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How is the School Library Used? Mapping the Use of an Upper Secondary School Library

Abstract

To be able to secure an evidence-based development of the library service at a large upper secondary school in Norway, a multi method study was conducted to map the use of the library. Findings show that the library is used a lot by the students from all different branches. The main use is by students working on schoolwork sitting together with others. A stable part of the users prefers to work in the quiet area. Both teachers and students expressed a high degree of satisfaction with the library staff and emphasised the importance of the librarians' presence and availability for the users, both professionally and as responsible adults. Teachers and students alike perceived the library space as an attractive and very important physical place for students to work. A discussion of strengths and challenges of adequate methods for mapping school library use is included. Most research on school libraries concentrate on student achievement and cooperation between librarians and teachers. These are of course essential areas of concern and importance when it comes to discussing the position and function of school libraries. Nevertheless, the use of the libraries has had much less focus yet constitutes an important research area to understand the health of any library and its services. In this article we present results from a study of the use of an upper secondary school library. From 2016 to 2019, several studies were conducted relating to the use of the library at a Norwegian upper secondary school. These studies were a cooperative project between staff at the library and the Oslo Metropolitan University. The school management staff were also involved in choosing the research focus of the study. In this paper, the methods used and some of the findings are presented.

Keywords: evidence-based, school library, library use, Norway

Purpose of Study

The main purpose of the project was to collect data about the use of the library in focus, to be able to secure an evidence-based development of the library service. This was seen as essential since if a request for resources was to be made it needed to be based on current data from the use of the library. This is equally important when the library staff are working to develop the library using existing resources. In this project, we wanted to collect relevant data from a variety of sources.

As a part of an institution, governed by the laws and regulations for education, it is essential to develop the school library based on the needs of the students, the staff and the school management. It was therefore important to include the school management in the choice of research focus.

Several focus areas were discussed, including: the use of the library's physical and digital resources and services, the current status and plan for development of existing services, such as guidance on media and information literacy and different reading projects run by the library. We also discussed the possibility of examining the library's current and potential future role in teaching. It was suggested that evaluating the library's marketing activities could give interesting data. Another aspect that was discussed was to look closer into the library staff's competencies regarding for example the use of computer games in teaching or media and information literacy. In the final design for the research, several of these information needs were met. The main focus was to map the current use of the library; to establish who among the students were using the library, when and for what purposes they used the physical library space. Using focus group interviews, we also collected data about both the students' and the staff's experiences, expectations and development ideas for the school library.

About the school and its library

The upper secondary school in question is one of the largest of its kind in Norway, with approximately 2000 students and 340 staff members. About 230 are teaching staff. The students in upper secondary schools in Norway are aged between 16 and 19 years old. In this school, all branches of upper secondary education are offered, that means both general subjects (called SF) with subjects like languages, history and science, and vocational subjects such as electronics, carpentry and arts, which are called YF studies. The library covers an area of 1400 square meters, including both bookshelves, study desks and seating facilities. There are approximately 200 seats of different kinds. The library was rebuilt and expanded by 900 sqm in 2011. The new rebuilt library also provided space for a cooperative area with an ICT service desk and was renamed as a 'learning centre'. In this text, the term library is used, because the ICT service desk functions are not included in the study.

The library part of the learning centre employs five librarians, in total 4,6 posts. The library reports to the head of general subjects (SF) arm of study. In addition to the library service, the head librarian is responsible for the information service at the school. Two of the librarians use a considerable part of their working hours on information work, among other things maintaining the school's webpages, intranet, information screens and social media. In Norway, all students can borrow their textbooks for free from the school, the school library is responsible for the administration of this service. The library space is open from 8 - 15.30 every working day and has one open afternoon per week. The librarians are involved in teaching activities in the classroom in various ways in different subjects and branches throughout the school year. To

ensure that the students' voices are heard in the library development, a library committee with representatives from the students' council was established in 2018. This committee discusses library issues on a regular basis.

The school library in the classroom

Throughout the school year the library staff are engaged in different ways in classroom activities together with the teachers. Many of these are planned annual activities, the most widely practiced activities are described below. Librarians report that in their experience, timing and a clear connection between the librarian's contribution and the current content in a subject is essential for a successful outcome.

The library staff offer presentations of non-fiction literature on different occasions over the school year. One example is for the third-year students in the subject of Norwegian, where the students are required to conduct an extensive project with several fiction novels over a common subject, genre or authorship. The librarians also have many book talks based on requests from teachers. In addition, of course, students ask for advice on reading when they are in the library.

