Media Selection Models

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Just-a-Phase Model: Checking Content for Children's Media

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A well-respected book editor once told me that the difference between successful and struggling editors is intuition and a little luck; the successful editor's sixth sense for what makes a good book leads her to accept manuscripts that will sell volumes, reap rave reviews, and evolve into timeless classics. When striving to deliver high quality (and best-selling) educational content to children, few book editors have the option of using a media selection model; after all, the medium is part of the book editor's job title. Children's television, video and music producers, educational toy manufactures, and software designers typically aren't free to select from an assortment of media, either. However, those producers of children's media can select from an infinite realm of content.

Selection of content—including topics, objectives and strategies—might be intuitive to some producers of children's media, but others might benefit from a systematic tool for matching content to their medium and audience. A model that works backward from medium to content would be useful to producers of unvarying media who might need recommendations about applying principles of instructional design and learning theory to their varying content.

However, simply rewriting an existing media selection model in reverse wouldn't be especially helpful to producers of children's media. Many existing models dedicate only one variable to separating child from adult learners: reading ability. In reality, children move continuously through phases of interest, physical and mental ability, and emotional and social development (Dewey, 1938; Erikson, 1950; Montessori, 1965; Piaget, 1952; Vygotsky, 1978). A model designed especially for children's media can give more weight to the characteristics of learners in phases of childhood.

Description of the Just-a-Phase Model

The Just-a-Phase Model, which is still in development, will be an online tool that addresses the needs and current realities in the world of children's media. Users of the model will be producers of educational media for children who already know which medium they will use. Upon accessing the tool, users will identify the type of medium they produce. Medium choices are: books; television and videos; music and audio; software; and games and toys.

Although the Just-a-Phase Model draws more from theory than from a practitioner's experience, the model presents theoretical frameworks in language that is familiar and applicable to the practitioner. Such is the case with the model's target audience categories (see Figure 1). The audience age group options are similar to target audience labels found on children's media: ages zero to four, four to six, six to eight, eight to ten, ten to twelve, and young adult. Identifying the target audience's age group is the first step to using the model. Often, producers of media will choose the content, develop the product, then assign the product a target audience. In that case, the Just-a-Phase Model will be a good way for producers to determine whether they've selected the appropriate target audiences and learn how they might improve their products to make them more suitable to their audiences.

The second step (see Figure 1) is to choose the best descriptor for the intended content. The model's content descriptors were plucked from existing lists of domains (Gagné & Briggs, 1974; Merrill, 1983; Reiser & Gagné, 1982) and modified to use language that might need less explanation to children's media producers. The model's content descriptors include: facts and information; concepts and ideas; morals and attitudes; how-to—physical; and how-to—mental. The model's introductory material defines and gives examples of each content descriptor. The model assumes that although the producer might not have the content entirely fleshed out, she will know enough about the content to be able to assign it a descriptor.

After choosing the medium, the audience and the content descriptor, the online tool will recall the appropriate recommendations for design (see Figure 2). Those recommendations draw from instructional

design principles (Dick, Carey & Carey, 2001; Gagné & Briggs, 1974; Keirns, 1999; Morrison, Ross & Kemp, 2001), learning theories (Ausubel, 1978; Bandura, 1977; Dewey, 1938), and developmental theories (Erikson, 1950; Montessori, 1965; Piaget, 1952; Vygotsky, 1978) to answer three questions:

1. Is the content appropriate for the target audience?
2. Is the content appropriate for the medium?
3. Given the target audience and medium, which treatment and strategies might be effective for teaching the content?

If the medium or audience is ill-suited to the content, the model recommends changes. Changes include reconsidering the target audience, using another medium to complement the chosen one, and modifying the content. The model will be flexible and easy to use so that producers of children's media can use it as a quick quality-check for content and strategies.

