

Valerie Nasset
McGill University, Montreal, Canada

How Many Hurdles Do I Have to Jump? Conducting Research in an Elementary School Classroom

Abstract: This paper examines some of the issues that may arise when conducting research in an elementary school classroom. Using examples from a recent study on the information-seeking behaviour of grade-three students, the paper identifies and discusses potential problems and barriers to the research and suggests some ways to overcome them.

Resumé : Cet article examine quelques problèmes pouvant être rencontrés lors de la réalisation d'une recherche dans une classe de l'école élémentaire. Utilisant des exemples tirés d'une étude récente sur le comportement de recherche informationnelle des élèves de troisième année, cet article identifie et commente les problèmes potentiels et les barrières à la recherche. Cet article suggère quelques moyens pour surmonter ces obstacles.

1. Introduction

It has only been since the mid-1980s that the user replaced the information system or the information resource as the focus of LIS research and began to occupy a critical role in LIS thinking (Dervin & Nilan, 1986). With this paradigm shift came a corresponding increase in the use of qualitative research methods in an attempt to better discover the human experience. As this qualitative research paradigm gains more and more ground within the information science community there has been an increased interest in conducting research within operational or “natural” settings so that users may be studied in their own environments rather than in the constructed settings of experimental studies. Supporters of operationally-based research argue that the collected data will better reflect the typical activities and behaviours of users, giving researchers much better insight into the essence of their personal experiences (Patton, 2002) and how they “construct and give meaning to their actions (Denzin and Lincoln, 1998, xvii). Yet, while providing necessary insight into the human experience, research in an operational environment is not without its own challenges. While it is recognized that in an experimental setting the tasks and environments are imposed on the user (Large & Beheshti, 1999) and are therefore at least somewhat artificial, the researcher can maintain a firm control over any variables that may affect the research. This is not the case in an operational environment. Unlike an experimental setting, in an operational environment many things are out of the researcher's direct control possibly making the collection of the data more difficult to accomplish and often resulting in data that is more ambiguous and “messier” than data collected from a quantitative study. This may make the data more problematical to analyse as it is subject to varying interpretations.

Most studies in information science that have been conducted in operational environments have been with adults or adolescents in such venues as the workplace or libraries. Until recently, the study of younger children as an information user group had

not yet received much attention from the research community but perhaps as a result of the introduction of new information technologies (especially the Internet) and new educational initiatives into the elementary school classroom the interest in studying children as a distinct information user group has noticeably increased. One of the most important operational environments in a child's life is the school classroom, making it an ideal place in which to investigate phenomena. Yet, performing research in a child's operational environment offers its own unique challenges and problems, especially at the elementary level. In fact, planning to conduct research in an elementary school can be likened to a steeplechase contest with its series of hurdles that the runner must jump over before reaching the finish line. If an unexpected hurdle presents itself it can mean a punishing loss of time or even the premature end of the race for the athlete. Similarly, for the researcher unfamiliar with working in a school environment many barriers may present themselves unexpectedly, at best resulting in loss of precious time and at worst, jeopardizing the success of the entire study. If these issues are known before the actual research study begins, they can be addressed and any potential negative impacts avoided or at least mitigated. This paper discusses how some of these problems were surmounted in one study of grade-three children's information-seeking behaviour.

2. The Study: The Information-Seeking Behaviour of Grade-Three Students

This research study, conducted in winter 2006, was a phenomenological case study in a naturalistic setting—the grade-three classroom. It explored the information-seeking behaviour of two classes of grade-three students in a suburban school in Montreal as they looked for and used information for a class project on Canadian animals in winter. The author was seeking to answer three main research questions: 1) How do grade-three students seek information in support of a class project? 2) What barriers do they face and how can they be helped to more effectively search for and use information? 3) Are there any features of existing models of information-seeking behaviour that are appropriate to use as a basis for a conceptual framework? To investigate these questions, five data collection techniques were used: participant observation (including sample groups as well as the entire class), brief questionnaires which were distributed to all of the school's grade-three students, interviews (conducted with the children, teacher and parents), journals (where each student could record his/her actions, thoughts and feelings), and the final student projects (which were examined in the context of the information-seeking experiences). (A more detailed explanation of the methodology can be found in Nasset, 2005.)

