Using an Online Diagnostic-Prescriptive Program to Advance the Technological Fluency of Pre-Service Teachers

Statement of the problem:
“Advancing the Technological Fluency of Pre-Service Teachers” provides an appropriate catalyst for a response to new challenges that face educational professionals. This proposal incorporates an innovative approach to effectively improve candidates’ preparation for the varied technology found in diverse school settings. Experience a dynamic, one-of-a-kind, diagnostic, and prescriptive online technology assessment and learning program designed to prepare quality professionals for the way of the future in education.

Overview:
In partnership with the College of Education at Pittsburg State University, the Technological Fluency Institute, a subsidiary of Pitsco, an educational software company, has developed a web-based performance assessment system unlike any other. Targeting 24 basic technology skills, the system uses computer simulations to determine whether a user has developed the desired skill or knowledge. The computer performs all aspects of the assessment; no human intervention is required. The administrative component of the system provides for the collection of a wealth of performance-based data that can be summarized, disaggregated, and analyzed. This information can then be used to create highly targeted staff development for groups, as well as customized staff development for individuals. The Technological Fluency Institute (TFI) is an organization established to provide online assessment/training programs that increase the technological fluency of teachers and students as well as employees of America's companies.

Targeting 24 basic technology skills, the system uses computer simulations to determine whether a user has developed the desired skill or knowledge. The computer performs all aspects of the assessment; no human intervention is required. The administrative component of the system provides for the collection of a wealth of performance-based data that can be summarized, disaggregated, and analyzed. This information can then be used to create highly targeted staff development for groups, as well as customized staff development for individuals. Analyzing the data from the assessments has revealed that there is a climate of change in teacher education at Pittsburg State University that is based on the infusion of technology into the process of teacher preparation.

The role of assessment in many educational reform models or movements has taken on new meaning as reformers are finding that assessment standards and methods have considerable power as agents of change. Although performance assessment can take many forms, it generally differs from the conventional assessment by focusing on the application of newly learned skills. Performance assessment includes activities that accommodate multiple approaches and a range of acceptable products and results. These activities may require learners to solve open-ended problems, create products, or conduct experiments using computer simulations. The primary benefit of performance assessment is that it constitutes a measure of standards for performance of valued skills in a realistic situation and performance task itself engenders a learning activity. With this approach,
teachers and candidates demonstrate technological proficiency through performance assessment rather than through attendance at workshops or courses. Uniquely, this type of web-based assessment supports learning beyond the traditional school day.

**Learner/participant outcomes:**
The purpose of this presentation is to provide participants with a working model of educational best practices and instructional strategies to support technology integration in classrooms. A performance assessment system will be demonstrated that supports and authenticates this model. The following objectives for this session provide participants will a full understanding of the model:

1. Identify and elaborate technology integration best practices that teachers can relate to classroom instruction and effectively model in the classroom;
2. Exhibit a dynamic database of adaptable, selectable best teaching practices that are customizable to the context in which it is used.
3. Demonstrate an on-line validation process and assessment system for teachers to use to model the appropriate use of computer technology in classrooms