Figures

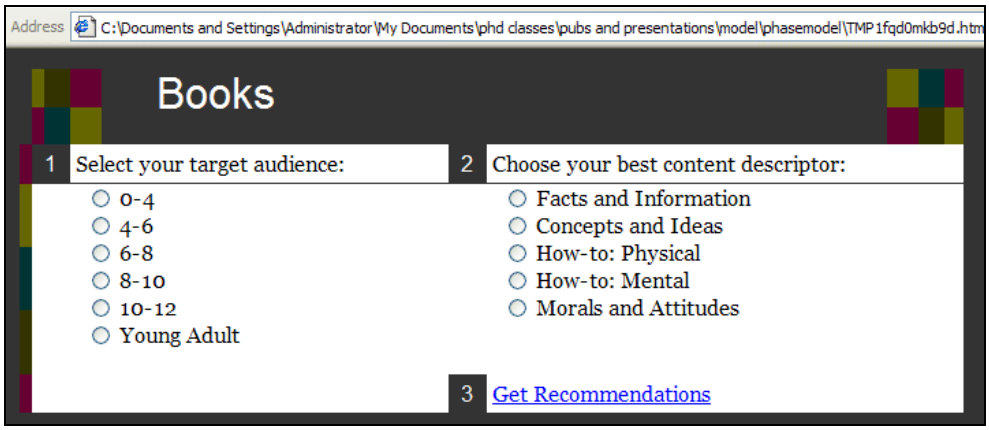

Figure 1. Book editors can select their target audience, choose their content descriptor, then get recommendations about designing a book to teach that content to that age group.

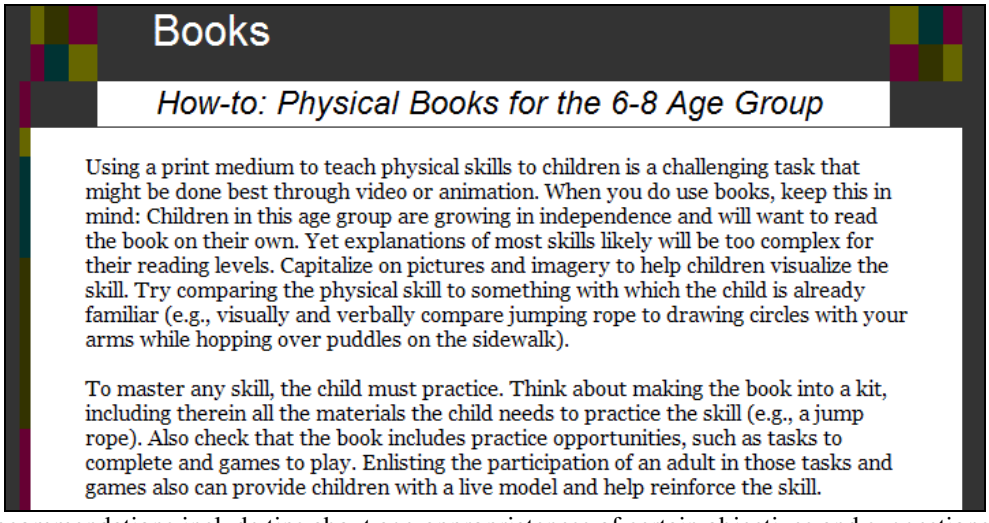

Figure 2. Recommendations include tips about age-appropriateness of certain objectives and suggestions of methods, strategies and treatments that are effective in the selected scenario.

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Instructional Indicator's Model

Florence Martin, Arizona State University

Selecting the appropriate tool for a given educational purpose is extremely important. Care should be taken not to select media just because they are available. The majority of instructors use media that are "off the shelf," that is, ready-made or easily accessible. However, the purpose of the media selection process is to determine the "best" medium. Choosing the right medium should result in an efficient and effective learning process. The purpose in media selection should not be not to show the mastery of the technology, but to select media that will best magnify learning.

The instructional indicator's model was designed after analyzing the different models proposed by researchers. The advantages and disadvantages of the different media available were also analyzed.

The Instructional Indicator's Model

How do you select the right media to support the classroom based learning, blended learning or elearning environment? This Instructional Indicators Model is a matrix with the criteria needed to select the media on the X-axis (Rows) and the media types on the Y-axis (Columns). The criteria, which are represented by columns, are: learner characteristics, instructional strategy, learning outcome, instructional setting and cost. The media types, which are represented by rows, are: print, audio, video, computer and web. The matrix represents a guideline with the different media characteristics. Using matrix as a guideline, users form their own decision on which media type is most appropriate for the instruction.

