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Identification and instruction of visual and auditory learners

Abstract

Children have modality strengths through which they learn more efficiently. Certain characteristics and observations have been identified which allow instructors to distinguish between children whose modality strength is visual and those whose strength is auditory. Once a child is recognized as either a visual or auditory learner, appropriate instructional methods can be applied to improve learning.

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IDENTIFICATION AND INSTRUCTION OF
VISUAL AND AUDITORY LEARNERS

PACIFIC UNIVERSITY
COLLEGE OF OPTOMETRY

MAY 3, 1982

Learning, Psychology of

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IDENTIFICATION AND INSTRUCTION OF
VISUAL AND AUDITORY LEARNERS

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MIDTERM _____

FINAL _____

ABSTRACT

Children have modality strengths through which they learn more efficiently. Certain characteristics and observations have been identified which allow instructors to distinguish between children whose modality strength is visual and those whose strength is auditory. Once a child is recognized as either a visual or auditory learner, appropriate instructional methods can be applied to improve learning.

Children have modality strengths which, in comparison to other modalities, provide maximum efficiency in learning. An individual's modality strength is the perceptual channel most efficient for processing information.^{1,2,3,4,5} School programs and instructors often emphasize one modality, neglecting individual differences in the way children learn.^{3,4} When teaching and learning modalities are mismatched, a learning problem is more likely to occur. Conversely, learning is more efficient when teaching modes are matched to learning modes of the children.^{2,6,7}

The purpose of this review is to determine characteristics and observations which can be used to identify visual learners and auditory learners and to come up with instructional approaches best suited for each group.

Identifying Visual and Auditory Learners

Research has shown that individuals have modality strengths through which they learn best.^{7,8,9,10} This can have valuable applications in the classroom as well as in other learning situations.⁶ In order to improve learning through their strongest modality, children first have to be identified as auditory learners or visual learners. Each group has certain characteristics that set it apart from the other.

Characteristics of the Auditory Learner

1. On tests of perceptual functioning he shows a preference for the auditory modality, generally scoring better on tests of auditory functioning than on tests of visual functioning. For example, on the Illinois Test of Perceptual Abilities he would score better on the Auditory Sequential Memory, Auditory Closure, and Sound Blending subtests than he would on the Visual Sequential Memory and Visual Closure subtests.^{11,12}
2. He is most likely of pre-school or early elementary age.^{2,8} This is consistent with his primary mode of interaction with others, which is speaking and listening.
3. He may have difficulty remembering information presented visually.^{6,13} For example, he may recall only parts of a word or he may remember all the parts, but gets them in the wrong order when asked to reproduce the word.
4. He has good comprehension of aurally presented material.^{3,13,14} He seems to get more out of a lesson presented as a lecture or class discussion than if it were given as a reading assignment.
5. He may have difficulty distinguishing words and symbols that look similar.^{6,13} Written words such as "pot", "put", and "pat" may be confused.

6. He does well on phonics activities.^{1,4} He can take sounds ascribed to specific letters and blend them into words; he can "sound out" words.
7. Often he is a poor speller, spelling words as they sound.^{13,15}
8. He may move his lips while reading.³
9. He performs better on oral tests than on printed or written tests.²

Characteristics of the Visual Learner

1. Preference for the visual mode is indicated by a child's overall better performance on tests of visual functioning than on tests of auditory functioning.^{11,12} Examples of such tests are the Illinois Test of Perceptual Abilities subtests.
2. He is most likely in the upper elementary grades or older.^{2,9,10}
3. He has difficulty remembering material presented aurally.^{6,13,16}
Although he is able to follow written directions, he often gets confused when the same instructions are spoken.
4. Comprehension is more efficient when material is presented by means of written words rather than spoken words.³ He may be inattentive to oral presentations, preferring to look around the room or out the window.
5. He may confuse similar sounding words, especially those containing

- short vowel sounds, such as lid and led or pot and pet.^{1,3,14,16}
6. He does better with sight words than with phonics.^{4,15} After seeing a word, he is later able to identify it accurately.
7. Usually he is a good speller, being able to "see" a word in his mind and then write it from this image.¹⁵
8. He is more likely to have a speech articulation problem.^{1,16}
9. He performs better, relative to his level of competence, on printed tests than he does on oral tests.²

Instructional Approaches

Matching teaching modes to learning modes results in more efficient learning.^{2,6,7} However, it is not always possible to provide individualized instruction on a one to one basis. A group of children with varying modality strengths could be divided into two subgroups, one auditory and one visual. Instructional modes could then be matched to the modality strength of each subgroup.¹

