Learner Analysis		
Information Categories	**Data Sources**	**Learner Characteristics**
Entry Behaviors	Interviews and Observations Testing Data	*Performance Setting*: Learners have some experience with proofs and Logical thinking skills. Learners have experience with applying geometric postulates definitions and theorems in other geometric problems. *Learning Setting*: Learners have experience with computers.
Prior Knowledge of Topic Area	Interviews and Observations Testing Data	Learners have general knowledge of geometric postulates, theorems, and definitions. Learners have general knowledge of Algebra.
Attitudes Toward Content	Interviews and Observations	The learners believe that there is no practical application of geometric proofs in the "real world". The learners believe that mathematics is performing a series of steps that do not require decisions. Therefore they consider the content difficult.
Attitudes Toward Potential Delivery System	Interviews and Observations	Learners enjoy computer-based instruction. It is more visual.
Motivation for Instruction	Interviews and Observations	Learners are excited about learning the relevance of this material. Learners are confident that they can succeed. Learners will be attentive and satisfied with the delivery of instruction.
Education and Ability	Interviews and Observations	*Educational Abilities*:

Levels	Student Records Testing Data	Learners are in grade levels 9 - 11. Learners have successfully completed Algebra I. *Ability Levels*: The Learners have a varying degree of ability levels in mathematics
General Learning Preferences	Interviews and Observations	Learners are experienced with a variety of learning formats. They enjoy control of learning and do not enjoy feeling embarrassed.
General Group Characteristics	Interviews and Observations Student Records Testing Data	*Heterogeneity*: Learners come from various backgrounds. There are a mixture of gender and races. *Size*: There are 14 learners participating. *Overall Impressions*: Instruction will need to be efficient and effective.
Attitudes Toward Training Organization	Interviews	Learners have positive feelings about the organization developing the materials and about using the computers for instruction. They believe this training will help them be more successful in math courses.

Context Analysis		
Information Categories	**Data Sources**	**Learner Characteristics**
Managerial/Supervisory Support	Interviews Student Records	Supervision of student learning is minimal. Students will receive materials, recourses and technical support.
Physical Aspects of Site	Observation	*Facilities*: Computer Lab with computers that have Power Point and access to the network on which the file is provided. *Resources*: Print Materials and Power Point Presentation. *Equipment*: Computers with access to Power Point. *Timing*: 45 min. with materials and software.
Social Aspects of Site	Observation	*Supervision*: None *Interaction*: Students with materials and computer. *Others effectively using Skills*: There are no others effectively using logical thinking skills to generate proofs. The class will consist of the learners only. The learners must possess minimal technological skills to complete module.
Relevance of Skills	Interviews and Observations	Meeting identified goal.

Needs Assessment

Actual performance:

Observational and paper assessments show poor performance of logical thinking skills in geometric proofs. Students are able to fill in blanks on a given proof but are unable to produce a proof of their own. They lack the analysis skills and confidence necessary to deduce a logical sequence of statements.

Optimal Performance:

Students use logical thinking skills and prior knowledge of geometry to prove theorems.

Needs:

1. Improvement of logical thinking skills.
2. Confidence in mathematical abilities.

Solutions:

1. Training in completing geometric proofs.
2. Incentives for optimal performance

Goal:

Students will generate two-column geometric proofs for a variety of problems by applying logical thinking skills.

Domain of Goal:

Cognitive by Bloom and Intellectual Skill by Gagne.

Learning Outcome of Goal:

Analysis by Bloom and Problem Solving by Gagne.