3. Entering the School

One of the main advantages of conducting research in a school setting is the context it provides. Second only to the home, the school is where children spend the majority of their time, making it an important influence in their lives and an ideal operational environment in which to study them. According to Lincoln and Guba (1985), context is crucial to the study of phenomena, and that a phenomenon needs to be understood within the context that created and supported it. Furthermore, as Shenton (2004) argues, “the system of forms [grade levels] employed in schools is based on the ages of the pupils,

and thereby effectively pre-classifies the potential sample population” (181). In addition, a public school setting (or ‘state’ schools as they are called in the UK) “ensures that youngsters of widely varying abilities and a range of backgrounds and socio-economic circumstances are not only available for sampling, but are also usually united within [these] individual forms” (180-181). This latter advantage, however, is largely dependent on the area in which the individual school is located—for example, there are potentially fewer differences in the socio-economic status of children attending a public school in an upper-middle class suburb of a large city than those attending a school in a small rural town where students come from a variety of socio-economic backgrounds. Conversely, there is likely to be less racial diversity in a rural school than in a suburban school. Therefore, the location of a school directly influences the nature of the population within it.

Once the researcher has decided on the ages of the children to be researched, a suitable school must be found. This can be a difficult decision to make, especially if the researcher is not familiar with the community in which the schools are located. When seeking access to any research site, contacts are often vital and it makes things much easier for the researcher if he/she knows someone who can facilitate access (Shenton & Hayter, 2004). In areas where public schools fall under school board authority, the school board must grant approval before the researcher can approach a particular school. This can usually be done by submitting the proper forms without the need for a personal meeting. In the case of gaining access to the school, however, since the principal is the primary gatekeeper he/she should be the first to be formally approached by way of a meeting. During this meeting, first impressions are very important as the principal will be forming his/her own opinions about the nature of the research and the potential impact it may have on the teachers and students as well as sizing up the researcher’s suitability to carry out the research. A researcher who emphasizes why the research is important to him/her is unlikely to make a great impression. The principal is the one who must be convinced that the research is valuable and that it would be best carried out in that particular school. In terms of tangible benefits for the school, the offer of some sort of material incentives to thank them for their participation may be appropriate.

In the author’s chosen school, the principal was very open to new initiatives and was convinced that the research had value both for her school and for the educational community. As a new principal, however, she was concerned that taking on such an in-depth research study would be too much for her to manage along with the rest of her duties. The author needed to convince the principal that the impact on her would be virtually non-existent and that the children and teacher would not be overly burdened. This latter point was important to stress since one of a principal’s main responsibilities is to protect and support his/her teachers and students. After carefully reading the package of information that the author had left for her to peruse, after a few days she gave her consent for the research to go forward.

Once approval has been given by the principal and the governing board (if necessary) the next step is to recruit a teacher. This is by far the most vital link in the chain—if the classroom teacher is unwilling to participate in the research, it cannot be done. Thus,

before approaching the school it is hoped that the researcher already has some prior knowledge that the necessary teachers would be willing to participate. This knowledge could be attained through the appropriate channels at the student teaching centres found in Faculties of Education – if a teacher welcomes student teachers into his/her classroom; he/she is more likely to be open to the idea of having a researcher present. Nevertheless, the teacher must be convinced of the value of the research as it will be he/she who will shoulder most of the responsibility. It may be necessary to offer some sort of incentive to encourage the teacher's participation.