When grouping or individual instruction is not possible, a multi-modal teaching approach may be an effective way of reaching all individuals in a group. Information would be presented to both channels, allowing each individual to use the mode which is most efficient for him.¹⁷ Not only would information be available to each individual's

strongest modality, but it would be reinforced through the other.⁵

Instructional Approaches for the Auditory Learner

1. Lecture and group discussion as methods of presenting new material allows the auditory learner to make use of his most efficient modality for learning.
2. Oral instructions and directions, or telling a child how to do something, is more effective than showing him.¹⁶ If an auditory learner is trying to distinguish "b" from "d", it would be more advantageous to tell him the difference rather than have him simply compare the two visually.³
3. The use of tapes provides individualized instruction for the auditory learner. When a taped narrative is used in conjunction with slides and films, the child is provided with input to his strongest modality as well as reinforcement through the visual modality.^{3,13}
4. Oral tests may give a more accurate evaluation of an auditory learner's level of competency and understanding. He may not perform as well on a comparable printed test because of its emphasis on the visual.²

Instructional Approaches for the Visual Learner

1. Use of printed words and pictures is the best way of presenting

new information to the visual learner. This may be accomplished through reading assignments and by giving him the printed equivalent of material presented orally so he can follow along.

2. Providing a visual model or showing a visual learner how to do something is more effective than telling him. Learning how to form letters and spell new words is best accomplished by providing a visual model from which he can form a visual image. Later he can recall this visual image and recognize or reproduce the letter or word.^{3,15}
3. Films, slides, flashcards, and worksheets are means of providing visual input for individual and group learning.³ Narratives that accompany films and slides can provide auditory reinforcement for information to the stronger visual mode.
4. Printed tests are better suited to the visual learner than are oral tests. Written examination is likely to give a more accurate assessment of his proficiency in a certain area than is an equivalent oral examination.²

Summary and Conclusions

Children have modality strengths and they learn more efficiently when taught through those stronger modalities. Specific observations

and characteristics have been recognized and serve as a means of identifying auditory and visual learners. Once identified, a child's modality strength can be matched with instructional methods to help maximize learning efficiency.

Instructors should be aware of and watch for visual and auditory characteristics in children. However, it should be kept in mind that there may be inconsistencies within an individual, such as a child who displays both visual and auditory characteristics. In such a case, one should consider the overall picture that the child presents in order to come to a conclusion about his modality strength.

Once a child is recognized as either auditory or visual, teaching methods which take advantage of his strength can be applied. Although it is often not possible to provide individual instruction aimed at one particular modality strength, this is not necessarily a disadvantage. Input to the weaker modality, such as would be available in a multi-modal teaching situation, could serve to strengthen that modality as well as to reinforce input to the stronger modality.

REFERENCES

- 1 Wepman JM: Auditory Discrimination, Speech, and Reading. Elem Sch J 9:325-333, Mar 1960.
- 2 Barbe WB, Milone MN: What We Know About Modality Strengths. Educ Leader 38:378-381, Feb 1981.
- 3 Barbe WB, Milone MN: Modality. Instructor 89:44-47, Jan 1980.
- 4 Richek D: Readiness Predictors of Word Learning. Read Res Quart 2:202-211, 1977-78.
- 5 Dunn R, Carbo M: Modalities: An Open Letter to Walter Barbe, Michael Milone, and Raymond Swassing. Educ Leader 38:381-382, Feb 1981.
- 6 Azarowicz M: Learning Modalities and the Piano Student. Am Mus Teach 30:26, Feb/Mar 1981.
- 7 Daniel PN, Tacker RS: Preferred Modality of Stimulus Input and Memory for CVC Trigrams. J Educ Res 67:255-258, 1974.
- 8 Budoff M, Quinlan D: Auditory and Visual Learning in Primary Grade Children. Child Developm 35:583-586, 1964.
- 9 VanMondfrans AP, Travers RMW: Learning of Redundant Material Presented Through Two Sensory Modalities. Percep Mot Skills 19:743-751, 1964.
- 10 Lockard J, Sidowski JB: Learning in Forth and Sixth Graders as a Function of Sensory Mode of Stimulus Presentation and Overt or Covert Practice. J Educ Psychol 52:262-265, 1961.
- 11 Richardson E, DiBenedetto B, Christ A, Press M: Relationship of Auditory and Visual Skills to Reading Retardation. J Learn Disab

13:26-31, 1980.

12 Larson SC, Rogers D, Sowell V: The Use of Selected Perceptual Tests in Differentiating Between Normal and Learning Disabled Children. J Learn Disab 9:85-89, 1972.

13 Mann PH, Suiter PA, McClung RM: Handbook in Diagnostic-Prescriptive Teaching, ed 2. Boston, Allyn and Bacon Inc, 1979.

14 Richie JD, Aten JL: Auditory Retention of Nonverbal and Verbal Sequential Stimuli in Children with Reading Disabilities. J Learn Disab 9:312-318, 1976.

15 Forrest EB: Visual Imagery and Written Language. J Am Optom Assoc 50:477-479, 1979.

16 Serio M, Faelchle J: Tuning In. In Teaching Through Sensory Motor Experiences. Belmont Cal, Fearon Publishers/Lear Siegler Inc, 1969.

17 Hsia HJ: Output, Error, Equivocation and Recalled Information in Auditory, Visual, and Audiovisual Information with Constraint and Noise. J Comm 18:325-353, 1968.