

# The Barkestorp Project: Investigating School Library Use

Brigitte Kühne

County Librarian, Kalmar Läns Bibliotek, Sweden

*For many years a conscious effort has been made to integrate libraries (public as well as school libraries) into the teaching in elementary schools in the city of Kalmar, Sweden. The starting point was Lgr 80, the Swedish curriculum for elementary schools and what it had to say about libraries and the "investigative method of working." In what was called the Barkestorp project, the teaching and learning process for school children was under investigation for three years. Observations were made of the way school children worked after libraries had been introduced into the curriculum in a systematic and conscious way, of how they solved problems, and of the body of knowledge, specific to the school situation and more general in nature, that they acquired. In addition, the impact of the library on the cognitive process was observed, as was the role the school librarian played, or should play, in this. It was a process in which some interesting patterns gradually became discernible in the interaction between librarians and teachers.*

Give a person a fish and he may be satisfied one day. Give him tools and he may be satisfied his entire life. (Chinese proverb)

A library is mainly used for two reasons:

1. As a place where you can find fiction in order to inspire your various thoughts and feelings. Researchers have found that reading a certain amount of fiction has a positive impact on children's ability to communicate with other people, orally as well as in writing.
2. As a place where you can find all sorts of "information," which means that a library can be used while educating students at all levels of school. Students must, however, learn how to locate information and what to do with it when they have found it.

Eisenberg and Brown (1992) discussed four major themes concerning instruction in library and information skills that are usually assumed to be true. These themes are:

- Instruction in library and information skills is a valuable and essential part of the school's educational program.
- Essential library and information skills encompass more than just location of and access to sources.
- Library and information skills should not be taught in isolation.
- The use of innovative instructional methods and technologies can enhance the teaching of library and information skills. (p. 103)

Many seemingly excellent instructional programs on library and information skills are built on these themes. Few persons working in the library

professions would disagree with them, but still, Eisenberg and Brown pose the following critical and difficult questions:

- Do we really know these themes to be accurate?
- Is there hard evidence to confirm them?
- Have they withstood careful scrutiny by researchers? (p. 103)

They themselves answer the questions with no. "Common practice and intuition are not enough." Little research has been done within any of the four themes except for that done by Ann Irving (1983, 1985), Carol Kuhlthau (1985a, 1985b, 1987, 1988), and a few others. The purpose of the study reported here is to document the first three themes. While working with these three themes, a fourth and new theme emerged that I found not to be true:

- Students who are able to find material in their school libraries can easily use this knowledge as a tool for looking up material in other kinds of libraries.

### Background

Our Swedish national curriculum for elementary schools from 1980, called Lgr 80, states that children at all levels of schools should do work "investigating," through "free inquiry learning" (Callison, 1986) or "resource based learning" (Kuhlthau, 1985a, 1985b, 1987, 1988, 1989) and the libraries (school and public) are mentioned many times as examples of how one can do this. However, it seldom happens in a systematically integrated way.

Since 1978 in the city of Kalmar, Sweden, we have worked to teach children how to look for information in their libraries, integrated with the teaching of the school's ordinary subjects. Our politicians have reached several agreements on how to work and who is to do what and when. The agreement at the time of the study was from 1988 where the school politicians agreed with the cultural ones on how to systematically integrate the teaching of library and information skills in the ordinary curriculum throughout elementary school from grade 1 to grade 9, children ages 7-16. (Swedish children start school at 7.) When I came to Kalmar in 1986, with a background as a school psychologist, I was astonished at how little some children seemed to have learned during their school years. It also seemed as if most children did not understand what all this information seeking was about and how they could transfer their knowledge on search strategies from their own library to another one (compare Mancall, 1986). They seemed to have great fun, however, when one of our school librarians came to their class for a book talk or if they could "escape" ordinary teaching and do some "researching" at the library instead. But did our training of the children have any greater impact than this? I decided to study the process of how far the teaching and learning of library and information skills really was integrated in ordinary teaching at the middle and upper stages of our elementary school

(grades 4 to 9). Thus I concentrated on the second of the two reasons mentioned above as to why a library is used.