Over the last nine years, all first-year students in vocational programs have participated in an annual reading project. The participants are reading for one school hour every school-day over a period of 6 to 8 weeks. The reading must be from a printed book. The library has a crucial role in this project, both building up and maintaining a suitable book collection, and in presenting the books to the students in book talks. Many of these students do not have much book-reading experience. Reading is an essential skill in all subjects. The reading project is meant to increase the students' reading skills and generate motivation for further reading. A study of the students' experience with the reading project is planned in 2021/22.

From the 2016 curriculum development, most of the secondary school subjects are required to contain some teaching in media and information literacy. The library staff have experienced an increasing demand for assistance for teaching in these themes and are often in the classroom working together with the teacher and the students.

Research on school libraries

Over recent years, there have been few research studies about school library use in Norway. There are some earlier studies, for example, the study of Elisabeth Tallaksen Rafste (Rafste, 2005). A Swedish research review, published in 2017, gives an overview of different research perspectives of school library research in the period 2010-2015 (Gärdén, 2017). The systematic review conducted by Gärdén identifies studies from both Europe and the USA and is done in a project preparing a government white paper on school libraries in Sweden.

Johnston and Green conducted a systematic review over school library research during the period from 2005 to 2015 (Johnston & Green, 2018). The review includes studies from the USA and follows Neuman's model from 2003 (Neuman, 2003). They conclude that even if a number of studies have been done in the period, there is still a need for more research regarding the school library's role in education.

Both reviews conclude that a number of studies have found that school libraries are an important resource for student's learning. Still, it is difficult to conduct studies that prove this connection, because there are many possible factors that can affect the findings. Most of the studies are looking into the ways the school libraries contribute to student achievement in different areas. Gärdén concludes that there seem to be few projects studying the students' use of the school library (Gärdén, 2017).

Methodology

To achieve a broad picture of the library use, several research methods were used. One of the methods used in this study was a seating sweep method called Tracking the Traffic (TTT) (Høivik, 2014; Olsen, 2020). This is a seating sweep method developed in Norway. It is a standardised observational method used for registering where in the library users are, and what their activities are at a stipulated time. To achieve these data sets, one needs a list of activities (Appendix 1) and a map of the room divided into zones (Appendix 2). The collected data can give useful information about how the library rooms are used during the opening hours. In the TTT-study we used 18 standard categories described in the method to register the students' activities. The data consisted of a sample taken over a period of 4 weeks, five times every day. As the method is quantitative, the users are not interviewed.

To track who visited the library, it was necessary to interview the students. A short questionnaire was developed and presented to the users at the entrance door, on their way into or out of the library. In the questionnaire we asked for information about their subject, the purpose of the visit, what they actually did during the visit and whether they were sent by their teacher or not. The study was conducted during one week and resulted in about 2,100 responses.

There is very high use of the group rooms in the library. To collect data about this, we counted the number of users in the group rooms and quiet areas of the library over a period of three weeks. We also tallied the number of requests that could not be accommodated. We conducted two focus group interviews, one with teachers and one with students (Krueger & Casey, 2009).

Relevant data from a survey at the school was analysed, and a LIS student conducted a survey about the use of a newspaper database. An additional goal of this study was to use the project as an example to show the strengths and challenges of the methods applied, for use in further studies. For many school librarians it is a challenge to find time to conduct studies of library use,

because they are already stretched with their daily work tasks. By developing examples and describing our experiences we hope to offer easier ways for others to document use of their own library. In the last part of this paper, the experiences with these methods will be discussed.

Main findings

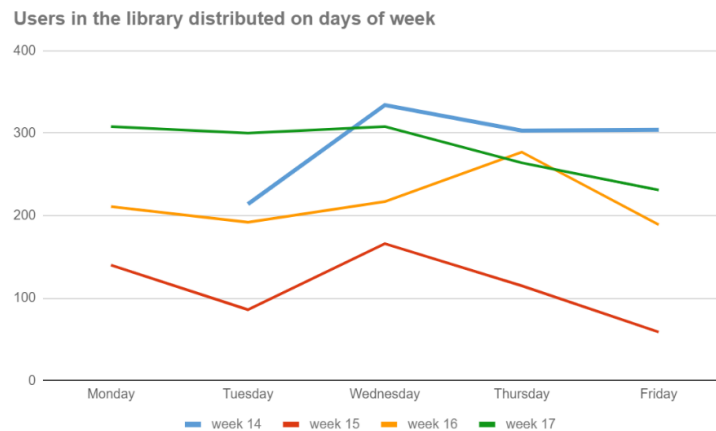
Tracking the traffic

The data from the Tracking the traffic (TTT) study gave informative and interesting data sets. In particular: the actual numbers of users present in the library at different time slots of the day, variations during weekdays, and where in the library the student stayed. This last location information was maybe most important and interesting for further development of the library.

