Kids Interest Discovery Studies (KIDS KITS):

A Descriptive Psychology Perspective

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ABSTRACT

This paper reviews some of the concerns that have been raised about the educational system during the past several decades. Many of these concerns focus on the need for students, especially at-risk students, to take greater responsibility for and to be more actively involved in their education. An educational program which promotes self-directed learning and student responsibility, as well as skill development, is presented. Using a Descriptive Psychology perspective not only illuminates the elements, processes and outcomes of this program, but helps to understand why the program is successful when done well and, also, how it can go wrong.

In recent decades, there have been many debates about the quality, success and failure of our educational system. These debates often reveal different definitions of what constitutes quality education, and also reflect a lack of any clear conceptualization of either the educational process or its outcomes. Frequently, the educational system is viewed in very simplistic terms without recognition of the

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complex interrelationships that exist among its various elements, processes, and outcomes. This paper first considers a conceptualization of education posed by Howard Gardner (1991) which is much more complex than most and incorporates findings from cognitive research that indicate important variations across students. A brief review is given of selected issues raised in several books and articles written during the past 30 years which have identified problems and documented serious deficiencies that occur in many schools. The paper focuses on one educational program which is based on a complex conceptualization which parallels several of the ideas presented by Gardner, including the notion that different students learn and understand in different ways. Using a Descriptive Psychology perspective not only illuminates the elements, processes and outcomes of this program, but helps to understand why the program is successful when done well and, also, how it can go wrong.

Howard Gardner, in *The Unschooled Mind: How Children Think and How Schools Should Teach* (1991), describes three types of understanding: intuitive or natural understanding, rote or ritualistic understanding, and disciplinary or genuine understanding. The first allows for some degree of competency in dealing with the everyday world, but understandings may be immature, misleading, or actually misconceived. The second type reflects the conventional performances which most educators view as acceptable—students responding by repeating particular facts, concepts or solutions which have been taught. Such responses do not preclude genuine understanding, but fail to assure that genuine understanding has occnrred. The third type of understanding is evidenced when students are able to take information and skills they have learned and apply them appropriately in new situations. There is little evidence that students achieve this type of understanding at least in part because schools are not promoting such understandings (Gardner, 1991).

Gardner and others working in the area of cognitive research conclude that students learn, remember, perform and nnderstand in different ways. As Gardner points out, these differences challenge an educational system that assumes everyone can learn from the same materials in the same way with a single measure to assess student learning. The chances of acquiring genuine understanding are enhanced if multiple entry points are recognized and utilized. Genuine understanding is most likely to occur if the learner uses concepts and skills in several ways. An educational approach which integrates multiple entry points and allows a variety of furmats for representing learning is not only beneficial for the learners, but also, "the way in which we conceptualize understanding is broadened." (Gardner, 1991, p. 13).

One purpose of Gardner's 1991 book is to suggest educational interventions which encourage more genuine understanding. While he reviews a number of possibilities, he notes most can be linked to two major themes: the **apprenticeship approach** and the **children's museum approach**. Both of these strategies involve

considerable hands-on activities with a variety of materials. In addition, the following features are typically present: (1) use of mentors; (2) the use of models or real objects to facilitate learning, and (3) the use of concepts and skills in carrying out real tasks. These types of learning situations usually involve interacting with others in the learning activity or in sharing what is learned.