Media Types

Research has been carried out on the relative effectiveness of different types of media in different instructional situations. Since the instructional situations are different from one another, it is not possible to compare the media directly. Some media are better at doing certain tasks, and there is no single medium being best for all purposes.

The media types in my model were identified as a result of research done on technologies available to support instructional delivery. Advantages and disadvantages of selecting a medium were considered in designing the matrix. Different media convey differing forms of symbol system (sound, written language, moving pictures, etc.). Each has its own potential in terms of the teaching or learning that it can effectively promote (Kirkwood, A. 1994).

Criteria for Media Selection

Reflecting on experience and on existing models and media, five criteria were selected.

- Learning outcome
- Instructional Strategy
- Learner characteristics
- Instructional setting
- Cost

Learning Outcome: Based on Gagne's classification of learning outcomes, in this model we considered psychomotor, attitudinal, intellectual, cognitive and verbal learning outcomes. The type of learning outcome is important in selecting the most appropriate medium.

Instructional Strategy: Learning strategies, or instructional strategies are the various procedures used to involve the learners in the training program, such as questioning during lectures, simulation with CBT, reflection after reading, etc. (Clark, D. 1999). The strategies were short-listed as interactive, self-paced and drill-and-practice.

Learner Characteristics: Identification of the learner characteristics (group size and age) help in the selection of the medium that supports the learner needs. The size of the group (small and large) and the age of the audience (young and old) were the two different learner characteristics that were considered to be most important during the media-selection process.

Instructional Setting: The instructional setting or was categorized as classroom and distance. Certain media are best for some instructional settings, giving the learners more flexibility in delivery. the media that best fits the instructional setting should be selected.

Cost: The media types were analyzed for their purchasing cost and production cost. The instructors can decide whether the medium should be produced/developed or purchased based in part on the cost.

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Figure 3: Instructional Indicator's Model

	Learning Outcome	**Instructional Strategy**	**Learner Characteristics**	**Instructional Setting**	**Cost**
Print					
Textbooks, Job aids	Attitudinal, Verbal		Small and large group, young and old audience	Classroom	Inexpensive to purchase, Produce -expensive
Workbook	Attitudinal, Intellectual, Verbal, Cognitive	Interactive, self-paced, drill and practice	Small and large group, young and older audience	Classroom, Distance	Inexpensive to purchase, Produce -expensive
Audio					
Audio cassettes, CD	Attitudinal, Verbal	Self-paced, drill and practice	Small and large group, older audience	Classroom, Distance	Purchase - inexpensive, Produce -expensive
Audio conference	Attitudinal, Verbal, Intellectual, Cognitive	Interactive	Small group, older audience	Classroom, Distance	Purchase - expensive, Produce -expensive
Video					
Video cassettes/ DVD	Attitudinal, Verbal, Cognitive	Self-paced, drill and practice	Small and large group, young and older audience	Classroom, Distance	Purchase - inexpensive, Produce-expensive
Video conference	Psychomotor, Attitudinal, Intellectual, Verbal, Cognitive	Interactive	Small and large group, older audience	Classroom, Distance	Purchase - expensive, Produce-expensive
Computer (Multimedia)					
Interactive computer application (Simulations, Games)	Psychomotor, Attitudinal, Intellectual, Verbal, Cognitive	Interactive, self-paced, drill and practice	Small and large group, young and older audience	Classroom, Distance	Purchase - expensive, Produce-expensive
Non interactive computer application	Attitudinal, Verbal	Self-paced, drill and practice	Small and large group, young and older audience	Classroom, Distance	Purchase - expensive, Produce-expensive
Web (Hypermedia)					
Interactive web application	Psychomotor, Attitudinal, Intellectual, Verbal, Cognitive	Interactive, self-paced, drill and practice	Small and large group, young and older audience	Classroom, Distance	Purchase - inexpensive, Produce-expensive
Non interactive web application	Attitudinal, Verbal	Self-paced, drill and practice	Small and large group, young and older audience	Classroom, Distance	Purchase - inexpensive, Produce-expensive

Theory To Practice Model

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Introduction

During the instructional design process, decisions must be made regarding which medium is the best fit for delivering the content. Choosing the appropriate media for educational purposes is not an easy task. Many educators tend to base their choices on their comfort levels. However, choosing the appropriate media should result from detailed analyses of the objectives, target audience, instructional procedures and the capabilities of available technologies. Educators need tools that will simplify the complex media selection process.