### Purpose of the Study

The main questions I wanted to answer in the study were:

- How does the head of the school (the principal and his or her staff) plan when a library-integrated curriculum is to be introduced into the ordinary curriculum?
- How do individual teachers plan? Do they have an aim or purpose with integrating the library in their ordinary teaching?
- When and how is the librarian allowed to participate in planning?
- Can he or she plan himself or herself and then influence the curriculum?
- How is the librarian's knowledge of information seeking used in education?
- What role can a librarian play if he or she is allowed to participate on the same conditions as teachers?
- Is it possible to describe a model for education whereby teachers and librarians work side by side on the same conditions?
- If so, how does this model work for the students?
- Which themes or subjects are most suitable to work with?
- How is the cooperation between teacher, librarian, and students influenced by library work?
- How do students behave while working in a library? Are there discipline problems, for instance?
- How do they use the material they have found?
- What resources are important to have in a library for different stages at school?
- Does the school use material from the public library too?
- How should a school library be designed to make it possible for a whole class to work there?
- What kind of education is necessary to teach library and information skills? In Sweden a school librarian usually has completed a two-year program at a university in any subject, followed by two years at the Library College. We are usually not trained teachers. Teachers, on the other hand, complete a four-year program at a college or a university but do not usually study library or information skills.
- Can we teach our students how to go on studying for lifelong learning when we teach them how to find and how to use information in a library?

In short, what happens with all those involved when they "investigate" in a library, that is, when the library is fully integrated in the curriculum and in the subject?

## Methodology

The study was mainly carried out according to Stake's (1974) "responsive evaluation" and was primarily a qualitative study (Patton, 1990). Data were collected by direct observations of the nine classes I worked with and by interviews (group and individual) with teachers, students, and a librarian; by participating in various conferences; by written questionnaires in grades 7 and 8; teachers' diaries; principal's planning; students' work (textbooks, exhibitions, etc.); politicians' documents, and collecting facts about education; and, finally, by statistical analyses.

In 1988 I started the Barkestorps project in a school district in Kalmar. It was made possible thanks to the support of the Swedish Council for Planning and Coordination of Research. About 1,000 students, grades 3 to 9, at five different schools were involved. They all intended to work in their school or public libraries (if they had no school library of their own) searching information for their ordinary schoolwork on different subjects or themes. My intention was to evaluate their work, but I found it was impossible to evaluate the work of 1,000 students. I decided to work with those students (about 240) who started grade 4 and grade 7 in the school year 1988-1989. I followed these same students throughout the middle and upper stages of the elementary school, that is, grades 4-6 and 7-9 respectively. The project went on for three years, until the end of the school year 1990-1991. After the project was finished, I constructed a questionnaire for all students who went on to high school (grade 10) in the fall of 1991, directed not only to those who had participated in the project during grades 7 to 9, but also to those who came from other schools in or around Kalmar. This was a quantitative study of 1,045 students, and here I compared attitudes and knowledge of information seeking between "my" students and the others.

In grade 4 there were five classes at four different schools with about 125 students, and in grade 7 there were four classes at the same school, with about 115 students. Their teachers told my colleague, the ordinary school librarian in that district, and myself when they intended to start library-integrated teaching. We planned with the teachers how and when we could do subject introduction and library introduction respectively and aimed to be at the same level in the planning. The teachers were to function as subject experts, whereas the librarians were to be information experts. My colleague and I participated as often as possible in the different classes when they worked either in the library or in the classroom. Each class usually worked for between four and six weeks on their different themes. Because five different schools worked on the project, we could also see differences in utilizing the library depending on, for instance, size of library, how much material there was, distance to public library, and so forth. One of the schools had its school library integrated with the public one, whereas another school was more than 2 km away from it. These were the extremes; the others were



in between. The school for grades 7 to 9 had a well-equipped school library of its own.

## Results

After three years of evaluating and analyzing the questionnaires from the 1,045 students I found the following answers to the questions mentioned initially (a summary).

