a placement survey sent via electronic mail at a higher rate than those who did not.

## **Introduction**

Commitment to use of technology is viewed by the National Council for Accreditation of Teacher Education (NCATE) as a necessary evidence of quality in teacher preparation program (<http://www.ncate.org/2000/2000stds.pdf>). Because Harding University School of Education was preparing for its regularly scheduled visit by a team of NCATE examiners in the spring of 2001, a study to investigate the effectiveness of using electronic mail for instructional and motivational purposes was undertaken.

### **Statement of Problem**

The purpose of this study was to determine whether elementary and special education student teachers who received frequent electronic mail messages from the professor teaching their professional seminar course would benefit in any of three ways: achieve higher scores on the Praxis II Principles of Learning and Teaching examination, achieve higher ratings on teaching performance measured by Harding University Field Experience Observation System, or be more likely to be teaching or in graduate school by November following their graduation than student teachers who received infrequent messages.

Electronic mail was chosen because the student teachers were scattered across a wide geographic area and because the mission of the University includes fostering close ties among students and faculty members (<http://www.harding.edu/catalog/mission.htm>).

The messages were each related to one of the 19 indicators of effective teaching subsumed in four domains as described by Danielson (1996). Many of the 19 indicators emerged from Reynolds' (1992) review of research about behavior of effective beginning teachers. All of the teacher behaviors measured by the 19 indicators are objectives of the Harding University School of Education teacher education program ([http://www.harding.edu/education/Concept\\_frame.html](http://www.harding.edu/education/Concept_frame.html)). They form the basis of much of the coursework required of prospective teachers, especially the Principles of Learning and Teaching course (<http://www.harding.edu/catalog/education.htm>).

The messages were all inspirational in nature, many of them containing references to the Bible, because integration of faith, living, and learning is the crux of the mission of the University (<http://www.harding.edu/catalog/mission.htm>).

#### Statement of Hypothesis

Because the content of the messages was instructional reviewing pedagogical content, it was hypothesized that students receiving more frequent messages would score higher on the Praxis II Principles of Learning and Teaching examination, achieve higher ratings on teaching performance measured by Harding University Field Experience Observation System, or be more likely to be teaching or in graduate school by November following their graduation than student teachers who received infrequent messages.

## Method

### Participants

The participants in this study were 43 elementary and special education student teachers who completed their student teaching in May 2001. One of the student teachers was male, and the other 42 were female. One student was visually impaired. Two of the student teachers represented ethnic minorities. One of the student teachers was a non-traditional student, and all the others were under 25 years of age. The student teachers were randomly assigned to one of two groups. Twenty-one students were assigned to the treatment group to receive frequent electronic mail messages. Twenty-two students were assigned to the control group to receive infrequent messages. One of the students in the treatment group experienced difficulty with her electronic mail account, making her unable to receive messages during the first half of the semester. She was dropped from the study, leaving only twenty student teachers in the treatment group.

### Instruments

The Principles of Learning and Teaching: Grades K-6 (30522) examination (PLT) was developed by Educational Testing Service (ETS) and adopted by the Arkansas Department of Education as a teacher licensure examination for all teachers in the elementary grades. The Arkansas Department of Education requires teacher candidates to score at least 164 on the examination to receive Arkansas teacher licensure (<http://www.teachingandlearning.org/licensure/praxis/prxstate.html>). According to ETS, the examination covers content in four domains: organizing content (28% of the test), classroom environment (28%), instruction (28%), and professionalism (16%). The two-

hour test presents three case studies with seven multiple choice questions and two short-answer questions related to each. The test also includes 24 discrete multiple choice questions (<ftp://ftp.ets.org/pub/tandl/0522.pdf>).

The Harding University Field Experience Observation System (HUFEOS) is a structured method of mentoring and assessing student teachers' teaching performance adapted by Harding University School of Education from PATHWISE, developed by ETS (<http://www.teachingandlearning.org/profdvlp/pathwise/clsobsys/codomain.html>).

The PATHWISE system addresses four domains of teaching:

- A. Planning
- B. Classroom Climate
- C. Instruction
- D. Professionalism

Under each domain are four or five indicators, each numbered. For instance, A1 is becoming familiar with the students' backgrounds. A2 is articulating clear goals for the lesson. A3 is connecting the lesson content with previously learned content and content to be learned in the future. A4 is selecting appropriate methods and materials. A5 is selecting appropriate evaluation strategies. Domain B and Domain C each have five indicators, and Domain D has four. HUFEOS has an additional domain not included in PATHWISE. Domain E has indicators such as punctuality and professional appearance. Student teachers' lessons are evaluated by their university supervisors and cooperating teachers, all of whom have been trained in PATHWISE. On each indicator, the student teacher's performance is rated as advanced, proficient, basic, or below basic. For purposes of data analysis, advanced was coded as 4, proficient as 3, basic as 2, and below basic as 1. The observer must provide clear evidence for each rating, usually the exact words of the student teacher.

In October of each year, Harding University College of Education surveys its graduates who were licensed to teach to determine whether they are teaching, attending graduate school, or otherwise employed. The survey is sent out via postal mail with a letter containing the URL of the data collection website and inviting web-based submission of data. At the same time, in order to increase response rate, an electronic mail message containing a link to the website for submission of data is sent to graduates.