Description of Model

The Theory to Practice model for media selection was developed with the intent of guiding educators through the complicated process of choosing the most appropriate media for instruction. Reiser and Gagne (1982) suggest that instructional developers use the media selection model that has the most features they find useful. In developing the Theory to Practice Model, I identified the features that I found most useful but then combined useful features from various models.

One of the features of the Theory to Practice Model is that directs users to media attributes instead of suggesting one specified medium. This feature increases the model's life expectancy because technologies evolve rapidly. Guiding users to a specific and sometimes a trendy technology is risky. The model can become invalid when the technology becomes out of date. The Theory to Practice model directs users to media attributes, it informs them about the instructional features of those attributes then suggests currently available technologies with those attributes. This characteristic of the model is designed to help users even in the future. As technology evolves, users of the Theory to Practice Model can note the attributes of new media and continue to use this model for media selection. Since they are provided with the attributes of media, they will be able to evaluate the currently available technologies, adjust the recommendations of the model and select a medium that is compatible with most of these attributes.

Another feature that the Theory to Practice model incorporates is user control. The model guides users by providing questions about learning theories. Choices that the users make about learning theories, lead them to suitable media attributes. Then users consider their own unique context, their instructional decisions and their budget limitations to choose a medium that has the attributes appropriate for those characteristics to which they were led. This way the model provides user control and flexibility.

Besides flexibility and responsiveness to user circumstances, one other feature of the model is using learning theories as a starting point of the media selection process. The Theory to Practice model guides users to a good fit medium by enabling the user to select his/her preferred learning theory or teaching approach. The model is a general framework, into which the user incorporates the learning theory and uses the guiding questions about their instructional decisions. This way the user examines media that meet the requirements of the learning theory. The model incorporates an example for integrating a teaching and a learning theory. The model will be expanded in the future to include more teaching and learning theories. These theories in this initial example are Multiple Intelligence Theory (Gardner, 1983) and Expository Teaching Theory (Ausubel, 1968).

The Theory to Practice model provides detailed information about the considerations of each media attribute. After users select a theory, they answer the theory-related questions regarding their unique case, then the model sends them to the attribute of the media chart. That chart lists the suitable media attributes and presents users with information about major strengths of media attributes, characteristics of the learners, instructional setting and objectives. The model is designed to make users aware of the consequences and conditions for successful use of each media attribute before the medium is chosen.

The model has five steps and the users navigate through two matrices. Before the user begins to use the model, they must have written the instructional objectives. After the user chooses the theory, the model directs the user to a series of questions related to the aspects of the theory that may be incorporated into the instructional process. As the user moves forward in the model, s/he uses the attribute chart to identify the list of the candidate media. The final step is for the user to choose between the best or preferred fit among candidate media.

How to Navigate the Theory to Practice Model

Step 1: Review your objective and your assessment plan. Think about the procedures of your instruction.
Step 2: Choose the learning theory that you plan to use.
Step 3: Go to Chart 1: ***Questions to be considered***. On the chart check the characteristics of the learning theory that you want to have represented in your media selection decisions. As you go through the chart, answer the questions related to your objectives and instructional decisions. Note the letter codes associated with each of your answers in the space at the bottom of the chart.
Step 4: Look at the media codes that have the highest ratings. Then go to the Chart 2:***Attribute Chart*** to find information about the attributes of the appropriate media. Evaluate how well the areas of strength, learner characteristics, instructional setting and learning outcomes work for each media attribute and for your instructional situation. Choose the media attribute that is most suitable for your instructional components.
Step 5: At the end of the media attributes column that you are following, you will see the suggested media types. Choose one of those suggested media to utilize in your instruction keeping in mind your budget and resource limitations.

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Chart 1: Questions To Be Considered

Directions: Pick a learning theory or a teaching approach to use in your instruction. Read the questions in the column for your chosen theory and decide which of these aspects you want to incorporate in your instruction. In the space at the bottom of the column, you can tally the media choices suggested for each question to determine the media or mediums, which would best fit your instructional needs.

