Report 1
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Instructional Transaction Theory

Instructional Transaction Theory (ITT) is a more precise version of the Component Display Theory, which provides a list of prescriptions for designing instruction for different kinds of instructional outcomes. ITT has been used to provide instruction for technical training and make automated instructional design possible.

The major components of this theory include: instructional design process through automation, simulation design through automation, combining simulations with tutorial instruction, and adapting instruction to individual students in real time as their needs change during learning.

ITT is based on four levels. The *first level* is the demonstration. Students are watching and learning the parts or names of the software program. The *second level,* the students try the simulation when asked to do so by the instructor or program. The *third level* is where the program asks the student to proceed to the next step. Again the students receive immediate feedback. The *fourth level* is where the students demonstrate completing the tasks independently.

The methods of instruction for the ITT theory break down as such:
Provide an open-ended learning environment. (Level 1)
- **Simulation** – leaner can perform any action possible in the real-world environment.
- By applying the ITT model to the self instructional module (UR program), the learner will first see the Universal Reader program being used with an explanation of what the UR program is doing and why it is doing it. At this point, the learners will watch the simulation along with learning the names of each button and the action that will take place when the buttons are clicked.

Identify transaction: for learning the name, location, and function of patrs of a device. (Level 2)
- **Presentation** – We will be building our tutorial with Captivate, this way the students will be able to sit down and see how the UR program is actually used on the computer. The tutorial will include all of the major functions of the UR program as well as identifying each icon and its function within the program.
- **Practice** – the students will practice using the UR throughout the tutorial.
- The UR program will go through the process again but this time the learners will have to go to the proper spots in the program when prompted. Whether the learners click on the right or wrong button, they will immediately receive feedback from the UR program. For example, this could be represented such as "Click the 'Read' button to start the reader." "Try it." The students would then click the read button. At that point they would receive feedback stating that they clicked on the right button. If they click on the wrong button, they would again receive immediate feedback guiding them to the proper place

Execute transaction: for learning to perform a procedure: (Level 3)

- **Guidance** – Simon says (direction – consequence) the tutorial will include segments where the student will be responsible for following directions and clicking on the appropriate icon. For example the student will be shown how to highlight text and then press the Read icon. Then the student will be asked to highlight a passage and then press the Read icon to have the information read to them.
- This level is represented by the program asking the student to highlight the text to be read. Then it would ask the student, "Perform the next step." If the students perform the step correctly the program would give them feedback and continue on to the following step. Here the students should click on the 'Read' button. If the students performed the step incorrectly, the program would then explain the step they did incorrectly and ask them to try again. The students would then have to perform that task until they are able to complete the task correctly.   If the learner clicked on the 'Stop' button, the program would say, "That is not the next step. You clicked on the 'Stop' button. This button is used to stop the reader from reading the text. Try again."

Interpret transaction: for learning to explain, predict, trouble-shoot: (Level 4)
- **Practice –** For troubleshooting purposes, an index will be included with a description of each icon.
- Once the students are proficient with the third level, they then move to the fourth level. This is where the students are asked to complete the tasks independently. They would still receive feedback from the UR program but it is minimal. At this level the students are expected to perform the steps independently.

Learner analysis: prior to teaching students how to use the Universal Reader			
Learner	**Required**	**Current**	**Data Sources**
Prior knowledge			
Prior skills	Basic computing skills	Basic Computing skills	Observations
Attitude toward UR learning	Students would find reading enjoyable and gain new knowledge in the process.	Students have difficulty reading and do not feel that they need to improve this skill for daily living. Because they find it difficult they don't read on a regular basis.	• Observations • Interviews
General group characteristics	N/A	Students come from a variety of neighborhoods and have varying age levels. Size: 10% of school population	• Observations • Student records

	Required	Current	Data Sources
Motivation toward UR using	Students will have to want to use the tools	Unknown	Unknown – new to system
Learning style/preference	Auditory Hands-on Visual	Hands-on Auditory	• Observations • Interviews • Student records
Education level and ability	At least 1st Grade Reading Level	1st Grade Reading Level	• Observations • Student Records
Culture background	Variety	Variety	• Observations

Context analysis: periphery or supporting environment around the Universal Reader using or learning			
Learning context	**Required**	**Current**	**Data Sources**
Relevant materials	Universal Reader software	Universal Reader software	Technology Department
Managerial/supervisory support	• Administration • Computer Resource Teacher • Assistive Technology personnel • Teacher	Special Education administrator	• Interviews • Records
Physical aspect of site	• Computers with appropriate software installed • Headphones	• Computer without the software installed	• Interviews • Observations
Social aspects of site	• Peers would not be aware of reading difficulties	• Peers are aware of reading problem	• Interviews • Observations

	since the student would be using a computer with a headset	because the teacher has to read material aloud	
Site compatibility with instructional needs	• Meet with CRT to see if the computers can handle the software	• According to Assistive Technology coordinator – compatible with system	• Interviews
Site compatibility with learner needs	• All the computers in the computer lab will have the Universal Reader installed	• Every school has least one computer lab with 28 computers	• Observations • Interview
Relevant equipment	• Computers • Windows • Headphones	• Computer • Windows • Headphones	Technology Department
Relevant resources	Universal Reader Tutorial	Nothing	
Personnel support	Technology Department Teachers	Technology Department Teachers	Technology Department
Optional language	English	English	Observation Student records

Need analysis

Actual Performance: **Through observations, review of student records, and interviews with personnel, students with reading deficiencies are not able to use the tools available to help them read the grade level material.**

Optimal performance: Students will use the tools so that the grade level material can be read to them.

Needs:
- Students need to learn reader software in order to have the material read to them..
- Students need to demonstrate using reader software.

Solutions:
- Provide reader software programs that the students can use to read the material to them.
- Teach the students to use the reader software program so they can have help reading grade level material.

Goal:
- The students will demonstrate navigating the reader software programs by performing the required steps.

Domain of Goal
- Gagne's Intellectual Skill, Rule

Domain of Learner Outcome
- Gagne's Intellectual Skills, Rule

Instructional Goal: The students will demonstrate navigating U reader program. (IS-R)

Goal Analysis

Demonstrate the steps of opening Reader program (IS-R) **1**	→	Demonstrate the steps of highlighting text to be Read (IS-R) **2**	→	Demonstrate applying rules and principles of reading text (IS-R) **3**

Demonstrate locating start point of highlighting (IS-R) **2.1** → Demonstrate highlighting text (IS-R) **2.2**

Demonstrate clicking Read button (IS-R) **3.1**

Subordin Skills Analysis

Demonstrate opening U Reader icon (IS-R)

Execute left click (MS) 2.2.1

Execute dragging the curser (MS) 2.2.2

Demonstrate applying stop button in the middle of reading (IS-R)

Identify U Reader icon (CC)

Distinguish U Reader icon from other icons (IS-D)

Identify the Read Icon (CC)

Identify the stop Icon (CC)

Entry level

Know what is icon (VI)

Distinguish left click and right click (IS-D)