Curtin University
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Internet Interactivity Design 392

Chapter 5

Help Features

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On-line help takes **two** basic **forms**:

- **Informational Help**: help with the actual content, that is an alternative explanation, or even remediation of content, which may be a separate section as opposed to just help.

  Examples
  - **More detailed descriptions**
  - **More Examples**
  - **Sample Problems**
  - **Explanations worded more simply** (teachers do this)

  Provision for informational help depends on the nature and difficulty of the lesson.

- **Procedural Help**: help with the navigation required. If a student can't remember how to get help, its usefulness is completely lost. Examples:
  - **Maps**
  - **Retrace mechanisms**
  - **Bookmarks**

Clearly each of these is **aimed at avoiding** "**being lost in hyperspace.**" Aside from **online help**:

- **<u>Maps</u>** provide a sort of overview of the whole package with mechanisms for going directly to a particular section of interest. This is the "you are here" perspective.

- **<u>Retrace Mechanisms</u>** are sort of cut down maps, in that they show the path taken and how to get back and go another way, without necessarily showing the whole package. The change in link colors on the Web, for example.

- **<u>Bookmarks</u>** are ways of marking areas to come back to directly, rather than having to navigate there.

Examples? of each of these can be found in a variety of packages and application programs.

Learner Control

The learner is given some control in a multimedia package even if it is little more than paging through information.

The question we seek to answer is not so much should a user have control of the package, but **rather how much control should a user have.**

Firstly, let us look at **a number of ways in which the user can have control of the package**. Primarily these deal with an educational / training type of environment, **but these ideas apply to all forms of interactive multimedia.**

According to Schwier and Misanchuk, the user can have control over

- **Control being presented**
- **The context, adapting to user interest**
- **Method of presentation style**
- **How much extra material they view**
- **The order that material is presented**
- **Amount of practice examples they have to deal with**
- **Level of difficulty**

Research in this area seems to suggest:

- **Users with existing knowledge in content benefit from greater control**, which may also provide added motivation to discover more.
- **Users who are new to the content may lose out from too much control**, since there is an increased cognitive load. This implies these users need more structure.
- **Giving some level of control is aided by advising the user of what control they do have**.
- **Control can, and should, be provided via adaptive packages**.

Instructional Prescriptions for Learner Control by Jaesam Chung and Charles M. Reigeluth

Low-achievers lack the knowledge and motivation to make the appropriate decisions.

Relationship and Prescriptions
Currently, the following are designed into instructional multimedia:

1. **Instructional Outcomes**
   - **Effectiveness**, measured by
     - **Accuracy** (error rate)
     - **Speed** (performance efficiency)
     - **Degree of learning transfer**
     - **Duration of knowledge retention**
   - **Efficiency** [effectiveness ÷ (student time + cost of instruction)]
   - **Appeal** (learner's appreciation + desire to continue learning)

Instructional Methods

Merrill:
- Notion of Content Control
- Sequence Control
- Pace Control
- Display (strategy) Control
- Internal Processing Control (conscious cognition and metacognition)
- Intelligent Advisors

Prescriptions for Learner Control:

Use Content Control
- When students have significant previous knowledge
- When students are permitted to set own learning goals
- When students are of a higher ability
- When success is independent of chosen content
- When students are able to use information in novel, creative ways
- When teaching higher-order skills as opposed to factual information.

Do Not Use Content Control

- When all topics are required for successful completion of a program
- When there is a hierarchical order to the materials

Use Sequence Control

- For lengthy programs with irrelevant orders
- When students are familiar with the topic and can make there own choices.
- When success is independent of chosen content
- When students are of a higher ability
- When teaching higher-order skills that are usefully applied in different ways.
- If the opportunity arises for a student to sequence the objectives in their own way.
- For self-paced individualized materials
- When learners are able to use prior knowledge to determine their instructional sequence.

Do Not Use Sequence Control

- When the materials have a specific prerequisite order.
- When the objectives of the course are sequenced, as in linear delivery systems.

Use Pace Control

- When control can give students greater relevance and satisfaction by allowing them to spend time with those topics more relevant to their needs.
- When students feel spending more time will increase their success.
- When learners are using individualized or self-paced instruction.
- When feedback suggests more time should be spent on certain topics.
- When students would benefit from additional time to mix with previous knowledge
- When additional time would benefit the students
- With coached practice

Use Display Control

- When using a single subject idea

- When students are provided a mechanism for selecting and sequencing those displays which they feel are required in order to understand a given objective.

In hypermedia learning systems, the following prescriptions for learner control are applicable:

1. **Provide extra guidance to low-ability students** and set a default path through the instruction
2. **Provide a graphical browser** to help users navigate
3. **Provide audit trails** (so they know where they've been)
4. **Offer standards** for screen layouts and link identification
5. **Allow learners to make conceptual links**:
   - **In presentation settings**,
     - Develop systems in which info is presented in breadth over depth.
     - Develop systems in which the user is able to determine where they are navigationally
   - **In collaborative settings**,
     - Develop or utilize common metaphors.
     - Utilize narrow paths and consistent link marking
   - **In navigation settings**,
     - Provide fast stem speed, user navigation strategies, and use of exit button on every screen.

6. **To mitigate user distraction:**
   - In presentation settings,
     - Intuitively provide methods of navigation
   - In collaborative settings,
     - Develop and provide standards for screen layout and links
   - In navigation settings,
     - Develop a standard hierarchy for the presentation of information
     - Allow the user to determine the number of linked windows at one time
     - Utilize the infinite undo within the system

7. **Provide learners with continuously available help features**

8. **Use expert systems technology** to facilitate learner control decisions.

Conclusion:

- **All multimedia has some level of user control**
- **Developers/designers consciously or unconsciously include this**
- **Need to balance between too much control and too little**.
- **Idea of article is to force you as designers to think about so as to do it more carefully.**

References:

Schwier, R. (1993) Interactive Multimedia Instruction. Educational Technology Publications, Englewood Cliffs, NJ