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ABSTRACT

This study examined (1) teachers' ability to describe their own learning style and (2) whether teachers of differing conceptual levels view their own materials as primary or supportive instructional aids. The Paragraph Completion Test was administered to 34 teachers to measure conceptual level. These teachers were also asked to describe their own learning style and to develop materials for their classrooms. Results indicated that high conceptual level teachers are better able to predict their own best learning style than low conceptual level teachers, and that high conceptual level teachers design materials to be used as part of primary instructional strategy, while low conceptual level teachers design materials to supplement already existing or required text. (The Paragraph Completion Test used in the study is included.) (DT)

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A STUDY OF CONCEPTUAL LEVEL, PERCEIVED LEARNING STYLE AND INTENDED USE OF TEACHING MATERIALS

by

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Purpose of Study

As methods for improving the teaching-learning process are investigated, it is important to place some of the emphasis on helping teachers to become aware of their own capabilities and styles.

Based on Conceptual Systems theory (Hunt, 1966), this study focused on the teacher's ability to describe his/her own learning style and on how teachers view their own materials as primary or supportive instructional aids.

Theoretical Framework

A great deal of work has gone into the development of a system which would identify potentially compatible person-environment descriptions. Originally formulated as a theory of personality development, Harvey, Hunt and Schroeder used the Lewinian formula--B = f (P,E) as the basis for their work.

From their original work, Harvey, Hunt and Schroeder (1961) identified Conceptual Level as a personological characteristic which indexed both cognitive complexity and interpersonal maturity. Harvey et al. (1961) defined a conceptual system as "a schema that provides the basis by which the individual relates to the environmental

events he experiences." Each of the original authors has gone on to further explain the structure of Conceptual Systems; it is the modification by Hunt (1966) that this investigator has selected to explore.

Studies by Hunt and Hardt (1965), McLachlan (1969), Tuckman (1968) and Stuempfig and Maehr (1970) support the theory that differential responses can be expected from learners depending upon their Conceptual Level and the environment with which they are interacting.

In addition, studies by Murphy and Brown (1970); Harvey (1970); Hunt, Joyce, and Weinstein (1965); and Rathbone and Harootunian (1971) present evidence to support the theory that a relationship does exist between Conceptual Level and teaching style. As Joyce and Weil (1972) suggest, this fact takes on special significance when combined with the evidence that apparently many teachers are extremely low in Conceptual Level (CL). Since such teachers employ a recitation teaching strategy, it has become a matter of "serious concern to explore processes by which teachers take on complex teaching styles. . . ." (Joyce & Weil, 1972, p. 9).

Thus, just as learners vary in Conceptual Level--causing learning styles to vary, so too teachers vary in both learning and teaching style. Where one teacher asks questions requiring factual answers, another teacher

asks open-ended questions allowing for alternative answers. While one teacher provides a structured environment, another teacher encourages decision-making and exploration on the part of the students. Therefore, as methods are investigated for improving the teaching-learning environment, a system has to be developed to help teachers to become aware of their own capabilities and styles. We need to develop strategies that require teachers to look at their instructional behaviors. This study was concerned with such questions as: How capable are teachers at recognizing their own learning and teaching style? Is this ability related to Conceptual Level? Also, when a teacher designs a learning activity, just how does she/he plan for it to be used? Will a teacher plan materials to be used in relationship to her/his own Conceptual Level--will materials be viewed as providing the primary source of instruction or as a supplement to an already existing text?

It was the specific purpose of this study to test the following two hypotheses:

H_1: High Conceptual Level (HCL) teachers will be able to identify and describe their own best learning style more accurately than will teachers with Low Conceptual Level (LCL).

H_2: When asked to design a project for use by youngsters in the classroom, HCL teachers will develop, as the primary instructional source, their own materials and strategies; while LCL teachers will design materials to supplement the already existing curriculum and regular text.

Method

Subjects

The subjects were 34 inservice teachers (4 men and 30 women) in a summer graduate credit course. The subjects had previous teaching experience ranging from one to eighteen years. Twenty-seven of the teachers were teaching in elementary schools, while seven were secondary (9-12). All the men were secondary teachers.

Materials and Procedure

Each individual was asked to respond to a pre-test which included the Paragraph Completion Test as developed by Schroeder et al. (1967). Individuals were asked to write two or three sentences in response to the six topics.