Letter Codes: Printed material (PM) Still Visuals (V) Audio (A)
Internet (I) Motion visuals (MV) Multimedia (M)

Multiple Intelligences Theory	If Yes, then tally choices at the bottom of the sheet	Expository Teaching Theory	If Yes, tally choices at the bottom of the sheet
Do you want the media to be able to…		**Do you want the media to be able to…**	
Individualize the presented instructional material?	PM M A I	Present advance organizers?	PM SV M A I MV
Let students take a pretest to determine the amount/route of instruction needed?	M I PM	Help students to assimilate new information with the previous one?	PM V M MV A I
Address and accommodate the needs of students in terms of different intelligence domains, during the instruction?	M I	Present the material in an organized manner (in its final form)?	PM V M A I
Provide a learning environment in which more than one intelligence might be addressed at one time?	H I MV	Present the information in a meaningful way to learner?	PM V M A I
Present multiple paths for learners to follow?	M I	Provide a variety of examples?	PM V M A I
Respond to students and modify instruction according to students' input?	M I	Present stimuli, to direct learners` attention to the fore coming topic?	PM V M A I MV
Individualize the type of posttests regarding to the path of the learner in the instruction?	M I	Provide an environment in which student and teacher will interact?	PM I V M A
Record the path the user followed?	M I	Provide a pre-test to students to determine their existing schema on the concept to be learned?	M I
Present opportunities for learners to develop their skills (to some extend) in all eight intelligences?	M I	To modify the instruction according to the students' existing schema and the new information to be learned?	M I

PM___, M___, I____, V___, A___, MV___.

Continue to the attributes chart

Phase 2-Attribute Chart

Directions: **From the previous 'Questions To Be Considered' chart discovered the media most likely to be successful for the delivery of your instruction. Next, consider the instructional components for the proposed instructional media and the learning objectives by using letter codes for each selected media in the chart below to validate the media choice .**

Attribute	(PM) Print Materials	(V) Still Visuals	(MV) Motion Visuals	(A) Audio	(M) Multimedia Computer based	(I) Internet
Areas of Strength	• Conveys large amount of information economically. • Appropriate for learners with advanced reading skills and ability to handle abstract representations. • Provides a mean for easy review. • Prepared in a relatively shorter time.	• Supports and enhance text or audio. • Provides more concrete representations. • Leads to a better understanding of abstract concepts. • Good for learners who need concrete representations • Leads high order thinking skills	• Inexpensive delivery. • Visual and sound capabilities. • Portability. • Brings real life cases into the classrooms.	• Inexpensive delivery. • Appropriate for short segments. • Learner may enhance understanding the presented information by using variable speed player to speed delivery slightly. • When recorded, allows learner to review material. • Can be used to provide discreet cues and feedback. • Geographical flexibly.	• Provides rich learning environment. • Meets needs of students with different learning styles and modality preferences. • Can provide interactive learning environments. • Provides immediate feedback. • Evaluate students' input and respond accordingly • Relatively more permanent learning experience.	• Provides low-cost delivery to students with Internet access. • Provides on-demand. information. • Deliver multimedia materials. • Appeal to different learning styles. • Quick updating. • Accessible any time anywhere.
Learner characteristics to be considered	• Requires reading ability. • Age and developmental level, related to reading level. • Prior knowledge is not necessarily required. • Learning style. • Motivation.	• Age and developmental level (may require abstract thinking). • Prior knowledge. • Preferences- Visual learners. • Motivation. • May require reading ability.	• Any age. • Visual learners. • Special needs. • No prior knowledge required.	• Any age. • Language skills. • Preferences, audio learners. • Learning style. • Special needs.	• Any Age. • Language skills. • Learner preferences. • Learning style.	• Relatively older age. • Language. • Prior knowledge (internet skills). • Learning style. • Learning preferences.
Instructional Setting	• Individual-group. • Learners may be dispersed. • Small/big group/individual. • Asynchronous.	• Individual-group. • Learners may be dispersed. • Small/big group/individual. • Asynchronous.	• Group or individual. • Same location or dispersed. • Viewing as many times as user wants. Easy review of the content for user	• Individual-group. • Same location/ dispersed. • Asynchronous/ Synchronous.	• Mainly individual. • Same location/ dispersed. • Prompt feedback available. • Adaptable and flexible. • Asynchronous. • Individual pace.	• Individual-group. • Dispersed group. • Individual (but may be group). • Prompt feedback available. • Adaptable and flexible. • Asynchronous/ Synchronous.