Unfortunately, these approaches are rarely implemented in public schools. Research studies describing the climate and operation of schools have painted a somewhat dismal picture for several decades: *The Underachieving School* (John Holt, 1969); *Crisis in the Classroom* (Charles Silberman, 1970); *A Place Called School* (John Goodlad, 1984); *Schools of Thought* (Rexford Brown, 1991); as well as the book by Howard Gardner noted above. In one of the most extensive studies, John Goodlad collected in-depth information from over 1,000 classrooms at all levels of public school (elementary, junior high, and high school). According to the results of his seven year study, students "... rarely planned or initiated anything, read or wrote anything of some length, or created their own products. And they scarcely ever speculated on meanings, discussed alternative interpretations, or engaged in projects calling for collaborative effort." The topics in the curriculum, it appeared "... were something to be acquired, not something to be explored, reckoned with, and converted into personal meaning and development." (Goodlad, 1983, p. 468)

For more than a decade, much has been written about the desirability of getting students to take responsibility for their learning. The National Commission on Excellence in Education, *A Nation At Risk* (1983), advocated greater responsibility and increased involvement for all students. Brown (1991, page 249) states that "... students at all ages must take increasing responsibility for their learning. That is the only way to get them decepty engaged and committed to their education." A great deal of attention has been focused on the problems of low achievement by at-risk students as well as the challenge of kceping them in school. In some districts, however, there is an equal level of concern expressed about providing challenging instructional programs for the gifted and talented students.

There is an educational program which provides a possible remedy for many of the concerns raised by the authors noted above and uses the approaches recommended by Gardner. It integrates student responsibility and self direction as well as promoting increased learning. The program, Kids Interest Discovery Studies Kits (KIDS KITS), has been demonstrated to be effective with a wide range of students including at-risk, special needs, and academically gifted students (Petersen and Felknor, 1990; Felknor, 1992a; Felknor, 1992b).

The goal of the **KIDS KITS** program is to promote independent, self-directed learning, as well as research and study skills. These goals are accomplished through the development of thinking and questioning skills, awareness and use of numerous learning resources, application of the information gained, and increased enthusiasm for research activities. Kits are organized sets of multimedia materials designed to

elicit active student involvement in higher levels of thinking and independent learning. Kits include filmstrips, video tapes, audio tapes, real objects, models, games, puzzles, slides, diagrams, transparencies, charts, etc. as well as books and other types of print material. The high interest materials vary in terms of difficulty and learning modality so that all students can find resources suited to their ability level and learning style. Kit topics reflect areas of student interest and relate to regular curriculum especially for science and social studies.

Once the general topic has been established, student participation moves through four phases or stages (Petersen and Felknor, 1990): **exploration** (where students examine materials to stimulate interest and generate questions), **in-depth study** (where students identify/articulate specific questions and locate information to answer those questions), **application** (where students plan and prepare presentations or products which will demonstrate what they have learned), and **sharing** (presentations, displays, discussions, etc.).

The program can be used in the regular classroom, in the library or LMC (library media center), and in special program settings. Students may work individually, in pairs, in small groups or in moderate size groups. Grouping may be homogeneous or heterogeneous. The program can be used in any organizational structure (i.e., single grade classrooms or multigrade units; single teacher, teaching teams, or subject area departments; etc.). In addition to serving the needs of regular students, **KIDS KITS** is well suited to meet the needs of special populations, including gifted, Title I, at-risk, English as a second language, and those with learning disabilities or other special needs. It is possible to serve this wide variety of needs because, within the kit, students can find materials appropriate for their reading level and their learning style. In addition, students are able to demonstrate their learning in a format of their own choosing. Both of these conditions increase the probability of a challenging and successful learning experience. The program has been used successfully with all types of students in settings ranging from preschool level.

KIDS KITS has been nationally validated, and training has been conducted through the National Diffusion Network (NDN) for thousands of schools across the country and in US territories. In addition to the training, a manual and supplementary material help educators plan and implement the program at their site (Petersen and Felknor, 1990).

A DESCRIPTIVE PSYCHOLOGY PERSPECTIVE

Descriptive Psychology provides a useful framework for understanding the structure and significance of the **KIDS KITS** program. The framework also can be used to systematically compare **KIDS KITS** and other more traditional approaches.

