

## SEQUENCING AS A STUDENT STRATEGY

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Recent education publications have included thinking skill development as an important issue for today's schools (*Educational Leadership*, Sept. 1984, Nov. 1984, May 1986; *Developing minds*, 1985; *Thinking in the Classroom*, 1986). Though this is not a new concern in education, it is being promoted as a very necessary goal in the information age. With the rapid expansion of knowledge it is important for curricula to "... empower students to locate and process knowledge rather than simply memorize facts" (Hughes, 1985, p. xi). Major studies in the schools, however, have indicated that encouragement for student thinking is not the norm (Boyer, 1983; Goodlad, 1984; Tye, 1985). Goodlad (1984), for instance, reports that less than one percent of 'teacher talk' invites the students to do more than recall information. Even in the arts which are usually considered more student-decision oriented, the observation showed a predominance of "... following the rules, finding the one right answer, practicing the lower cognitive processes" (p.220). In addition, Goodlad noted that art instruction has a considerable amount of student listening as well as teacher, rather than student, determined performance. It is, of course, necessary for teachers to prepare lessons in order for effective student learning to occur. Also, what to teach and the sequence of events is just as important in the visual arts as any other course. However, in order for students to learn how to learn and have opportunity to expand and refine their thinking the teacher must provide for the use of appropriate student strategies that encourage thinking skill development.

Ironically, the teacher is the one often engaged in an in-depth or reflective type of thinking process when she produces learning components and arranges them into steps of instruction. Gagne, Briggs and others have discussed in some detail this teacher endeavor of planning and sequencing (Taba, 1962; Bruner, 1960; Gagne and Briggs, 1979).

Interestingly, sequencing and planning, as student rather than teacher

activities, have been included in recent publications pertaining to student thinking skills. Sigel (1984) includes both sequencing and planning in the list of distancing strategies suggested as tools for encouraging effective student thinking. Costa (1984) suggests the use of metacognitive activities for students. He states:

Metacognition is our ability to plan a strategy for producing what information is needed, to be conscious of our own steps and strategies during the act of problem solving, and to reflect on and evaluate the productivity of our thinking. (p. 57)

He gives an example of one teacher who has the students make plans for the day. "They decide upon what learning tasks to accomplish and how to accomplish them" (p. 59).

Because of the nature of the high school art classes, consisting generally of art making and some talking about art, the author of this discourse finds the strategy of planning and sequencing very appropriate for high school art students to expand and explore their thinking. Though some mention is made of student sequencing and planning in the art literature (Eisner, 1972; McFee and Degge, 1977; Michael, 1983), there never is any elaboration given or relationship made to thinking skill development. Rather it becomes just one of the possible management arrangements and by some art educators is thought to keep the teacher from inhibiting the students' creative aesthetic growth (Michael, 1983).

It becomes apparent that a need to investigate the use of thinking strategies for high school art students is timely and necessary within the uniqueness of the context of art. One strategy to begin looking at is that which is associated with student planning. Planning, however, is a somewhat vague term and would need some arbitrary definition in order to investigate it. Sequencing, on the other hand, is a schema that elicits other connecting ideas and expectations associated with planning. Within the context of art education sequencing may be a strategy that can actively involve the student in thinking beyond that which occurs in working on projects.

This interest in sequencing as a thinking strategy for the art student is

what motivates my study. The study itself must investigate some fundamental questions about sequencing as a schema if art teachers are to take the use of it seriously. For instance, no teacher is going to promote the use of a thinking strategy that does not provide substance from the student with which student-teacher interaction can occur. The concern here is whether exposure to sequencing will evoke any prior knowledge to be used for components in a plan as well as effect the student's thinking about the knowledge in an evaluative way.

These concerns fall into the cognitive science interest regarding the structure of knowledge. Within recent years the schema theorists have been researching aspects related to the representation of meaning and the structure and processing of knowledge. Rumelhart and Ortony (1977) refer to schemata in relationship to instruction and state, "the generation of new knowledge structures and demonstrations of the way in which they can be used can . . . be regarded as one of the principle goals of instruction" (p. 132). It is with this in mind that the present study finds four main concerns regarding the schema of sequencing worth investigating. One concern has to do with the effect exposure to sequencing has on the eliciting of knowledge within a particular context. As stated earlier a thinking strategy must evoke a reasonable amount of response from the students in order to have something to work with. It also is a concern that sequencing as a schema provide a certain degree of confidence in the order of the steps for a plan. Of course, any degree of confidence is open to scrutiny by the student-teacher interaction. The interest for now, however, is the effect sequencing has on student confidence regarding the arrangement or order they have made. Still another area of concern is the effect sequencing has on student explanations for the relationship between two components in a plan. And finally, in regard to an idea for an art project or experience it is of interest how sequencing effects the development of a plan for that experience.

The data have been collected in this study and analysis is now being done.

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