In the case of the author, the teacher had supervised many student teachers over the years and was very open to the research – so much so that she insisted on adopting a team approach, involving the author in the decision-making in regards to the type of theme unit/class project that the children would work on and having the author work with her in the classroom as a peer. Although the teacher almost always gave the students their instructions for how the time was to be spent, afterwards she was often able to sit at her desk and catch up on other work as the researcher was there to supervise the children while they worked on their projects. The enthusiasm shown by the children for the project work was very gratifying for both the researcher and the teacher.

4. Project Selection

Choosing the project that the children will research is a complex process. The project must satisfy the requirements of the teacher and the curriculum as well as meeting the research needs of the researcher. There is a tendency in the LIS field to view class projects as separate entities, isolated from the everyday teaching and learning that happens in the classroom. This may be the case in the higher grades (for example, the later years of high school) where the purpose of a project is either to challenge the students to learn more about a particular subject that cannot be thoroughly investigated in class or to use it as a vehicle for students to apply different things they have learned in the classroom. In the younger grades, however, especially in classrooms applying a Project-Based Learning approach, a class project is not considered a separate entity and is instead integrated fully into the curriculum. The project may be used to teach and learn reading and language skills, problem solving, and research methods. In fact, many educators refer to such a project as a “theme unit” and plan their lessons accordingly. This term assigns a much greater value to the project as a learning and teaching tool meaning that the actual information-seeking process is but one small facet of the greater whole.

In the author's case, at the beginning of the data collection phase she had the mistaken impression that she would just be observing how the children searched for information on the Internet and in books and what they did with that information once they had it. The teacher's learning objectives, however, involved much more than a straightforward information-seeking process. Whereas the author entered into the research thinking that the children would immediately begin to work on their final products and that this would take approximately four to five weeks to complete, at a planning meeting with the teacher just before the research began she learned that the children would not even start to work on the final project for at least four weeks and possibly longer! The teacher explained that

in the younger grades where project work and classroom learning are so tightly integrated (the concept of the theme unit), what the author had anticipated taking a few weeks of focused activity resulting in one finished product instead was actually going to take several months, including different activities to prepare the class before they even started their final project. The teacher's many learning objectives were about much more than learning a few facts about a Canadian animal – this project was merely the vehicle for introducing several different learning objectives in various areas. For example, creative storytelling and writing, reading aloud, vocabulary lessons, concept-mapping exercises, and group presentations on different general aspects such as hibernation are but a few of the activities that the teacher employed in order to prepare the children to work on the actual project. Add to this the fact that the final project had to be designed in such a way that it could be modified to accommodate several intellectual developmental levels and this meant that a proposed research study of four to five weeks stretched into over three months.

It cannot be forgotten that the purpose of a class project is to serve as a vehicle for the children's learning. In order to assess the extent of that learning, the teacher must assess them based on the work they have done. In terms of assessing the final product, the criteria used by a teacher may vary greatly from what the researcher is investigating. For example, a teacher may assign a low mark to a project that may impart excellent information but looks sloppy and unpleasing to the eye. This same project from the perspective of the information science researcher, however, may hold great value since the criteria for the researcher may not lie in how aesthetically pleasing it looks but instead in how well it represents the information-seeking process undertaken by the student. Similarly, a project that does not provide much insight for the researcher into the student's information-seeking behaviour but meets the criteria set by the teacher, may receive a high grade. Thus, when analysing the data, how does the researcher reconcile these two potentially opposing viewpoints so that it makes sense in the analysis? The researcher is advised to ascertain the teacher's learning objectives before the research begins so that the researcher can tailor his/her data collection methods to exploit fully the learning activities in which the children will be engaged. Participating actively in the classroom activities provides much richer data and a more accurate picture of the learning and information-seeking process than by simply observing the children perform certain tasks in isolation and looking at the final product after it has been completed.