One of the maxims of Descriptive Psychology states that a person acquires concepts and skills through practice and experience in the social practices which involve the use of the concepts or the skills (Ossorio, 1981a; Shideler, 1988). This maxim provides the rationale for the **KIDS KITS** program since it is a social practice, with stages and options, that allows students to make use of concepts and skills which will enable them to become self-directed learners.

Within the education field this situation is frequently referred to as doing activities for real purposes (i.e., participating in a social practice). Examples are reading in order to find some information on a topic of interest or answer questions articulated by the student, and writing because the student has something to say on an issue/topic, rather than doing these tasks simply to fulfill an assignment given by the teacher. From the student's vantage point, participation in this social practice may be described as intrinsically inotivated and offers both eligibility and opportunity to pursue his/her own interests through investigative study and discovery of information. This social practice is far different from the traditional approach of teacher assigned questions and students parroting back information dispensed by lecture or text book with perhaps occasional use of an encyclopedia.

In addition to the behavior maxim noted above, there are other elements from Descriptive Psychology that are useful in understanding the KIDS KITS program. Most notable is the Basic Process Unit along with Transition Rules 4 and 5 (Ossorio, 1981b; Shideler, 1988). Rule 4 states that "A process is a sequential change from one state of affairs to another," and Rule 5 clarifies that "A process is a state of affairs having other, related processes as immediate constituents" (Ossorio, 1981b, p. 116). A process takes place over time; it has duration. It can be decomposed into sub-processes which may be broken down even further. A process also can be viewed as part of a larger process.

The Basic Process Unit (BPU) includes a name (identifies the process) and a description that calls for specifying constituents (stages and options), relationships, clements, individuals, eligibilities, and contingencies (Ossorio, 1981b; Shideler, 1988). Elements are the logical roles or formal ingredients in the process. Individuals are assigned to or take on the various logical roles. The concept of eligibility is inseparable from the concepts of element and individual because it determines which individuals can take on certain roles or can participate in certain options. Contingencies specify the conditions under which an eligible individual actually carries out one or more of the elements of a process. During a process, relationships are continually changing, and, perhaps more accurately, could be described as a succession of different relationships (Shideler, 1988). Essential to the concept of BPU are the sub-processes which may represent stages or may be broken down into stages. For each stage, there may be more than one option regarding how it can take place. The eligibilities and contingencies determine which options are actually viable during an execution of the process. Different

patterns, that is, combinations of various alternative options for each of the stages, represent different versions of the process.

The **KIDS KITS** process involves four major stages: exploration, in-depth study, application, and sharing. During the first stage, students explore a variety of multimedia materials on a given topic. This exploration may be done by a single student, a pair of students, a small group, or a class size group. Which of these options actually occurs depends on the eligibilities of the individuals involved and the contingencies present in the situation. Within a given process, this stage serves to stimulate the student's curiosity and facilitates the articulation of questions which become the basis for subsequent stages of the process. With multiple repetitions of the social practice (i.e., engaging in the **KIDS KITS** process on several occasions over a period of time), students develop familiarity with a wide range of information resources.

In the second stage of the **KIDS KITS** process, students articulate specific questions and locate information to answer these questions. During this in-depth study, students must record in some fashion the information that is found and determine if their questions have been answered. Sometimes this in-depth study leads to new or modified questions and the information search may be expanded or change direction. With increased practice and experience (i.e., repeating the process on many occasions), the student develops the capacity to select appropriate resources—appropriate in terms of where the desired information is likely to be found, but also appropriate in terms the student's ability level and learning style. In addition, students become more adept at articulating questions and more competent in their recording (e.g., note taking, etc.) and understanding of relevant information.

During the third stage, the student applies or uses the new found knowledge. This stage involves both organization of the information and planning regarding a presentation or product which will exhibit the learning that has occurred. This stage frequently involves the use (and thus the development) of writing skills and media production skills (e.g., making transparencies, video tapes, slides, graphs, diagrams, collection displays, etc.). By engaging in different options for this stage of the process over time, each student should become skillful in using a variety of formats for presenting information.