### *Principal's Planning*

Without an enthusiastic principal, it is impossible to do any investigation. His or her planning and cooperation are essential to make the rest of the colleagues willing to work in a new way.

### *Teachers' Planning*

Sometimes it was difficult to see if or how teachers planned. We librarians were often forgotten but, when they thought of us, they were generous and let us participate whenever we wanted. In other words, *it was always on their conditions*.

### *Librarians' Planning*

As mentioned above, planning was on the teachers' conditions, which often made it extremely difficult to plan something of one's own. A school librarian in Sweden usually works in a number of schools, and advance planning is essential. If one has to serve five or six different schools with about 1,000 to 1,200 students, it is not possible to accommodate a teacher who calls and asks for a book talk or a lesson on information skills for the same morning. In the project we asked for the specific time when the different themes were coming up. Some teachers would tell us, others not. One teacher even "forgot" to tell us she had already started, but her attitude was negative from the beginning. In any case, it is difficult for a librarian to influence the curriculum in a library-oriented way. This means also that the librarians' specific knowledge in information skills is not taken advantage of.

### *Teachers' Aim or Purpose with Integrating the Library*

All teachers at the middle level were positive to the kind of work that we wanted to evaluate in the project. All but one had worked in this way before, and all but one (not the same person) shared his or her experiences, ideas, and thoughts with us. One teacher did not want us to come and listen to her lessons, although she did a brilliant job with library material. Only a few, however, saw a definite purpose with the library-integrated (i.e., a problem-oriented) education.

Most teachers at the upper level had no particular aim in integrating the library into the ordinary lessons, which meant that we could tell them what we wanted from them. Few had worked in this way before. Almost all were positive to the project from the beginning; a few were negative, but all but

one changed and became positive before we finished. These teachers have continued with investigating work in the library during their ordinary lessons.

### *Which Themes and Subjects are Suitable?*

During the project we worked with the Viking age, the Middle Ages, Inventors, the US, the Alps, the Mediterranean, Swedish landscapes, and Scandinavia during grades 4 to 6, and with ancient Greek culture, Africa, and the environment and pollution during grades 7 to 9. Almost all other themes and subjects are possible (once, for instance, a class in sports "investigated" at the head library). Usually, themes from literature and the social sciences are thought of as being easier to integrate into ordinary lessons than themes from the natural sciences.

### *Cooperation: Teachers-Students-Librarians*

Much can be written about cooperation between all persons involved, successful cooperation and unsuccessful cooperation. As others have pointed out (Lubans, 1974; Montgomery, 1991), much depends on the person himself or herself, and this was verified in this study.

### *Students' Behavior and Working Methods*

We did have some disciplinary problems, but on the whole *more students worked better and more effectively this way than they usually did*, as many teachers witnessed. We could see how the students developed their search strategies early. From grade 5 on, we found students who understood that different material could give different information. Many interesting discussions started when we together tried to find out how one could determine that the given information was correct. They also learnt that they had to think of how they wanted to present their material from the beginning, because one collects material differently depending on the future presentation, and that they should always acknowledge their sources.

When I compared the search strategies of the students from different schools, I could clearly see that they needed continuous and systematic teaching in information skills and needed to practice using the material frequently in the libraries.

### *Ways of Presentation*

The students' ways of presenting their material improved immensely throughout the grades, oral as well as written. They learnt how to take advantage of different audiovisual material; to take care of layout; to use pictures in exercise books, papers, exhibitions, and so on; and they got help from teachers in handicrafts, arts, and data. Some of them were almost professional at the end of grade 9 in their ability to use the information they had found and presenting it to different kinds of audiences. They included dramatizing, making an exhibition, making an international week involving

the whole school, parents' evenings, and so forth. The students themselves also thought that they had learned more and that they remembered more by having been taught this way.