Each of the responses was coded according to the scoring manual (Hunt, 1971). Scores from 0 to 3 were given for responses on each topic. The individual's

CL index was calculated by using the average of the highest three scores.

During the same session, each individual was asked to describe his own learning style. The question was "How would you describe your learning style? In other words, under what conditions do you learn best?"

Each of the responses was coded according to learning style characteristics as follows:

Relaxed--likes freedom to discuss and argue issues, want to solve problems themselves, less dependent on teacher, like to formulate own ideas, enjoy working independently.

Structured--likes teacher to present organizers, basic information and process to be used, looks for teacher support, does not want to be responsible for decisions about own learning.

Other--very general references to atmosphere with no comment about interaction between self and materials or self and teacher.

As part of the class assignment, each individual was asked to develop a project or materials to be used by their students in the classroom. During the last two class periods each individual was asked to write an explanation of how the students were to use the materials and to assign their projects one of the following numbers:

1. Materials to be used as part of primary instructional strategy.
2. Materials to be used as supplement to "required" text.

The instructor then compared the student assigned rating with the student description of intended use. In most cases the two were consistent. In the few (less than six) where there was confusion, the instructor queried the student until a decision could be made.

Discussion

For Hypothesis 1--HCL teachers will be able to better predict their own best learning style--a chi square value of 8.50 was obtained (see Table 1). Although the significance level was higher than normally accepted ($.10 > p > .05$), the trend does support Hypothesis 1. This suggests that individuals with higher CL will be better able to describe their own best learning style than will individuals with lower CL.

It is suspected by this writer that the results would have been clearer and more supportive of Hypothesis 1 if a description of learning styles had been provided, rather than asking each individual to provide his/her own description. However, a look at the column labeled "other" brings forth an interesting question.

Table 1

FREQUENCES OF PREFERRED LEARNING STYLE
BY CONCEPTUAL LEVEL

Conceptual Level	Learning Styles		
	Relaxed	Structured	Other
Lower third	1	7	3
Middle third	3	8	1
Higher third	5	7	1

$\chi^2 = 8.50$, df = 2, .10 > p > .05.

The type of responses in this category were, "I feel I learn better in an informal atmosphere," and "I feel I learn better in an atmosphere in which I feel comfortable." It might be possible for a person to be informal and comfortable in either a structured (dependent) or relaxed (more independent) classroom. Also, it is interesting to note that three of the five subjects who fell into the other category were of the lower conceptual level. This keeps alive the question of whether a higher CL individual can better describe his/her own learning style than can a lower CL individual.

The column labeled "relaxed" is also of interest and tends to support the above question. Samples of

responses that were categorized in the relaxed column are, "I like to prove to myself that something works," "I like the freedom to change my mind and start over," and "Once I have been given basic information and directions, I best attain the goal by personally doing what I have to in order to meet these objectives." Of the nine individuals categorized into the relaxed column, five of them were grouped in the higher conceptual level. Again the trend is toward the HCL individual being able to describe his most desirable learning style. Of course, we shouldn't forget--as discussed earlier--higher CL individuals learn successfully in both structured and relaxed learning situations. However, they tend to prefer less structure (Hunt, 1971).

The column labeled "structured" shows virtually no difference between higher and lower conceptual order. A few examples of statements categorized structured are, "I am very traditional and like specific directions and guidance close at hand," "I usually learn best under outside pressure with requirements mapped out for me," and "If the teacher makes the course interesting I find myself enjoying it." The fact that the subjects rated as structured were almost equally distributed in the three CL categories (top third--7, middle third--8, low third--7), causes this writer to ask the question:

If indeed learning styles had been provided would the distribution have been the same?

For Hypothesis 2--teachers with HCL will develop, as the primary instructional source, their own materials and strategies; while teachers with LCL will design materials to supplement already existing curriculum and regular text--a chi square value of 8.17 was obtained (see Table 2). The significance level ($.025 > p > .01$) tends to support the hypothesis that differences do exist between higher conceptual level subjects and lower conceptual level subjects in the type of materials that they develop and the use intended for those materials. Such results lead to a number of questions related to the business of training pre and/or inservice teachers.

Before asking the questions, let's look at some additional research that will further develop our thoughts. Rosenshine and Furst (1971) noted that "correlational studies have indicated that student achievement is positively related to classrooms where a variety of instructional procedures and materials is provided" (p. 214).