In the final stage of the social practice, students realize further intrinsic satisfaction as well as public accreditation for the achievement by sharing the fruits of their work with others. There are several options for carrying out this stage of the process. Products may be placed on display; bound books may become part of the class/school library; students may lead a discussion with a small group or the whole class; articles may be written for a school newspaper or other publication; a sharing fair with displays and presentations might be held for other classes from the school or an evening fair involving the whole school might be held for parents. Sometimes a student product becomes part of the set of information available on

a given topic and can be used by other students in terms of their own interests and learning (within stages 1 and 2 of the process). Sometimes a student becomes an expert on a given topic and serves as an information resource for other students. A product might be used in other activities such as a science fair.

Participating in this complex social practice involves multiple behaviors. Many of the skills involved would require initial direct instruction with subsequent opportunity for guided practice, and independent practice with feedback to facilitate improvement. While many of these behaviors appear similar to those which may occur in a more traditional approach to education, there are two important differences. Rather than being dealt with as separate isolated skills (as frequently occurs within a more traditional approach), in **KIDS KITS** these skills and concepts are integrated into a complex multistage process. The second important difference, is the increased emphasis on the goal of self-directed learning within **KIDS KITS**. In a more traditional approach, even though similar performances may occur, they are likely to have a different significance because they are the result of teacher direction.

With regard to the second difference noted above, it is possible to view these two approaches to teaching and learning research skills as two versions of the same social practice or possibly as two different social practices: student-directed learning and teacher-directed learning (Felknor, 1991). These two social practices, each with its own set of stages and options, can be visualized as two adjacent matrices, i.e., making a three dimensional matrix: stages x options x teacher versus student directed. A given learning activity could operate totally within the teacher directed framework or totally within the student directed framework or, at certain choice points, it could move back and forth between these two parallel matrices. A fully implemented KIDS KITS program would operate primarily within the student directed matrix. A very traditional program would operate primarily within the teacher directed matrix. Certain circumstances (e.g., a teacher in transition toward allowing more student directed learning, requirements of district curriculum, limitations on variety of materials, etc.) could lead to a sequence of stages and options that moved back and forth between the two matrices in any of several patterns.

Figure 1 presents a diagram of how the research activity could progress along a variety of paths (different versions) moving back and forth between the two social practices as well as paths remaining within each practice. Moving along the right side of the diagram takes one through the stages in the self-directed social practice—the approach advocated by **KIDS KITS**. The stages along the left side of the diagram reflect the more common or traditional approach where few if any decisions are made by the student and participation is extrinsically controlled. Another layer of choices related to sharing activities could he added to the diagram. However, the sharing activities may be less variable (e.g., all students will share with the class), may be determined by external factors (e.g., a student may become an expert but serving as a resource to other students depends on the needs/interests of other students), or may be separated in time from the research activity (e.g., an evening sharing fair that occurs toward the end of the school year). Thus, decisions about sharing do not fit as neatly into the diagram as do the choice points which have been depicted.

Figure 1

Teacher Directed and Student Directed Learning Activities

Four Possible choice/decision points:

- General Topic
- Specific Questions(s)
- Learning materials/resources used
- Application of information gained



• • = Student determined

Diagram by Catherine M. Felknor, KIDS KITS Manual, 1990. Reprinted with permission of the author.

Using the Framework of Descriptive Psychology To Understand KIDS KITS Outcomes

Looking at the **KIDS KITS** program from the perspective of Descriptive Psychology facilitates an understanding of how this program is different from the more common approach for involving students in research activities. This perspective also helps to clarify why some implementations are more successful than others. It is possible to describe the less effective situations as deficit cases or only approximations of what is intended in the **KIDS KITS** program. For example, in some schools, students rarely have access to the kits and, thus, there is not sufficient use of the skills and concepts for students to become proficient at the social practice of self-directed research/learning. In some schools, a marvelous set of kits may be used primarily by the teachers to facilitate and enrich teacher-directed learning activities—an important goal, but not the same as promoting self-directed learning carried out by the students.

