

Instructional Software

Instructional Software

Instructional software is applications software designed specifically for the purpose of delivering or assisting with instruction on a topic.

Functions of Instructional Software

- Drill and Practice
- Tutorials
- Simulations
- Instructional Games
- Problem Solving Programs

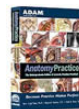
Drill and Practice

- Provide exercises and usually give feedback to the learner
- Can advance learners to higher levels based upon their level of mastery
- Can provide learners with a certain amount of control over the presentation rate
- Should provide appropriate positive reinforcement for correct answers and lesser reinforcement for incorrect answers

Drill and Practice

- Used frequently for developing basic skills which are prerequisites to advanced concepts (Automaticity)
- Have the advantage of immediate feedback over paper and pencil exercises
- Can be more motivating to students than paper and pencil exercises
- Can save teachers valuable time grading or planning paper and pencil exercises
- Can help students correct deficiencies in preparation for tests

Example Drill and Practice Titles



Tutorials

- Use the computer to deliver instruction in a manner similar to a teacher
- Are most often geared toward students who can read well
- Should be extensively interactive
- Should always give learners a thorough control of the pace and direction of the instruction
- Should build upon concepts sequentially, providing adequate explanation

Tutorials

- Should provide adequate feedback to students
- Allow students to repeat topics when they haven't been mastered
- Provide alternatives for advanced learners, especially when teacher time is limited
- Favor visual learners

Example Tutorial Titles



Simulations

Simulations are computerized models of a real or imagined system. There are four classifications of simulations.



1. **Physical Simulations** – models where learners manipulate objects or phenomena represented on the computer screen.

Simulations

2. **Iterative Simulations** – models that either speed up or slow down the system so that learners can observe the events that take place.
3. **Procedural Simulations** – models that teach a sequence of steps in the performance of a procedure.
4. **Situational Simulations** – models that present learners with hypothetical problems and require the student to react or apply a strategy.

Simulations

- Allow for the compression or expansion of time
- Require students to become involved
 - Make experimentation safe
 - Make the impossible possible
 - Can save money and other resources
 - Allow for repetition with variation
 - Make events controllable

Example Simulation Titles



Instructional Games

- Software whose function is to increase motivation by adding rules to learning activities
- Work best when there exists a level of uncertainty and adventure accompanied by levels of complexity matched to learners abilities
- Can be used in place of worksheets, to foster group work, and as a reward for good work

Example Instructional Game Titles

