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3.2 Interest of Girls and Boys in Elementary School

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Abstract

This paper focuses on two main points. The first descriptive section describes elementary schoolchildren's interests based on questionnaires; various variables such as "release", "perseverance", and "school context" were included. The second part, based on a study with a quasi-experimental design, shows the extent to which specific teaching/learning variables derived from pedagogical interest theory can be influenced by children's subject-specific interests.

Children are confronted by a multitude of "interesting" things and phenomena in their daily lives. Over the past two decades, there has been a considerable increase in the diversity of their experience: an increase in the number of toys in their rooms, in the number of institutionalized special and leisure-time activities, in what the media has to offer, etc. All of these resources open up great possibilities for working intensively with special objects and opportunities to develop "interest" in them.

Schools also confront children with many new subjects and areas of activity, and this is especially true of general studies in elementary school. The syllabi in the various states even demand that the school promote children's interests as well as awakening them. However, until the beginning of the 1990s there were no empirical data about the direction of elementary children's interests. For this reason, we conducted a number of explorative studies on this theme.

Our primary goal was to find out what interest children today have in various in-school and out-of-school contexts and activities. In addition, it was important to record what *caused* the interest. We were especially interested in the *school context as cause of interest.* Schools and other reports bemoan the fact that many children have very short-lasting and superficial relationships with objects, that they have short attention spans. For this reason we conducted individual studies to find out the extent to which the focal points of interest the children noted were in fact stable for a longer period (several months).

In a second, experimental part of the study we investigated the question whether taking specific teaching variables into consideration can advance the interest of children in a prescribed syllabus topic. Within the framework of a quasi-experimental design, specific *hypotheses* concerning *promoting interest through instruction* were tested.

Interests of Elementary Schoolchildren

Interests of Children: Based on interviews with about 40 elementary schoolchildren and on the investigations by Daneel (1977) and Rostalski and Eschenhagen (1977), we developed a questionnaire that was filled out by 676 pupils from 28 classes in third grade (n=331) and fourth grade (n=345) plus one fifth-grade class (n=28) (cf. Fölling-Albers, 1995). Of the children, 56.5% were 8 and 9 years old, and 43.5% were ages 10 and 11. In addition to the open questions that categorized favorite objects and/or activities and which also went into special ability and skills, there were closed questions about interest in a variety of objects (television, cassettes, foreign countries, animals, plants, books or magazines, computers). The closed questions almost always began with "Are you interested in ...". A second (open) question then addressed the special aspects of the interest.

Sports activities (cycling, swimming, soccer, etc.)	77.5%
Playing indoors	25.9%
Reading	18.2%
Productive activities (drawing, crafting, handicrafts, etc.)	13.6%
Playing outdoors	12.1%
Computer or Game-Boy	8.8%
Watching television	8.6%
Playing an instrument and singing	8.5%
Listening to music	7.1%
Dancing	4.5%
Animals	2.7%
Writing	1.0%

Table 1: Interests of 8- to 11-year-olds (n=694)

Interest in sports activities is most intensive in elementary schoolchildren. Cycling was important for both girls and boys, soccer only for boys. Note that the children mentioned activities but no topics (this was also true in later interviews).

According to the pedagogical interest theory (cf. Prenzel, 1988; Schiefele & Prenzel, 1991), knowledge about it is a central criterion for interest in an object. With children, however, activities (and, thus, skills) play an important role in the development of interest (cf. Kasten & Krapp, 1986; Fink, 1992). For this reason we took both aspects into consideration in the interviews, and asked for further information in the open questions to identify areas in which children had acquired special knowledge and/or skills.

Our initial fear that the children could have problems in adequately differentiating between skills (indication of activities) and ability (fields of topics) proved to be unfounded. Once again, in the answers concerning ability the sports activities were rated highest by far (60.1%). The productive activities, e.g., crafting, drawing, building, etc., are also remarkable (29.8%), followed by playing a music instrument (23.9%). School activities followed with 16.7%. When reading (4.9%) or writing (1.3%) are included, the percentage is 22.9. Other activities like computer games (2.0%), household chores (2.7%), taking care of animals (0.9%), or collecting (0.1%), were hardly mentioned. Dancing is perhaps remarkable at 5.9%. When asked about special focal points of interest, the most common answer was animals with 46.5%, followed by computers (23.1%), plants (13.3%), sports (9.8%), technology (9.4%), and foreign countries (9.1%).

