

Case Study 5  
Professional Development for K-5 Teachers in Remote Areas

Megan Drury Stotz  
LST 403  
Lehigh University  
March 2012

Case Study 5 challenges Don and Susan to create professional development for teachers who live in remote areas. The program, called *3,2,1 Countdown!*, is a CD-ROM mathematics game. It is preloaded with games, lessons, assessments, videos, and more. Yet, Don and Susan's main objective is a pilot study with professional development. To conquer this task they must identify instructional design theories and core ideas for the instruction. This recommendation is managed inclusively within the CD-ROM. First, let's examine the instructional design theories and core ideas for the instruction of students. Then, the same concepts will be explained for the teachers.

To begin, the CD-ROM is composed of two parts, teacher information, and student information. The student information is rather straightforward. The mathematics concepts range from K-6. The prescriptive instructional principle, recommended for use, is the task-centered principle. Task centered principles set up instruction that progresses in difficulty as students master certain tasks (Reiser & Dempsey, 2011). As noted in the CMap, titled Student Page, an example of a K-1 level addition game is provided as well as a 5<sup>th</sup> grade level. Although both grades are adding, one level is computing single digit numbers while the other is adding fractions. The core idea students follow is attainment-based verse time-based progress. According to Reiser and Dempsey, "each student moves on to a new topic or competency when he or she has attained a standard of achievement, rather than when a certain amount of time has passed" (2011, p. 77). As the students progress in each game, they will receive immediate feedback on their performance also know as formative assessment. When they reach the final level of each subcategory, there will be a summative assessment certifying the student has mastered the category. All assessment information, produced from the games, will be matched to a database where teachers can run reports, create groups, and pull instructional materials that correlate.

The teacher page also follows an instructional design theory. In this case, Don and Susan could implement the demonstration principle. Reiser and Dempsey (2011) explain demonstration principle as instruction that displays consistently with the type of concept or skill being taught. It provides guidance, peer demonstration, and allows the teachers to observe demos through various media. The core idea is similar to the student page; the teachers will follow the attainment-based verse time-based progress. As the teachers master each "task", they will receive new CD-ROMS each year. The new disks will have additional videos, training guides, etc. For example, the CMap titled Teacher Page has five main categories. The first category is professional development. Throughout this link, information to support teachers with how to plan, program, assesses, and report will be available. The Video link will contain model lessons, reflection, and teacher coaching for educators to view. The third link, Student Groups, provides teachers with student results from each subcategory and standard. Since the assessment is integrated with authentic tasks, a personal attainment inventory will provide a record of what each student knows and document when it was mastered (Reiser & Dempsey, 2011). There is also a grouping report. The tab titled Activities is where teachers learn how to organize the materials, use the manipulative, and print lesson plans Don and Susan said they would create (Ertmer & Quinn, 2007). The lesson plan numbers will correlate with the standard and subcategory numbers. The final tab will be the Evaluation tab. At the end of the school year, teachers will print and mail the evaluation page with a copy of the student assessment report. The evaluation page is a Likert scale with an open-ended survey, based on *3,2,1 Countdown!* The results of the teacher responses will be correlated against student results. This information will be collected during the pilot study.

By including instructional design theories and core ideas for the instruction, Don and Susan are able to create an effective educational tool for both students and teachers. It is a challenge to provide quality professional development to teachers in remote areas, but this suggestion may just solve the problem.

Reference:

Ertmer, P. A., & Quinn, J. (2007). *The ID case book: Case studies in instructional design*. Upper Saddle River, NJ: Pearson.

Reiser, R. A., & Dempsey, J. V. (2012). *Trends and issues in instructional design and technology*. Boston: Pearson.

Resources:

CD image provided by [Google Image](#).

Clip Art provided by [Phillip Martin](#).