The graph in Figure 1 shows the number of users distributed across weeks and weekdays.

Figure 1

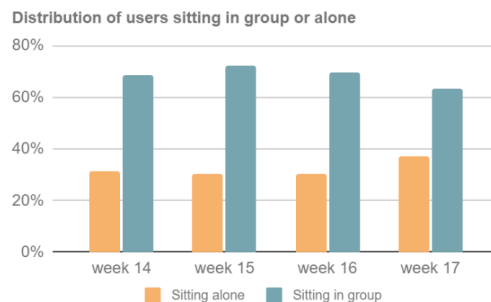
Distribution of users over weeks and weekdays



As we can see from the graph, there are most users in the library on the first three days of the week. The library use varies during opening hours, the main use is naturally between 10 am and 1 pm. The registration of the users' activities using the standard classification gives data about which items are used, and whether the users prefer to sit together or alone when they spend time in the library (Figure 2).

Figure 2

Distribution of users in groups or alone



Being an observational method, we get no specific information about what they use their laptops or books for, or what purpose they have, other than the actual use of the tool. Using a laptop can therefore mean either working with a school assignment or watching a Netflix series or both! This illustrates the need to combine TTT with other qualitative methods where the users are interviewed.

Library users sitting together does not necessarily mean that they are working together. Neither do we need to know. What's important is the fact that they want to sit together. That is important information for future planning of the space and the furnishing of it. The most frequent activity is registered as «in group, using both book and laptop», the next most frequent is «Alone using laptop».

The number of patrons working either alone or in group is very stable throughout the period of registration. About 30-35 % are sitting alone. The use of the different zones in the library is very stable too. About 13 % sit in the quiet area of the library at all times. During the busier periods of the day, 40 to 70 % of the seats in the library are occupied. This does not include «reserved» seats (e.g. seats with a jacket or bag on them, but not a person at the time of registration).

There are some variations throughout the school days regarding the most frequent activities. The most obvious variations are in the lunch breaks, when most of the patrons are not using any media, they sit together chatting. Interesting, since it is not permitted to eat in the library.

One category of activity in the scheme is a «user in contact with a librarian», this is hardly observed at any time. Information about where in the library the patrons prefer to stay is valuable for the further planning of the library. TTT can give quite detailed datasets to document this. By registering the patrons in different zones, this information can be quite precise. The library was divided into 17 zones as illustrated in Appendix 2. The observations showed which part most patrons preferred, and where they preferred to sit alone or in groups.

Use of the group rooms and the silent area

The group rooms were perceived as occupied most of the time by the library staff, and this was confirmed in the focus group interview with the students. This made it necessary to find a way to document requests for group rooms that were not met due to lack of availability. Over a period of three weeks, library staff registered the number of unmet group room requests. It showed many unsuccessful requests for group rooms, an average of 45 requests per week, which represents from the size of the groups an average of 234 students. This number could be expected to be higher if the room reservation system was automated.

Facts regarding the size of the groups using the group rooms was interesting as well. By manually counting the users in these rooms over a period of 21 days it was found that the usual

group size was 2-3 students, but quite a few groups were also of 4 students. The only valid method for collecting this kind of data was manual counting and registering the data in Excel for further analysis.

Interviewing the patrons

Since the TTT study did not give any information about who the users in the library were, we looked for a method to identify them using a short interview. This survey took place at the entrance of the library and lasted for one working week (five days). The survey was done by filling out questionnaires in paper format with very few questions. The information asked for was: class, time of day, what their errand to the library was, and whether they went to the library on their own initiative or were sent by a teacher. The form also included a comment field. The survey gave very valuable information. A total of 2,100 forms were collected throughout the week. The data was punched into Excel for further analysis.

Of course, registering this kind of information for only one week is in no way representative, but still, it can present an image of the patrons' library visits and identify areas for further follow-up investigation.

During this week, the collected data showed that the sample of patrons visiting the library was quite representative of the numbers of students in each different class throughout the school. The highest-level class was a bit under-represented. About 25 % of the patrons were sent by their teacher, the rest came on their own initiative. The majority of patrons were from the general subjects and were overrepresented compared to the other branches of study. Among the patrons from vocational subjects, two branches were dominant. These branches coincided in being the ones that have their classrooms close to the library in the building and the vocational subjects that have most of their subjects in general subjects.