In its intended mode of operation, **KIDS KITS** provides students the opportunity to learn concepts and skills relevant to the activity of inquiry/research. Students learn these concepts and skills by participating in a social practice—self-directed learning—which is basically similar to social practices in which they will need to participate in the future beyond the K-12 school setting (e.g., higher education, careers, caring for home and family, participating in civic matters, etc.). In many of these future activities, it will be more important to know how to access information and use it to answer questions than it will be to know how to memorize facts.

An essential element of the Kids Interest Discovery Studies program is the enhanced eligibilities rendered to students during their participation. When the class (or group) is engaged in the social practice of self-directed learning, students are treated as eligible to make multiple decisions about the course and nature of their learning activities. Many specific eligibilities are involved (described earlier in this paper). Further, time is provided to practice the skills and concepts within the context of participating in the social practice of self-directed learning. Prior learning is accredited and serves as a foundation for further or more advanced study. Growth in both knowledge and skills is recognized not only by the teacher but also by classmates and others beyond the classroom as products and presentations are shared with a variety of audiences. The class (or group) really becomes a community of learners with individuals sometimes in the actor role, sometimes in the observer role, and sometimes in the critic role as students move through the four stages of the KIDS KITS program, i.e., exploration, in-depth study, application and sharing. Students who are given the status of productive learner and contributor to the learning community generally accept this status and act in accord with this status. In fact, evidence from many schools has suggested that students operating in this self-directed format accomplish much more than students in teacher-directed situations.

Evaluation Data from KIDS KITS Programs

A considerable amount of research has been conducted on the impact of this program on student learning and participation in library activities as well as on levels of thinking. In addition to two studies at the original school, data have been collected at 15 other sites across the country with different demographic characteristics. In one district, there was an opportunity to examine the effects of the two different approaches represented in Figure 1 above.

KIDS KITS was chosen for use in the Title I After–School Program in a large urban school district. The After–School Program was initiated to serve students who were on the waiting list for participating in the regular Title I program that was conducted during the school day. It was decided to serve third through fifth grade students, with the priority on fourth and fifth graders, since it was likely that they might not have the opportunity to receive any other Title I services before they moved on to middle school. The After–School Programs met twice a week for one hour and 15 minutes. Ten schools participated in the pilot program.

Observation and Description of Program Operation

Two schools were selected for the data collection activity. The After–School instructors agreed to allow periodic observation of their programs in order to provide documentation of how the programs evolved and the nature of the student participation. At both schools, programs began in January. Each of these two programs was observed on four occasions between early February and the end of May–approximately once every five weeks. The observer was present for the entire hour and 15 minutes, as well as some time before and after the session. Conversations with instructors and students occurred on each occasion.

Interviews with the instructors in early February revealed that the enrollment was six students at one site and seven at the other. Both instructors experienced some difficulty getting the students into the KIDS KITS mode of operation. In one case, it was reported that students took a long time to decide what they were interested in and wanted to investigate further. In the other case, it was indicated that students were not able to come up with questions and needed a great deal of structure and direction. Thus, both instructors indicated the identified students were not independent learners at the beginning of the program. At both schools, students were not competent in the areas of articulating questions, selecting learning materials, finding information to answer questions, planning products or presentations to show what they had learned, or conducting presentations to share their learning. None of the students had prior experience using audio-visual equipment in an independent fashion for finding information or for conducting presentations. In addition, both groups included students described as behavior

problems in the regular classroom and at both sites some of these problems were exhibited during the after-school sessions.

While students at the two sites were described as presenting similar challenges at the beginning of the program, the two instructors addressed these challenges in a very different manner. In one school, the instructor provided training related to the use of the various pieces of equipment, as well as time to practice using the equipment. She described the process students would go through (i.e., the four stages of exploration, in-depth study, application and sharing). She emphasized the importance of deciding on one or more questions that they would try to answer by their research. The kits were placed on a table where it was possible for students to have access to all materials. Students made the choice about working individually or with a partner.