### Procedure

In January of 2001, the elementary and special education student teachers met together in a seminar class for three days before reporting to their respective P-12 schools to begin supervised teaching. Students who needed it were given instruction in using web-based electronic mail, and all students reported their electronic mail addresses to the instructor. Throughout the next 16 weeks, the all students received electronic mail messages regarding position openings, workshops, useful websites, seminar assignments, and other procedural matters. During the same time period, seven electronic mail messages related to teaching behavior were sent to the entire cohort of student teachers. The treatment group, however, received 21 additional electronic mail messages over the eight weeks prior to the administration of the PLT. Each message was related to one or more of the teaching behaviors on HUFEOS and the pedagogical knowledge on the PLT exam. The subject lines of the messages contained labels for the behavior discussed (A4 or D2). A sample message is included in the Appendix.

The PLT was administered on March 10, 2001. ETS subsequently issued score reports to Harding University Testing Office. The reports were forwarded to the College of Education. Research assistants compiled the scores into a spreadsheet.



Each time a university supervisor or cooperating teacher assessed a student teacher's performance, the observer submitted a copy of the HUFEOS evaluation to the School of Education Field Services Office. Research assistants compiled the HUFEOS ratings into a spreadsheet.

Before the student teachers graduated in May of 2001, a permanent address and electronic mail address was collected from each. In October of 2001 a letter was sent to each graduate requesting a response to an enclosed paper survey or web-based data collection site(<http://www.harding.edu/education/alumni.html>).

## Results

The PLT data were analyzed by computing the mean and standard deviation for each group. Afterward, a t-test for independent samples ( $\alpha = .05$ ) was done to determine if the means of the two groups was significantly different. The mean of the 20 students in the treatment group was 179.06 and the mean of the 22 students in the control group was 176.05. The difference between the means was 3.795 in favor of the treatment group. The t for the difference between the two means, with 40 degrees of freedom, was 1.54, which was not statistically significant (see Table 1 below).

Table 1

Means, Standard Deviation and t Test for the control and experimental group

Score	Group		t
	Control group	Experimental group	
<del>SAT-9</del> PLT			
<u>M</u>	176.05	179.06	1.54*
<u>SD</u>	8.33	8.50	

\*not statistically significant

The HUFEOS data were analyzed by computing a mean for all indicators from all observations for each student teacher. The mean and standard deviation of the means were then computed for each group. The mean of the 20 students in the treatment group was 3.6755 and the mean of the 22 students in the control group was 3.6819. The difference between the means was negligible, so no t-test was computed.

The responses to the placement survey were also analyzed. Of the responses received initially, 85% were graduates who had been in the experimental group. All but one of the responses from that group were received via electronic mail. All but two of

the respondents from the control group indicated that they were teaching or in graduate school.

## Discussion

The results of this study fail to support the original hypothesis: student teachers receiving more frequent messages failed to score significantly higher on the Praxis II Principles of Learning and Teaching examination and failed to achieve higher ratings on teaching performance measured by Harding University Field Experience Observation System than student teachers who received infrequent messages.

They student teachers who received frequent electronic mail messages may have been more likely to be teaching or in graduate school by November following their graduation than student teachers who received infrequent messages, but it is difficult to determine. The student teachers who received frequent electronic mail messages were definitely more likely to respond to the survey. This may be because the graduates were in the habit of communicating with professors using electronic mail. It may be because these graduates felt closer ties to the university. In any case, this difference in response rates may be a valid reason for sending frequent encouraging electronic mail messages to student teachers—to promote response rates for future data collection.

Further research is needed determine how to help student teachers acquire the knowledge and skills they need to become effective teachers.

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## Appendix

Subject: B4(-)

Teachers--

Here is a forward from Alan Smith that reminds me of how a teacher can lose B4. I assure you it has happened to me!

February 7 2001

RULES FOR STRAY CATS (AND SIN)

The following is a list of STRICT UNBENDING RULES for dealing with stray cats:

Stray cats will not be fed.

Stray cats will not be fed anything except dry cat food.

Stray cats will not be fed anything except dry cat food moistened with a little milk.

Stray cats will not be fed anything except dry cat food moistened with warm milk, yummy treats and leftover fish scraps.

Stray cats will not be encouraged to make this house their permanent residence.

Stray cats will not be petted, played with or picked up and cuddled unnecessarily.

Stray cats that are petted, played with, picked up and cuddled will absolutely not be given a name.

Stray cats with or without a name will not be allowed inside the house at any time.

Stray cats will not be allowed inside the house except at certain times.

Stray cats will not be allowed inside the house except on days ending in "y."

Stray cats allowed inside will not be permitted to jump up on or sharpen their claws on the furniture.

Stray cats will not be permitted to jump up on, or sharpen claws on the really good furniture.

Stray cats will be permitted on all furniture but must sharpen their claws on the new \$114.99 sisal-rope cat-scratching post with three perches.

It's a humorous progression, but it reminds me of what happens spiritually (which is not at all humorous). We don't want to sin, so we establish boundaries. "I'm not going to go here, look there, think about that." But, before long, we've crossed the line. We think, "That's all right. I still haven't done anything wrong. I'll just re-

establish my boundaries and not be quite so strict." And slowly but surely, sin works its way further and further into our lives until we find that we're no longer in control of the situation. "But each one is tempted when he is drawn away by his own desires and enticed. Then, when desire has conceived, it gives birth to sin; and sin, when it is full-grown, brings forth death."

(James 1:14-15)

Father, far too often I have allowed sin to slowly work its way into my life. I didn't want it to. I didn't mean for it to happen. But it did, and I'm sorry. Please help me to keep my eyes focused on you as I strive to keep it from happening again. Give me strength as I resolve not to allow impure thoughts and motives to find a home in my heart. In Jesus' name, amen. Have a great day!

Alan Smith

Look over your cooperating teacher's rules. Which ones have you enforced consistently? Which ones are beginning to look like the stray cat rules?

God bless you all!

See you Friday,

LT





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