Cause of Interest: From a pedagogical point of view it is important to know how children acquired their special knowledge or ability; therefore, we asked the children about the causes. The institution most often mentioned as being responsible for the children's skills and interests was the family. This was especially true for knowledge (62.0%), but was also important for ability (42.3%). Compared with the family, the school plays a much less important role in the person-object-relationships of children. In the area of ability it reaches 39.9%; where ability is connected to interest, only 16.9% comes from school. This is especially surprising when one considers the answers given in the open question in typical school areas (animals, plants, foreign countries). According to the children, this ability comes mainly from books (47.7%). About one-third of their ability comes from private tutoring (35.0%). Institutionalized leisure-time activities play a major role in children's ability experiences.

Differences Between Girls and Boys: Analysis of the interest data showed gender to be one of the most notable difference variables. We will point out only a few differences. The first obvious difference had to do with all questions in connection with animals. In the closed question, 95.0% of the girls and 85.6% of the boys said they were interested in animals. Twice as many girls as boys (60.2% to 33.5%) indicated that animals were a special area of interest, or that animal stories were their favorites (42.2% to 20.3%).

More girls (27.1%; open question) than boys (9.6%) listed reading as their favorite leisure-time activity. Girls also showed greater preferences for listening to cassettes (97.3% to 88.4%; closed question).

There were especially great differences with regard to computer usage: girls 33.3%, boys 55.7%. The gender-specific use of the computer is worth mentioning: only 26.5% of the girls said they often played computer games, whereas 47.6% of the boys said so. There was, however, less difference between girls and boys when they were asked about using the computer as a typewriter: 15.0% of the girls and 20.0% of the boys said they mainly used the computer to write text.

Interest Stability: In order to test its validity as an instrument for recording children's interests and studying the stability of these interests, the written portion of the questionnaire was repeated in individual classes or supplemented by means of interviews with children who had filled out the questionnaire. Examples of individual results in two classes are shown. In one case the children filled out the questionnaire around the middle of third grade (end of January). About nine months later, in fourth grade, they again filled out the questionnaire. Ten to fourteen days later they were individually interviewed orally (Lindermayer, 1993). In another class the children were interviewed orally in third grade; about seven months later (in fourth grade) they filled out the questionnaire (Lösch, 1994).

In both studies the oral interviews indicated more areas of interest (in one class almost twice as many) than were shown by the written questionnaires. In the class that filled out two written questionnaires within nine months, about half of the areas of interest were identical with the answers in the first questionnaire. Even after the three test points, at least one area of interest was the same for all children (n=17) and 9 of the 17 children gave identical answers for two areas. Between the second written questionnaire and the oral test points many of the answers were the same; at least the answers to the open questions in the questionnaire were generally confirmed in the interviews, although additional preferences were named in the interviews.

In the other class (n=20) where the children were first interviewed and then asked to fill out the questionnaire, the results were slightly different, but for the most part they could be confirmed. With three exceptions, all of the children named one area of interest in the questionnaire that they had mentioned seven months earlier in the interview. Thirteen children mentioned two, four mentioned three and one even mentioned four.

These results show that, on the one hand, questionnaires can be used as an instrument to measure elementary schoolchildren's interests, and, on the other hand, that 8- to 11-year-old elementary schoolchildren maintain at least one area of interest over many months.

Promoting Interest Through Teaching

During the first investigation we discovered that in one school with an especially pedagogical profile (in part owing to students' free choice of topics for instruction and frequent use of action-oriented lessons), the pupils' interests differed from those of children in other classes: their points of interest were less sports-oriented and more focused on objects like animals or reading. In addition - and this seemed remarkable to us - school was given as the cause for interest more often than elsewhere (cf. Osswald, 1993, 1995). For this reason we wanted to investigate specific teaching variables for their relevance in initiating areas of interest.