5. Student Selection

When recruiting students for participation in a research study, it is unlikely that a researcher will receive permission from the parents/guardians of all of the children in the class to participate in such involved qualitative methods as individual interviews. Even if permission was granted, especially if the researcher is using several data collection methods, the amount of data generated by such a large group may be too much to manage. This is why the case study methodology appeals to researchers. By studying a small sample that is representative of the greater population and operates within a naturalistic setting the researcher can obtain valuable data for analysis. Although the sample method may be advantageous in terms of managing the data, it raises larger

ethical concerns. The public school system is based on a philosophy of inclusiveness. This means that there is the potential to have a wide range of levels of intellectual development within one class. Some students are able to work at a higher level than their age group, some work at an average level, some are slightly below average and some are well below average. In many schools there are also students who are fully integrated into the classroom who are so intellectually challenged (and/or who have other diagnosed problems) that they require a full-time aide to be with them at all times. If a methodology requiring a representative sample is employed, how will the researcher choose that sample? If it is to be a random sample, will all of the children in the class, no matter what their capabilities, receive the same opportunity to be a member of the sample group? If it is to be a purposeful sample, what criteria will be used by the researcher to choose the children? These questions all have to be taken into consideration when planning one's research.

In the author's case study methodology, two sample groups of six children apiece (one group for each of the two grade-three classes) were randomly chosen from volunteers. There had been no criteria applied to the choice except for a wish to have gender equity. These sample group students were interviewed, videotaped and carefully observed as they worked on their projects. They were only separated from the class after the teacher had given her instructions for how the class time was to be spent. Since for most of the project the children were working in groups, it was not a large disruption to have the sample group work in another room. Sometimes, however, especially as the project progressed and the children needed more guidance and instruction from the teacher, the sample groups stayed in the classroom and worked alongside the other students. Although this posed challenges with video and audio-taping (the class was never videotaped and usually only audio-taped when the teacher was giving instructions) it did provide much richer observational data as all of the children became participants in the data collection. Although this way of working mitigated the isolation of the sample groups it did, however, raise several other issues such as privacy and confidentiality, as well as ethical approval (both to be discussed in a later section).

6. Parents/Guardians and Student consent

When recruiting participants for a study it is necessary to communicate to them the exact nature of the research and the implications of their involvement in it. This is most often a straightforward exercise, especially when dealing with adults. Usually, this proof is evidenced by way of a signed consent form. In the case of minor children, however, two consents are required for each individual—that of the child's parents/guardians as well as the child him/herself. The consent letter distributed to the parents/guardians is fairly straightforward in that the researcher can go into reasonable detail about the nature of the study and their children's potential involvement in it. The real issue arises around the letter of consent for the children – how does one elicit informed consent from younger children who may not know how to read or write? Younger children, given their intellectual capabilities, often are incapable of reading and/or understanding a letter written for adults. Thus, a consent letter must be written in simple language with minimal detail but still include the essence of the child's research involvement. As with

all consent forms, an “escape clause” must always be included stating that a study participant may withdraw at any time and for any reason, articulated or not. This latter requirement raises a possible problem for the researcher in drafting the letter of consent. If the child is participating as part of a sample group doing a class project, it must be made clear that even though he/she is able to leave the study for any reason, his/her schoolwork must still be completed.

In the author’s study two letters were drafted, one for the parents/guardians, the other for the children. In terms of completion of the class project even if the child withdrew from the study, the adult letter was worded thus, “If at any time your child decides to withdraw from participation in the research for any reason, s/he may do so with no consequences. Of course, s/he would not be exempted from completing the project as it will be a school requirement.” whereas the child’s letter read as follows, “Even if you agree to help me you can change your mind at any time if you want, but you will still need to complete your project as it is part of your school work.” The child’s consent letter was also written in a large, print-friendly font (Comic Sans MS), another critical feature when making things easy to read for children.