### *Library Resources*

Of course, the library resources are extremely important. In order to individualize education for as many students as possible, it is necessary to have material adjusted to students who can read poorly and to those who read well. We found that many of the texts were too difficult, so we sometimes had to work hard to find easier texts for students experiencing problems. On the other hand, this is a task for any librarian, but many teachers are not aware of these possibilities in a library. Because we could always obtain material from the public libraries in Kalmar (we all have our catalogue integrated in a common database) it was not too difficult, however.

Other problems with the library resources were that some students thought there was too much material, and they had difficulty searching in more than one source. At the beginning, they preferred to have everything presented in one book, with reference to a special page so that they could just copy the text. Many of the students, though, found eventually that they enjoyed searching their own knowledge.

Some of the material became worn, especially journals and newspapers, but also reference books. These should always be in special library bindings, and one must watch out for children who like to draw in or cut things out of the material. But this is nothing unique for school libraries.

### *The Physical Nature of the Library*

In the study, I observed which physical factors facilitated or obstructed the integration of the library into ordinary education. These included the location and the size, how it was equipped, whether it was used for pedagogical, social, or cultural purposes, whether it was integrated with the public library or not, and in that case how far away the public library was situated. It did not only depend on the physical distance whether a library was used. To a great extent it also depended on personal factors.

In my opinion the library should have a pedagogical function, which means that it is a workplace for students, teachers, and school librarians. Of course, it should be appealing, but it should not be seen as a room for leisure during the students' free time. It should be equipped with all that is needed for studies: besides books and other media there should also be tables and chairs (enough for a whole class at the same time); empty shelves to put unfinished material on during pauses, for instance, paper, pencils, copiers, scissors, telephone, videocamera, tape-recorder, computers, and so on. Of course, it should be situated in the middle of the school, and schools should be planned this way from the outset.

### *Teachers' Model for Library-integrated Education*

Gradually, a model for how to teach information seeking when integrated in 'the teacher's own model for teaching could be seen. This model was then tested against Stripling and Pitts' (1988) model of how students learn at the library. A summary follows.

*Teacher's introduction of the subject.* This was to give the students a background and a frame. The teacher as subject expert was responsible for this, but he or she should also investigate:

*The students' previous knowledge or experience.* "What do we already know about this subject? Has somebody been to that place? Has somebody read a book or seen a film or heard somebody talk about it?"

"What do we want to learn more about it?" The teacher must guide the students so that important moments are not forgotten.

"How do we get to learn more? Through the material at the library or otherwise?" The students should try to make a picture of a "problem" and ask questions on that problem. This was designed to motivate them to further their knowledge of the subject.

*The librarian's introduction.* The librarian as information expert presents the different resources at the library (everything from encyclopedias, other textbooks, journals, newspapers, databases, etc.) in order to enable the students to find answers to their questions. We usually started with an overview and went on with parts and details.

*The students' work.* A combination of ideas is needed from the teacher and the librarian so that the students' work can proceed as smoothly as possible. It is worthwhile considering the following. *Time:* How many lessons until it is finished? How many lessons each time? When can we start? When can we finish? Are there vacations in between? *The library itself:* How far is it? Accessibility? Is it open? How large is it? Can the whole class work there? Is there personnel? Are there databases? *The material:* About the media: What is needed in this subject? How much and how many examples of each? How difficult should it be? Is it up to date and reliable? About other material: overheads, paper, pencils, erasers, scissors, glue, tape, wordprocessor and/or other computers, fax machine, telephone, copier, and so forth. *The working groups:* How many students? Do they like each other? *Physical environment:* Light, air, ventilation, sound level, heat, furniture and furnishings, green plants. *Working methods:* Write, draw, cut, dramatize, film, and so forth. *"Looking forward":* Depending on how the students intend to present their material, consider using a correct search plan for this task, compare different sources in this subject, sift the material, do not copy texts as they stand in different media, consider that different ways of presentation require different sorts of material, make up a timetable with the teacher so that they know how to work.

The teacher and/or the librarian must remind the students about the "wholeness" of the subject along the way so that they will get to know more than the specific parts on which they have concentrated.