Chart 2: Attribute Chart_Cont.

Attribute	(PM) Print Materials	(V) Still Visuals	(MV) Motion visuals	(A) Audio	(M) Multimedia Computer based	(I) Internet
Learning outcomes	• Verbal information. • Intellectual skills.	• Cognitive skills. • Verbal information. • Intellectual skills. • Attitudes.	• Attitudes • Intellectual skills • Observation of motor skills.	• Attitudes. • Verbal information. • Intellectual skills.	• Attitudes. • Cognitive skills. • Verbal information. • Intellectual skills. • Some motor skills.	• Attitudes. • Cognitive skills. • Verbal information. • Intellectual skills. • Some motor skills.
Instructional Events	• Advance organizers. • Presentation of objectives. • Help students to bring what they already know. • Table of contents.	• Advance organizers (graphic titles...etc). • Presentation of objectives. • Help students to bring what they already know. • Table of contents • Presentation of information in different ways. • Considering needs of different learners. • Subsuming bridge between new information and previous information	• Gaining attention • Motivation • Presentation of the content in a context. • Bringing real life to users.	• Customization of audio options. • Advance organizers. • Presentation of objectives. • Help students to bring what they already know. • Table of contents. • Considering needs of different learners. • Review and preview options. • Stimulating learners imagination.	• Advance organizers. • Presentation of objectives. • Help students to bring what they already know. • Table of contents. • Presentation of information in different ways. • Considering needs of different learners. • Asking learners different choices. • Subsuming bridge between new and previous information. • Immediate knowledge of results and feedback. • Branched instruction.	• Presentation of advance organizers. • Presentation of objectives. • Help students to bring what they already know. • Table of contents. • Presentation of information in different ways. • Considering needs of different learners. • Asking learners different choices. • Subsuming bridge between new information and previous. • Branched instruction
Suggested Media	• Text books • Hand out materials	• Models • Printed illustrations, graphics • Overhead Projector and transparencies • Posters	• VCR • DVD • Television • CD-ROM • Motion pictures	• Audio cassettes • Radio • Cassette players • CD-ROM	• Educational Software • Simulations and games • Standalone CAI (drill and practice, tutorials, educational games)	• Web delivered Instruction • E-learning modules • Simulations games

Learning Channels Model

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In many occasions, good instructional design ideas cannot be turned into real practice due to limited sources of time and funding. There are other situations where sufficient funding and time are available but a good instructional design is needed. Practical issues and instructional issues are two decisive factors in selecting an appropriate medium for instruction. Our media selection model was designed to help users to choose, practically, a medium pertinent to teaching and learning. Information processing theory is the foundation of this model.

Among Robert Gagne's nine instructional events (Gagné & Briggs, 1974), offering guidance, eliciting performance, providing feedback, assessing performance, and enhancing retention and transfer place great importance on interactivity or immediate feedback. Feedback from either the instructor or the program itself is essential to cognitive learning as it facilitates knowledge transfer from short-term memory to information retrieval and further to long-term memory. Reflecting such media attributes, we encourage the user to select the media that better support multiple channel stimuli and immediate feedback for instruction. Nevertheless, the model doesn't make distinction between those media and the decision is left to the user as they consider specific instructional context.

Since our goal was to design a 'usable' model for general users, extremely costly media such as satellite or virtual reality were not included.

Description of the model

To use the model, the user needs to go through the following three steps:

- First, consider available sources such as funding, time, and the size of learner group, to select the media or "information courier" that can convey instructional information under practical situation.
- Second, consider desired learning outcome and learner preferences to identify the appropriate information format by which instruction will be presented.
- Last, the recommended media (or "information courier") and the information format are considered together, and the media that support both the courier and the information format become candidates.

To put in a nutshell, the media selection model can be illustrated by the following formulas:

Step 1	Available sources + Learner group conditions = Media (information courier)
Step 2	Learning outcome + Learner preferences = Information format
Step 3	Media (information courier) + Information format = Candidate media

The model may provide a few candidates for instructional media, and the user has the flexibility to weigh advantages and disadvantages of each candidate.