7. Working with a Sample

When choosing a sample the researcher needs to look not only at the issues around the use of a random or purposeful sample but also must carefully consider the implications of recruiting students from a class to participate in a sample group. If the school setting is to be used only as a convenient arena in which to find children for a study that will take place during non-school hours (for example, lunchtime or before or after classes) this does not present the same challenges as research that will be conducted during class-time as part of a classroom activity such as a class project. In the former situation, it is likely that parental consent will be given more readily as the research is less intrusive and would not likely have much affect upon the child’s learning. In the latter case, however, the research is rather intrusive and has the potential to impact at least in some way on the child’s learning, perhaps in a negative fashion. This may make parents reluctant to grant permission for their children to take part in the study. Furthermore, a sample group that is being studied within the context of a classroom activity cannot be treated or *perceived* to be treated differently than the other children in the class. If the sample group children are perceived to be the benefactors of special attention and resources they may be shunned or conversely, envied by their peers and the researcher and teacher may come under fire from disgruntled parents. All of the children in the class must have access to the same resources (including to the researcher if he/she is engaging in participant observation) and opportunities as the sample group. This presents a real challenge when the sample group is separated from the class for some reason. In addition to the challenges in fairly dividing the resources when the children are working in different rooms, separating the sample groups from the classes has broader implications for a study in terms of its operational and representative value. If the children are separated and/or isolated from their peers for the duration of the study, are they still in a naturalistic environment? What instruction given by the teacher are they missing and would this instruction make a difference to how they carry out their work? Although these are

important questions, they often do not arise until the field work is underway, sometimes making it difficult to change. If these issues are considered when planning the methodology, they can be avoided altogether.

According to recent research, most Canadian schools tend to be under-resourced, at least in terms of library facilities (Haycock, 2003). This means that any study on information-seeking behaviour that takes place within the public school system has to take into account the reality that the resources available to the students will likely be at least somewhat inadequate or simply not even available. In the case of the author's two classes under study the project that they were doing required the use of scrapbooks and journals. The school did not have the money to pay for these materials and it would not be fair for only the sample group children to have them so the author provided them for every child in each class. This resulted in unexpectedly higher research costs as there is a huge difference between buying materials for 12 children as opposed to 52! Yet most of the time making sure things were equitable did not cost much money at all. For example, when several children were doing research on the same animal, simple things such as sticky notes placed in a book to mark a child's place and/or photocopying a few pages of text from a book allowed several students to access the same resource at the same time. Similarly, if the sample group children were using the laptop computers provided by the researcher to find information (these computers were equipped with Camtasia software to record their conversations and screen movements) the other children were in the computer lab working at the computers on the same task. Small gestures such as these go a long way in maintaining harmony in the classroom.

8. Researcher Reflexivity

Conducting in-depth qualitative research in an elementary school classroom poses unique challenges in the area of privacy and confidentiality, especially in relation to the impact the researcher's presence has on the classroom. In qualitative research, in a practice termed "reflexivity", a researcher himself or herself is considered to be a data collection instrument – that is, he/she becomes an integral part of the data collection. This means that elements of the researcher's personality and personal life shape the way the research is conducted, analysed and interpreted (Patton, 2002, Scurich, 1997) and the researcher cannot disassociate himself/herself from the research and be the invisible fly on the wall" for he/she will "always and inevitably [be] a part of the scene" (Ball, 1990, 159). In the same way that the researcher is influenced by his/her personal life, the participants he/she is studying are also shaped by their own personal experiences. This can become a real dilemma for the researcher who simply wants to investigate a research problem but not become involved in the messiness of human experience. Such researchers should consider carefully the nature of young children before embarking on an in-depth qualitative research study with them. Young children like to talk about themselves and often confide in a trusted adult. Depending on the extent of the researcher's involvement in the classroom he/she may be chosen by a child to confide such things as innocuous as the child's love of Labrador retrievers to things as serious as child abuse. This sort of trust can be wonderful in terms of eliciting valuable data concerning the child's experiences related to the research study, but at the same time, when unrelated to the

study it can be unnerving and discomfiting for the researcher who may not know how to react in such a situation.