*Presenting the material, evaluation of what one has done.* Different ways of presenting the material were, for example:

- telling what one had found;
- writing a story;
- showing an overhead;
- reading aloud;
- asking questions of the rest of the class;
- conducting a fictitious interview;
- dramatizing a scene;
- showing objects one had produced oneself;
- writing and drawing on the blackboard;
- making an exhibition out of objects one had collected;
- showing a video, a film, or slides;
- making a "newspaper."

We also, of course, taught the students to think of how they should present the material, that is, how they should put it into words, how the audience would understand their presentation, who was to make what in the group, to sift the material and not present everything they had found, and so on.

This is also the stage where the students evaluate their work. What was good, what could we do better next time? They sometimes criticized themselves, and sometimes they were criticized by their classmates or by the teacher. Usually they were quite eager to go on and improve the work. Sometimes the work was not finished when it was presented; rather, it was the beginning of a new "problem" or question. I hoped this was the introduction of lifelong learning (see Figure 1).

### *Students' Model*

In comparing the work of my students with the taxonomy described by Stripling and Pitts (1988), I could recognize the same six stages that they described: *fact-finding, asking-searching, examining-organizing, evaluating-deliberating, integrating-concluding, and conceptualizing*. What I clearly found in my study, however, was that my students, much earlier than those in Stripling and Pitts' study, were able to reach the upper stages in the taxonomy. Stripling and Pitts said that stage 5 could hardly be reached before high school and stage 6 is not even reached by all college students. In my project, where we so systematically and continuously integrated the library in the curriculum, some students in grade 5 reached the fifth stage, and many students had reached stage 6 before they finished grade 9. The extensive questionnaire answered by the 1,045 students in the fall of 1991 showed statistically significant differences between the students from my project and

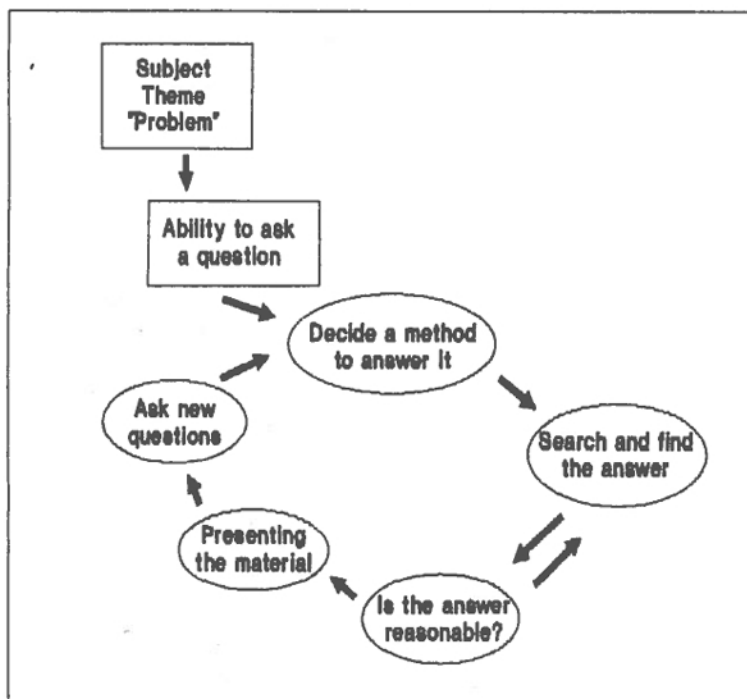


Figure 1. Model of "problem-oriented learning," "learning by investigating," or "free inquiry learning," where learning is based on the student's own questions, which can be the beginning of lifelong learning.

students from other schools regarding their ability to locate information. About their attitudes to working in and with a library they were all positive. Between 85% and 90% thought they had learned more and remembered more when they had located their own information, worked with it, and transformed it into knowledge in their own minds.

