

## **Evaluation Summary**

### **Findings from simMentoring for Year 1**

#### **Treatment and Comparison Groups**

During the spring of 2007, simSchool was introduced to 32 preservice teacher candidates in one section of EDRE 4860 Reading and Language Arts, which is the methods course for Professional Development School phase 1 (PDS 1) students. These students were in EC-4 or 4-8 teacher preparation programs. Students at this intern stage which precedes student teaching, spent two days per week taking courses and two days per week in a classroom observing teacher and student activities and assisting the classroom teacher. Pre-post instruments assessing teaching beliefs, perceived level of teacher preparation, level of technology proficiency, level of technology integration, and attitudes toward computers were administered at the beginning and end of the class.

Baseline (pretest) attitude and competency data were gathered from a total of five classes of pre-service teacher candidates during the spring of 2007. Post test data were gathered from the three of these classes mentioned above, at the end of the spring semester. A developer's blog site has been created and students using simSchool at UNT have been encouraged to enter their reflections of the learning experiences and their environment at the end of most simSchool sessions. Two reports (see <http://iittl.unt.edu>) based on analysis of the locally-gathered attitude and competency data, as well as the system usage tracking and blog entries gathered at the simSchool central site, have been produced. The major points from these are listed below:

- Analysis of baseline data confirmed that the traditional teacher preparation clientele at UNT can be clustered into three levels: a) the technology integration student

typically in his/her sophomore year, b) the content methods student typically in his/her junior year, and c) the intern/student teacher typically in his/her senior year.

- Analysis of perceptions of educational simulations among teacher preparation faculty, intern-level students, and beginning level teacher preparation students, indicates that faculty have the highest belief in the utility of the simSchool environment for learning how to better teach; while beginning level teacher preparation students have the 2<sup>nd</sup> highest beliefs, and interns preparing to enter the classrooms have the lowest of the three groups.

Instructional Self Efficacy is a scale derived through exploratory factor analysis of the 10 “perception of teaching” items on Teacher Preparation Survey. Two factors with eigenvalues greater than 1.0 were extracted by a principal components, varimax rotation procedure. Post hoc internal consistency reliability (Cronbach’s Alpha) for the following five items loading on Factor 1, which was named Instructional Self-Efficacy, was found to be Alpha = .72.

A second factor analysis was conducted on the fifteen items in part 2 of the Teacher Preparation Survey. These items ask the respondent to indicate how well prepared he/she currently feels for each teaching skill. The single item in part 3 of the survey was included in this analysis as well. The result was a two-factor solution with all 15 of the teaching skill items loading on factor 1, while the single item about perceived importance of computer games or simulations for K-12 students for learning, in factor 2. Post hoc internal consistency reliability analysis for the 15-item factor produced a Cronbach’s Alpha value of .97.

Preservice teacher preparation candidates involved in the simMentoring project at the University of North Texas during the spring of 2007 exhibited moderate to large gains (Cohen, 1988) on many of the 11 teacher preparation, technology proficiency, and technology integration indices produced from the data. The area in which the treatment group of preservice teacher candidates exhibited the largest gain in comparison to the two groups of their peers that did not receive simSchool access and training, was on items related to instructional self-efficacy. Pre-post effect sizes (Cohen's d) for the treatment versus two comparison groups on this indicator were treatment ES = .95 ( $p < .0005$ ), comparison group one ES = .40 ( $p = .14$ ), and comparison group two ES = .04 ( $p = .91$ ). Items composing this indicator reflected preservice educators' confidence in their competence to bring about positive learning outcomes even in multiple learning conditions. Findings imply that simMentoring activities were successful in fostering instructional self-efficacy in preservice students. Further research is needed to confirm or refute this assertion.

#### Instructional Self Efficacy

Group		N	Mean	Std. Dev.	Signif	Cohens d
Treatment	Pre	28	4.81	0.40	0.00	0.95
	Post	23	5.23	0.40		
Comparison 1	Pre	29	4.88	0.75	0.14	0.40
	Post	25	5.17	0.67		
Comparison 2	Pre	29	4.47	0.79	0.91	0.04
	Post	12	4.50	0.90		

#### Teaching Skills

Group		N	Mean	Std Dev.	Signif	Cohen's d
Treatment	Pre	28	4.73	0.56	0.00	1.00
	Post	23	5.35	0.52		
Comparison 1	Pre	25	4.82	0.59	0.00	0.96
	Post	22	5.45	0.57		
Comparison 2	Pre	28	4.47	0.95	0.03	0.81
	Post	10	5.23	0.68		

Additional details regarding the analyses that formed the basis of this summary can be found on the FIPSE simMentoring web site at <http://iitl.unt.edu>.