9. Rewarding the Students

When conducting research in a classroom it may not always be appropriate to reward the students in a material way. However, if the research is done outside of class time and the children are giving up their free time in order to participate, then some kind of recompense would be in order. For in-class research perhaps the best way to reward the children is by providing a service or resources that would not normally be available. For example, the author arranged and paid for a guest speaker from the local “Ecomuseum” to come and talk to both grade-three classes about biodiversity and to show them some different animals. The author also bought several reference books for the school’s library and some other books for the classroom. The latter are lasting gifts that will benefit many children in the years to come.

10. Presenting Findings to the Students

Depending on when the research is conducted, the researcher may have the opportunity to return to the class and explain what he/she learned from the study. Even if the children have been promoted to the next year, if they are still in the same school they can be contacted and informed about how their participation shaped the research. At the beginning, the children who participated in the author’s study were all very curious about why she wanted to watch them work on a class project. The author explained that she wanted to know how grade-three students looked for and used information so that she could see if there were other ways to help them do it better. She also explained that she could no longer think like a grade-three student and that she need them to be her “experts”. This empowered the children because they realized that their opinions and suggestions for doing things were being heard and taken into consideration and that their work and working habits were valued. In the same way, providing the children with the findings supports that empowerment by letting them see that they have made a valuable contribution.

11. Conclusions

Conducting field research in an elementary school classroom can be a rewarding and fascinating experience which can be further enhanced by careful planning. Knowing where the hurdles are is the first step to planning for them. Although not everything can be anticipated or foreseen, much can be done in collaboration with the appropriate people to mitigate or eliminate any potential barriers to the research. Choosing appropriate data collection methods is a crucial element in ensuring the success of the research. It is also important to be flexible during the field study. Working together with the teacher and the children to make certain that the chosen research methods are a suitable fit and the willingness to change them if necessary can make a huge difference in how smoothly and well the data collection runs. It is up to the researcher to ensure that there are no unexpected hurdles lurking to thwart the progress of the research. Careful planning is the

researcher's secret weapon in successfully jumping all of the hurdles and winning the race.

12. References

- Ball, S. J. (1990) Self-doubt and soft data: social and technical trajectories in ethnographic fieldwork. *Qualitative Studies in Education*. 3 (2), 157-171.
- Denzin, N. K. and Y. S. Lincoln. (1998). *Strategies of qualitative inquiry*. Thousand Oaks, CA: Sage.
- Dervin, Brenda and Michael Nilan. (1986). Information needs and uses. In Williams, Martha E, ed. *Annual Review of Information Science and Technology*: White Plains, NY: Knowledge Industry Publications Inc. for the American Society for Information Science. 21, 3-33.
- Haycock, Ken. (2003). The crisis in Canada's school libraries: The case for reform and re-investment. Toronto, ON: Association of Canadian Publishers.
http://www.cla.ca/slip/final_haycock_report.pdf[Accessed April 17, 2006]
- Large, Andrew and Jamshid Beheshti. (1999). Children's information seeking behavior: A laboratory versus an operational research environment. *Information Science: Where has it been going? Proceedings of the 27th Annual Conference of the Canadian Association for Information Science*. 134-143.
- Lincoln, Yvonna S. and Egon G. Guba. (1985) *Naturalistic Inquiry*. Beverly Hills, CA: Sage Publications.
- Nesset, Valerie. (2005) An exploratory study into the information-seeking behaviour of grade-three students. *Proceedings of the Annual Conference of the Canadian Association for Information Science: Data, Information, and Knowledge in a Networked World*. June 2 – 4. London, ON, Canada.
- Patton, Michael Q. (2002). *Qualitative Research and Evaluation Methods*. 3rd Edition. Thousand Oaks: Sage.
- Sceurich, James J. (1997). *Research Methods in the Postmodern*. London: Falmer Press.
- Shenton, Andrew. (2004). Information-seeking research in schools: Opportunities and pitfalls. *ASLIB Proceedings: New Information Perspectives*. 56(3), 180-186.
- Shenton, Andrew and Susan Hayter. (2004). Strategies for gaining access to organizations and informants in qualitative studies. *Education for Information*, 22, 223-231.