### *Some Statistical Results*

Of all the statistical results I present just a few. The questionnaires at the end of grades 7 and 8 respectively showed an almost 100% positive attitude among the students about this way of teaching. I did not give a questionnaire at the end of grade 9, but gave it instead at the beginning of the next grade when all "my" students and all others who had finished grade 9 had begun high school. I could now compare "my" students with the rest of the students in and around Kalmar. Interestingly enough, all students are positive toward a new way of teaching, but of course we do not know whether they will stay positive if they always are taught in the learning-by-investigating-way.

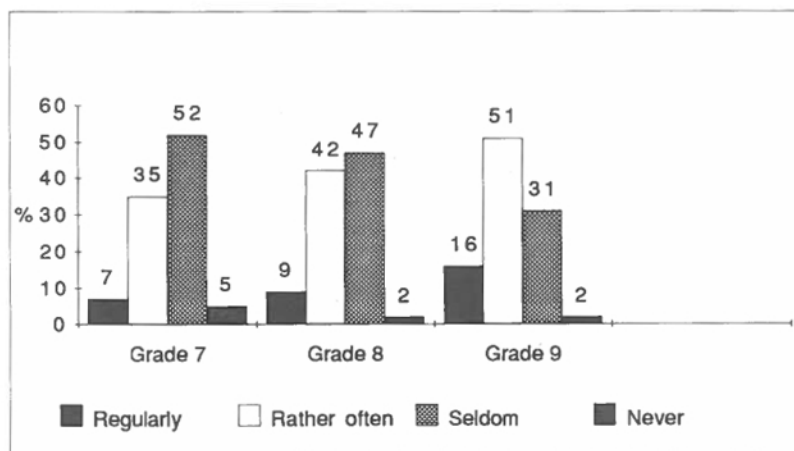


Figure 2. How the library was used in Swedish, grades 7 to 9. *N* in grade 7: 1,019; grades 8 and 9: 1,020.

"My" students had a much clearer picture of the library than the others: what it was good for, when you could use it, how you could find information—but still too many did not know this. This made me reflect, as I have already pointed out, that teaching library and information skills should always be done systematically, should occur often, should go hand in hand with practical exercises, and should be integrated into the curriculum in a natural way. Otherwise, the students do not understand what it is all about.

Among other things, I wanted to know how the library was used in different subjects. Were there any differences between the subjects and between the grades? As one can see from the Figures 2-4, the library was mostly used in Swedish, which was to be expected, and much more often in grade 9 than in grade 7. I did not, though, expect the difference to be as great as it turned out. There were also statistically significant differences between boys and girls. The latter used the library more often than boys. Both sexes would have preferred to use the library more often in all subjects.

I also asked which kind of teachers had shown the library to the students. Mostly the teachers in Swedish had done this (81%), followed by those in social sciences (43%), then those in natural sciences (22%), and finally other teachers (technical subjects, arts, sports, handicrafts, etc.) 20% (see Figure 5). There is a risk that students may get a biased picture of the library. At school the humanities teachers (Swedish) and the school librarians introduce students to the library, and because most librarians have also studied the humanities, how can we convey the message that a library is good in all subjects, not only the humanities?

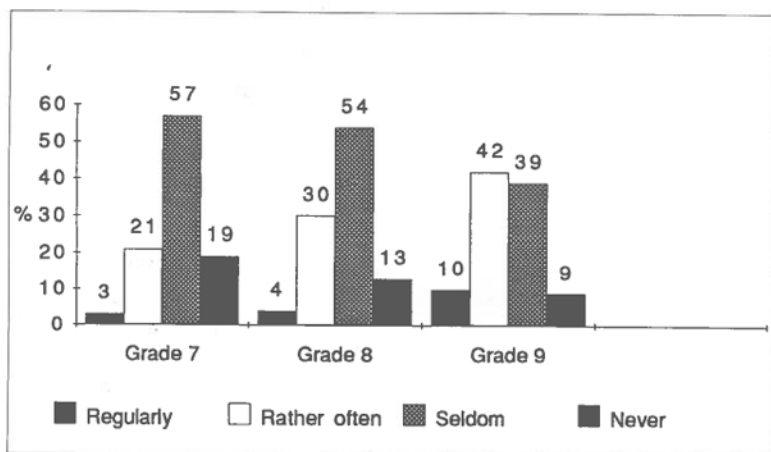


Figure 3. How the library was used in social sciences, grades 7 to 9. *N* in grade 7: 1,013; grades 8 and 9: 1,017.