In the other school, the instructor felt that any given kit topic was too large and that it was better to focus as a group on an identified sub-topic (e.g., sharks rather than ocean). The sub-topic was selected by the instructor, students did not select materials from the kit nor operate any media equipment. Rather, the instructor, selected materials (usually books) to be put on display on a table and the kit with the remaining materials was placed on top of a library shelf—students had no access to the kit or the remaining materials. Video tapes were the only media other than print that were used and these were selected by the instructor, who also set up and operated the VCR. The entire group always worked together with everyone doing the same activity.

At the first school, students worked individually or in self-selected groups of two or three. Students produced a wide variety of products, including a film strip, a slide-tape show, a large diorama with three sculptured dinosaurs, a board game, and a picture dictionary, as well as written reports. In addition to sharing with the after-school group, students at this school shared products and information with their regular classes during school day. Students were cager to talk about their products and enthusiastic about the information they were learning.

At the second school, students were observed doing worksheets or activity sheets, making paper airplanes, and entering the steps of an experiment into the computer by copying text from a book. In the latter project, for those students who completed the text entry (a difficult typing task for many of the students), the instructor made a transparency from the page of computer print out, but the transparencies were never discussed or shown to anyone else. None of the students did or even observed the experiments they were typing. For all activities, the instructor selected and assigned product format. There was little if any sharing among the students since everyone was engaged in the same learning and production activities.

The tables on the following page summarize the implementation and the outcome characteristics at the two sites. Implementation at School 1 was very compatible with recommendations presented in the **KIDS KITS** training and

materials. It was a good example of the social practice of self-directed learning. Operation of the program at School 2 deviated from **KIDS KITS** recommendations in several ways. At school 2 the implementation was aligned with the social practice of teacher-directed learning.

SUMMARY OF IMPLEMENTATION CHARACTERISTICS

	School 1	School 2
Determination of general topic	Program	Program
(what kit is used)	determined *	determined *
Identify question or sub-topic	Student	Instructor
Choice of whom to work with	Student	Instructor
Selection of learning materials	Student	Instructor
Operation of media equipment	Student	Instructor
Use of worksheets or activity sheets	No	Yes
Selection of product or presentation	Student	Instructor
Sharing of products within group	Yes	No
Sharing of products outside of group	Yes	No

* Kits developed by the Title I office were rotated across schools. During the semester, all kits were scheduled into each of the participating schools—usually two at a time. Thus, all after–school programs had access to the same materials and information.

SUMMARY OF OUTCOME CHARACTERISTICS

	School 1	School 2
Students positive about learning activity	Moderate to high	Low to moderate
	degree	degree
Evidence of students expanding	Moderate to high	Low degree
thinking/questioning skills	degree	
Increased use of variety of materials	Moderate degree	Low degree
Evidence of student responsibility (e.g.,	High degree	Low degree
getting started without direction to do so)		
Studeuts positive/proud of products	High degree	Low degree
Variety of products across students	High degree	Low degree
Increased skill re working with others	High degree	Low degree
Evidence of behavior problems	Markedly	Remained about
	reduced	the same, some
		increase

Data charts prepared by Catherine M. Felknor as part of a project report: *KIDS KITS as an after-school program for at-risk students*, 1992. Reprinted with permission of the author.

Summary

Data presented in this paper compares the implementation and outcomes for two programs which initially set out to accomplish the same goals. The two programs served a comparable number of challenging at-risk students who had limited prior success with school and learning. The major difference between these two sites was the way in which the instructor viewed these students, the status which was assigned to the students, and the eligibilities provided and acted upon. The program implementation at the two sites looked quite different and the outcomes or results for students were markedly different.

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