

<b>Learner Analysis</b>		
<b>Information Categories</b>	<b>Data Sources</b>	<b>Learner Characteristics</b>
1. Entry behaviors	<p><i>Interviews and observations</i>            5 6<sup>th</sup> grade students            5 7<sup>th</sup> grade students            5 8<sup>th</sup> grade students            3 math teachers (one from each grade level)            Computer Resource teacher</p> <p><i>Test data:</i>            Pre-test of skills as outlined in the K-8 NC Computer Skills curriculum given to randomly selected students in 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade</p>	<p>Learners have used PC or Macintosh computers to varying degrees in earlier grades. Learners who have computers in their homes exhibit greater proficiency than those without a home computer.</p> <p>Learners have completed a basic computer skills lesson that covered topics such as the use of the mouse and fundamental knowledge of Windows applications.</p>
2. Prior knowledge of topic area	<p><i>Interviews and observations</i>            - same as above</p>	<p>Learners have varying degrees of knowledge of spreadsheets. The majority of the 6<sup>th</sup> graders have had no exposure to terminology or procedures associated with spreadsheets. The 7<sup>th</sup> and 8<sup>th</sup> graders have limited experience with most students being familiar with the terminology. In many cases students misidentified the parts of the spreadsheet and could not correctly recall the procedure for entering data. Most students were unable to accurately state the correct procedure for creating a chart.</p>
3. Attitudes toward content	<p><i>Interviews and observations</i>            - same as above</p> <p><i>Questionnaire-</i>            Given to randomly selected 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> graders</p>	<p>Learners believe that acquiring the spreadsheet skills will help ensure them of passing the spreadsheet component of the NC Test of Computer Skills. Learners also believe that the chart making skills will assist them in other classes to display data for projects.</p>

4. Attitudes toward potential delivery system	<p><i>Interviews and observations</i> - same as above</p> <p><i>Questionnaire</i> - same as above</p>	Learners have experience learning through computer-based tutorials as well as direct instruction. Students favored the computer-based tutorial and felt like the tutorial would also be easily accessible for review if necessary.
5. Motivation for Instruction (ARCS)	<p><i>Interviews and observations</i> - same as above</p> <p><i>Questionnaire</i> - same as above</p>	Learners have a positive attitude about the interactive nature of the material and the method of instruction and this should help ensure that the learners are <i>attentive</i> . They believe the information is <i>relevant</i> to their future success in school, and they are <i>confident</i> that they can master the material and effectively incorporate it into future courses.
6. Educational and ability levels	<p><i>Interviews and observations</i> - same as above</p> <p><i>Questionnaire</i> - same as above</p> <p><i>Records</i> - Data from SIMS related to students' academic level</p>	<p><i>Education Levels:</i> The learners are in grades 6, 7, or 8, and they range in age from 11 to 15.</p> <p><i>Ability levels:</i> Learners vary in their ability and range from level I to level IV (with IV being the highest). Some learners are labeled as having learning disabilities. Several students have physical disabilities.</p>
7. General learning preferences	<p><i>Interviews and observations</i> - same as above</p> <p><i>Questionnaire</i> - same as above</p>	Learners are experienced with a variety of learning formats. They have a preference for being able to work at their own pace when covering new material. They have experienced success in earlier web-based (one-on-one) tutorials and like the idea of being able to customize the learning by omitting topics with which they are already familiar. Receiving immediate feedback was noted as a positive feature by the learners.

<p>8. Attitudes towards training organization</p>	<p><i>Interviews and observations</i> - same as above</p> <p><i>Questionnaire</i> - same as above</p>	<p>Overall, learners have a positive outlook about coming to school, about coming into the computer lab, and about web-based instruction. This format of the instruction is viewed as a welcome change to the majority of the instruction they receive at school. They believe that the training will benefit them in other courses as well as assist them in obtaining the required skills necessary to pass the NC Test of Computer Skills.</p>
<p>9. General group characteristics</p> <p>a) heterogeneity</p> <p>b) size</p> <p>c) overall impression</p>	<p><i>Interviews and observations</i> - same as above</p> <p><i>Questionnaire</i> - same as above</p>	<p><i>Heterogeneity:</i> The majority of spreadsheet instruction is done through math classes and math classes are for the most part homogeneously grouped. However, all students will participate in this activity, so the total population is very heterogeneous. Students come from a wide variety of backgrounds, economic situations, and cultural groups.</p> <p><i>Size:</i> There will be a total of approximately 850 students who use the tutorial in year one. After that, it will be used for 6<sup>th</sup> grade, for new students, and for remediation of other students.</p> <p><i>Overall impression:</i> The lesson will need to be structured to keep the attention of a wide variety of learners. The implementation must be somewhat flexible with learners being able to choose whether they complete all or part of the tutorial.</p>