The same tendency is shown in Figure 6, which shows how the students were satisfied with how they could work in the libraries in different subjects. They have usually been taught less in a library-oriented way in the social subjects than in Swedish, but more than in the natural sciences and in other subjects. This reflects their satisfaction with the libraries in these subjects as

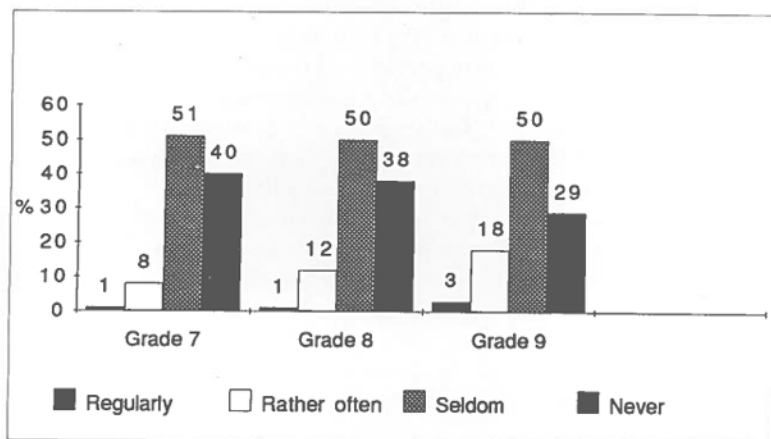


Figure 4. How the library was used in natural sciences, grades 7 to 9. *N* in grade 7: 1,012; grades 8 and 9: 1,016.



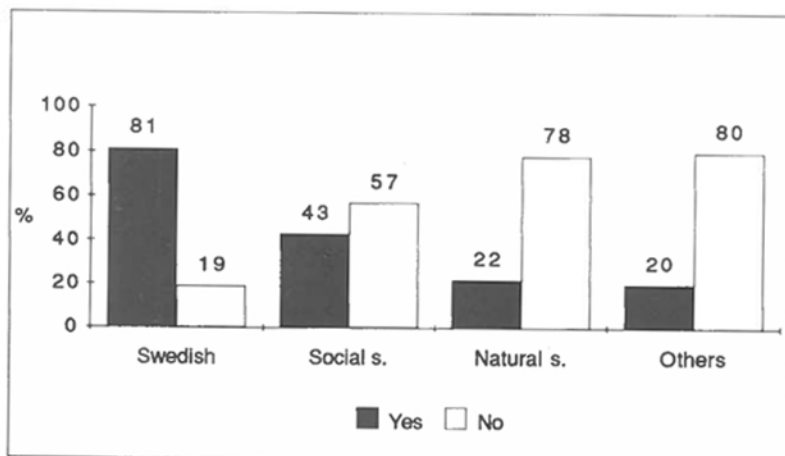


Figure 5. Answers in % of the question in which subjects teachers had shown what a library was good for (N=1,045).

one interpretation of the results. But it may also, of course, mean that the material was better in the subject of Swedish.

### Implications

I agree with the themes by Eisenberg and Brown (1992) that I referred to at the beginning. Much more research is necessary. Perhaps teachers and librarians should have another type of education in order to respect each other better? In any case, this study has shown at least two things.

1. It is not easy to teach children in this way because it is a new way of teaching, a problem-oriented and resource-based way. Instead of being a passive listener, the student is an active searcher. It takes time. It demands staff and much planned cooperation between the school and the library. It is important that the right person teaches information skills, but it could just as well be a good "ordinary" teacher as a skillful librarian.
2. It is worthwhile teaching children different things by integrating library and information skills into the regular curriculum. The children become more creative, more positive, and more independent. They themselves believe they remember more, and this is confirmed by many teachers. Some teachers are afraid that poor students will have special difficulties and that they cannot profit from this way of teaching. Other teachers, though, believe the contrary. My own experience is that poor students achieved better results but needed more individual help.