"Supporting autonomy" and "action orientation" were taken from pedagogical interest theory (cf. Krapp, 1989; Prenzel, 1988, 1992; Renninger, Hidi, & Krapp, 1992; Schiefele, Krapp, & Schreyer, 1993; see also Deci & Ryan's self-determination theory of 1985) and were identified as very relevant factors whose value in generating interests referring to the subject in the school learning context should be examined more closely. The investigation took place in third-grade classes in connection with the unit "Life on the Water" (cf. Hartinger, 1995, 1997).

During a pre-test where the children's interest in this topic was studied in three groups, no significant differences were found. In conjunction with the teachers, the lessons were planned and taught within a project framework. The three experimental groups differed from each other in the conceptual prescriptions with regard to the variables "supporting autonomy" and "action orientation." In one class (B) the children were given many opportunities for self-determined and action-oriented work;

in the other two classes (A and C) there were fewer opportunities. The lesson was observed and analyzed by two independent observers using a catalogue of characteristics. Although different emphases were planned, in practice these two classes only differed marginally in the teaching variable under study. Because of the minimal differences found after evaluating the results, groups A and C were combined. Three weeks after completion of the teaching unit a post-study was conducted; about six months later a follow-up was done.

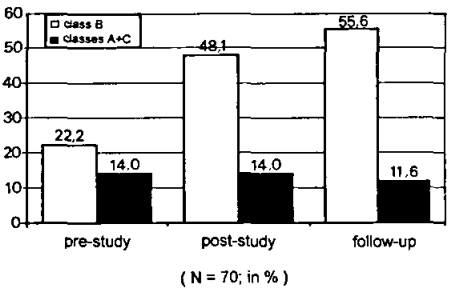

Fig. 1: Activities with animals and plants is an especially well-liked activity on ponds or streams (open question)

The graphs (Fig. 1 and Fig. 2) and other research results show that the variables "supporting autonomy" and "action orientation" really appear to be important factors in promoting interest in objects of learning in school. Children who clearly had more opportunity for action-oriented and self-determined work (Class B) placed a higher value on activities with animals and plants on the water than did children in the other classes. They also spent more time on the subject outside the classroom and formulated questions that went into the subject in more detail (Hartinger, 1997, pp. 175.). This effect is evident over a longer period of time, and the differences are still recognizable in the follow-up.

Discussion

Elementary schoolchildren differentiate between preferred leisure-time activities and school activities. Although they usually like to go to school, their leisure-time activities are seldom influenced by school learning contexts. They do not like to follow up on school learning areas in their leisure time, and do not mention school as an important cause of

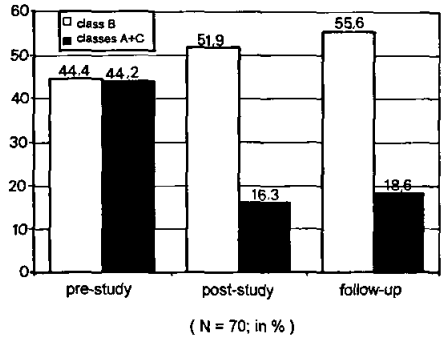

Fig. 2: Desire to learn about a certain area of "Life on the Water" (open question)

(leisure time) interests. Most children apparently view learning in school as part of the "required program", as something hardly compatible with individual interests. The fact that movement-oriented activities play such an important role in children's sphere of interest may indicate that learning that mainly takes place sitting down in school leads to an enormous need to release pent-up energy, something children want to do primarily in the afternoons. It should not be surprising that in schools that limit their pupils' mobility less than regular classes, children set a lower value on sports and movement-oriented interests (cf. Osswald, 1993, 1995). Elementary age children already have certain interests that they follow over a longer period, and they are able to differentiate between these interests and short-lived "fashionable" ones.

Although family environment is the actual cause of children's interests, the school can stimulate interests, especially whenever there is little impulse from the family. Building up decided interest in all the areas to be taught cannot, however, be a primary goal of teaching. The focal point of work in school is the structuring of learning contexts that promote interest; i.e. school activities should focus on stimulating "situational interest, interestingness" (cf. Hidi & McLaren, 1990; Hidi, this volume). Such interested learning in school is to be supported not only because the object of learning can be studied more intensively, but because questions about it can be developed beyond the subject at hand (cf. Prenzel, 1994).

Hartinger's studies (1995, 1997) have also shown that consideration of self-determined and action-oriented work forms in the teaching context successfully promotes children's subject-specific interests in what is being studied.

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