Instructions for Using the Model

Step 1 Available sources + Learner group conditions = Media (information courier)

Direction:
Select your available sources from the column headings and your learner group conditions from the row headings, in the interaction cell find the recommended media as the "information courier".

Candidate media (information courier):
Computer(s), Print, Cassette, CD-ROM, DVD-ROM, Internet, Instructor, Electronic slides, Transparency, Live experience

Available sources / Learner group conditions	**Sufficient funding & Short time**	**Sufficient funding & Long time**	**Short of funding & Short time**	**Short of funding & Long time**
Large scale & Distributed	Electronic slides Print CD-ROM DVD-ROM	Print CD-ROM **DVD** **Internet**	Print	Print CD-ROM
Large scale & Concentrated	Print Electronic slides Transparency Computer	Print Cassette **Computer*** **CD-ROM** DVD-ROM	Print Electronic slides Transparency	Print Cassette Electronic slides Transparency
Small scale & Distributed	Electronic slides Print Cassette CD-ROM DVD-ROM	Electronic slides Computers CD-ROM DVD-ROM Internet	Print	Print Cassette CD-ROM
Small scale & Concentrated	Print Electronic slides Transparency Instructor Computers*	Print Cassette Electronic slides Transparency **CD-ROM** **DVD** Computers Instructor Live experience	Print Electronic slides Transparency	Print Electronic slides Transparency

* One computer station can be shared by multiple learners.

Step 2 Learning outcome + Learner preferences = Information format

Direction:
Select the learning outcome from the column headings and learner preferences from the row headings, in the interaction cell find the recommended information format.

Candidate information format:

Textual information, Audio instruction, Visual images, Video clips, Simulation, CAI, Live experience (lab/field trip)

Learning outcome / Learner preferences	*Verbal*	**Intellectual**	**Motor skills**	**Cognitive**	**Attitude**
Visual information preferred	Video clips Visual images CAI	Video clips Visual images Simulation CAI	Video clips Visual images Simulation CAI	Video clips Visual images Simulation CAI	Video clips Visual images CAI
Audio information preferred	Video clips* Audio instruction CAI	Video clips* Audio instruction CAI	Video clips* Live experience CAI	Video clips* Audio instruction Live experience CAI	Video clips* Audio instruction Live experience CAI
Reading preferred	Textual instruction Video clip** Audio** CAI	Video clips** Textual instruction CAI	Visual images** CAI	Visual images** Textual instruction Simulation CAI	Visual images** CAI
Live experiences preferred	Video clips Live experience	Video clips Live experience	Live experience	Video clips Simulation Live experience	Video clips Live experience
No preferences	Visual images Video clips Audio instruction Textual instruction CAI	Visual images Video clips Textual instruction Simulation CAI	Visual images Video clips Simulation Live experience CAI	Visual images Video clips Textual instruction Simulation Live experience CAI	Visual images Video clips Live experience CAI

* +audio
** + text

Step 3 Media (information courier) + Information format = Candidate media

Direction: Select the media (information courier) resulted from Step 1 in the column headings, and the information format resulted from Step 2 in the rows headings, choose the instructional medium from the intersection cell.

Information format / Media (information courier)	Audio instruction	Visual images	Video clips	Textual information	Simulation	Live experience (lab/fieldtrip)	CAI
Computers	Audio clips on computer	Visual images on computer	Animation or streamed video on computer	Textual files on computer	Computer-based simulation		CAI
Print		Images on print		Text on print			
Cassette (TV&VCR)	Audio tape		Video tape of film				
CD-ROM	Audio on CD	Visual images on CD	Video on CD	Textual info on CD	Computer-based simulation		CAI
DVD	Audio on DVD	Visual images on DVD	Video on DVD	Textual info on DVD	Computer-based simulation		
Internet	Audio delivered on Internet	Images on Internet	Streamed video delivered by Internet	Textual info on Internet	Simulation on Internet		Web-based instruction
Instructor	Instructor lecture	Instructor to show images	Instructor demonstration or video clip	Instructor delivered handouts		Instructor-led activities	
Electronic slides		Images on slides		Textual info on slides			
Transparency		Images on transparency		Textual info on transparency			
Live experience						Live experience	

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