My doctoral dissertation on this subject is written in Swedish (Kühne, 1993).

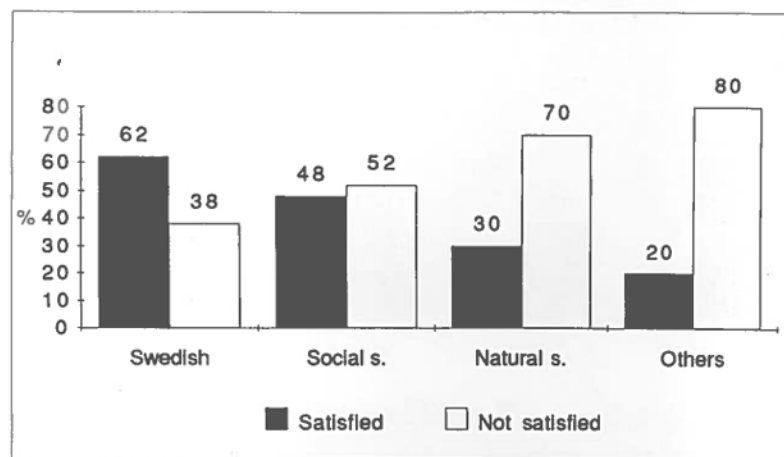


Figure 6. Answers in percentages as to whether the students were satisfied in the different subjects or not ( $N=1,045$ ).

## References

- Callison, D. (1986). School library media programs and free inquiry learning. *School Library Journal*, 32(2), 20-24.
- Eisenberg, M.B., & Brown, M.K. (1992). Current themes regarding library and information skills instruction: Research supporting and research lacking. *School Library Media Quarterly*, 20, 103-109.
- Irving, A. (1983). *Educating information users in schools*. London: British Library, Research and Development Department.
- Irving, A. (1985). *Study and information skills across the curriculum*. London: Heinemann.
- Kuhlthau, C.C. (1985a). A process approach to library skills instruction. *School Library Media Quarterly*, 13, 35-40.
- Kuhlthau, C.C. (1985b). *Teaching the library research process: A step-by-step program for secondary school students*. West Nyack, NY: The Center for Appl. Res. Educ.
- Kuhlthau, C.C. (1987). An emerging theory of library instruction. *School Library Media Quarterly*, 15, 23-28.
- Kuhlthau, C.C. (1988). Developing a model of the library search process: Cognitive and affective aspects. *Reference Quarterly*, 28, 232-242.
- Kuhlthau, C.C. (1989). Information search process: A summary of research and implications for school library media programs. *School Library Media Quarterly*, 17, 19-25.
- Kühne, B. (1993). Biblioteket—Skolans hjärna? Skolbiblioteket som resurs i det undersökande arbetssättet på grundskolan. (University of Lund. *Studia Psychologica et Paedagogica*, 2, 104.) Stockholm: Almqvist & Wiksell International.
- Lubans, J., Jr. (Ed.). (1974). *Educating the library user*. New York: Bowker.
- Mancall, J.C. (1986). An overview of research in metacognition: Implications for information skills instruction. *School Library Media Quarterly*, 14, 96-99.
- Montgomery, P.K. (1991). Cognitive style and the level of cooperation between the library media specialist and the classroom teacher. *School Library Media Quarterly*, 19, 185-190.
- Patton, M.Q. (1990). *Qualitative evaluation and research methods*. (2nd ed.). Newbury Park, CA: Sage.

- Stake, R.E. (1974). *New trends in evaluation. Reports from the Institute of Education* (Göteborg, Sweden), No. 35.
- Stripling, B.K., & Pitts, J.M. (1988). *Brainstorms and blueprints: Teaching library research as a thinking process*. Englewood, CO: Libraries Unlimited.