Joyce and Weil (1972) found that

> Conceptual Level was not related to the ability to acquire any single model of teaching but was related to overall performance indicating that flexibility and the acquisition of complex teaching behavior is associated with the development

Table 2

FREQUENCIES OF MATERIALS DEVELOPED BY CONCEPTUAL LEVEL

Conceptual Level	Intended Use of Materials	
	Primary	Supplement
Lower third	2	9
Middle third	2	9
Higher third	8	4

$\chi^2 = 8.17$, df = 2, $.025 > p > .01$.

> of conceptual complexity. Hence it appears that conceptual development is not only related to a person's natural teaching style but to his ability to acquire new modes of behaving with students. (p. 20)

Since findings of this study support the notion that lower conceptual level teachers design materials and strategies that simply supplement already existing materials, questions can be posed. Using the findings of Rosenshine and Furst (1971), can we assume that lower CL teachers are unlikely to provide the variety of instructional procedures and materials that promote student achievement? Another question--using the Joyce and Weil (1972) discussion--is it possible for lower CL teachers to acquire new modes of behavior with students

if intensive attention is given to increasing the teacher's conceptual level?

The findings of Rathbone and Harootunian (1971) emphasized that teachers responsed to the interaction with the student. The most significant finding was between HCL teachers and HCL students. However, it was noted that lower CL teachers tended to "advance" along the continuum when operating with higher CL students. If such a combination existed--lower CL teacher with higher CL students--would that teacher tend to provide materials to be used as the primary instructional source or continue to simply supplement already existing materials? If working with HCL students, would an LCL teacher find implementing a variety of teaching strategies a more workable project than if she/he were working with LCL students?

Teachers talk about building the youngster's self-esteem to improve learning capacity. Teachers talk about using students' mistakes as guides for additional study. But just how many teachers actually follow through on a day-to-day basis? And what help have teacher training institutions provided to help teachers to really know how to follow through?

Hopefully, much can be learned by identifying the great variety of traits (conceptual level being only

one) and then observing them during interaction with the classroom environment. It is then the application of these findings that will lead us to viable methods for helping teachers recognize their own strengths and weaknesses. The next step is helping teachers gain the skills to do something constructive with the information. In doing this, teachers would be able to build teaching strategies with a full understanding of why some are easier to deal with than are others and why individual students respond differently to various strategies.

The third reason for the writer's enthusiasm is that Conceptual Level is based on differences--individuals are characterized by different learning styles related to conceptual level. Thus the teacher provides variety rather than trying to make one strategy fit all individuals within a given group.

Joyce and Weil (1972) state an optimistic view that indeed teachers can be trained to use a variety of complex teaching strategies when attention has been given to the trainees' interaction with the models. Indeed, they conclude that with the development of training conditions which are optimal for learners (teachers) of various conceptual levels, it may be possible to develop "complex models" (p. 11) of teaching.

The researchers are now providing data that teacher educators can use in developing both pre and inservice training programs.

Optimism appears to have earned its place.

APPENDIX

PRE-TEST

Your instructors, Marilyn and Gwen, have learned that individualism of instruction is multi-faceted. One of the facets is the teacher's ability to deal with him/herself both intellectually and emotionally. It is amazing how few of us have been allowed the time to analyze our own strengths and needs within the classroom setting. Changes cannot occur until we deal with this ingredient. As a beginning, help us by answering the following questions. We will get to know you so we can facilitate your needs and hopefully you will learn something about yourself.

Name _____

Where do you teach? _____

What grades have you taught? _____

How many years have you taught? _____

Answer the following in 3 or 4 sentences.

How would you describe your learning style? In other words, under what conditions do you learn best?

_____

_____

_____

_____

_____

_____

_____

What I think about rules . . . _____

_____

What I think about rules (continued) _____

Parents . . . _____

When someone disagrees with me . . . _____

When I am told what to do . . . _____

When I am not sure . . . _____

When I am criticized . . . _____

Please Answer briefly:

1. Write a Behavioral Objective _____

2. How should the Taxonomy of Learning be used in building a curriculum? _____

3. What happens after the post-test? _____

4. List 5 "teaching strategies" for individualizing instruction. _____

5. How does one evaluate? _____

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