There showed to be significant differences in what the student groups used the library for. As the major part of the general students used the library for doing schoolwork, the major part of the vocational students used the library collections. This could be due to their school assignments this particular week, being a week in their reading project period. Data from several weeks needs to be collected to conclude whether these assumptions are correct.

Conducting the survey met with several complications. It was quite work intensive, both collecting the data standing in the entrance, but even more so the registration of the questionnaire results. Many of the patrons did not give an exact class code, resulting in quite a lot of interpretation work by the staff during registration. There are more than 100 class codes at this school, describing both level, main field of study and branch. But the main challenge with the study was that the informants got very tired of answering the questions over and over again. Many of the library's patrons are using the library repeatedly during a week, and therefore

entering the library space numerous times. Another challenge was the limited time, many of the patrons went into the library during a break and were in a rush. The initial plan was to collect this kind of data over a period of two weeks, but because of the complications this was shortened to one week. Since this survey gave very interesting data, but was very challenging to conduct, it would be very interesting to look for alternative ways to collect the same kind of data.

Focus group interviews

As a part of the project, two focus group interviews were conducted. One with teaching staff and one with a group of students. Informants for both groups were sourced by strategic selection, to ensure a good representation of different subjects, branches, gender and library collaboration experience.

Teaching staff

Most of these respondents used the library much, some of them a lot. All the respondents were very enthusiastic about the library services, both the collections, the physical library and in particular the service offered by the library staff. They also had interesting proposals and input for further development of the library.

Most of the reported use of the collections in this interview was from use of the fiction section, and the librarians' crucial in reader advisory and facilitator for the students' choice of literature was very much emphasized. Both regarding their knowledge of literature and their way of meeting the students. One area of possible strengthening of the library collection was mentioned – the need for literature for students with reading disabilities or challenges.

Several of the respondents had the impression that the library was “underused” by many of the teachers at the school; they were not sure whether the services and resources of the library and the librarians are well known among all the staff.

One useful aspect in focus group interviews can be clearing up misunderstanding and ambiguous interpretations. The respondents in the interview had different interpretations of the expression ‘source criticism’ and ‘information literacy’. Some understood it as information evaluation, others as reference handling and citation practice. This was an eye-opener for the library staff. When communicating available services in these subjects to the teachers one may have to be more precise in describing the content.

The library offers class programs containing both information search and reference handling, these were mentioned as being very high-quality courses by several of the informants. The need for cooperation between the library staff and teachers was mentioned as well. The curriculum of many subjects requires learning how to find and use sources as one of the topics included in the

teaching (e.g. media and information literacy), here there is an obvious area for cooperation between the librarians and the teachers.

The school library has a crucial role in the reading project for the first term vocational students. Three of the respondents in the focus group had been involved in this, and they were all very enthusiastic about both the reading project and the library's involvement. The only potential for improvement mentioned by several was the logistics and planning for the project, to make it fit better into the school working hours.

Another challenge the informants mentioned was that the library might play a role in the acquisition and personal adaptation of different kinds of digital teaching aids. The number of students needing adapted teaching is increasing, and several of the informants were not satisfied with how the school was meeting this current development. The need for clear communication of both responsibility lines and competences was emphasized.

In general, participants asked for more cooperation between teachers and the library staff. One example was cooperation to help students in the language classes find inspiration for creative writing projects. Another was the use of computer games for teaching. The informants envisaged the library staff playing a more active role in the future. These discussions ended up in a creative bouquet of ideas, where the practical question of the time available from the library staff was also discussed.

At the time the interview took place, an area of the library space had been allocated to establishing a 'makerspace' area. The library staff had not been involved in this decision process in the first place, but their inclusion was mentioned as a possible development.

When discussing the library space, the library staff's work with changing book exhibitions were mentioned as being very much appreciated. All informants agreed that it is very important to keep a silent area in the library, being the only area in all schools where one can find a guaranteed silent working space. Some informants were particularly concerned about the importance of this area for some of the students, and maybe not the ones that usually speak the loudest. The informants also knew about the lack of sufficient group rooms.

The library staffs' competencies, which were considered most important by the informants were: knowledge of and book talks of fiction literature, information searching skills and knowledge of reference management. Additional competences mentioned were the thorough knowledge of digital learning media and general competence for cooperation and change.

The respondents liked the practice of having the ICT-support in the same room as the library. They believe this has a good synergy with the other information sources.

Summing up, the following comment made during the focus group interview could be seen as a reminder of how important a good school library is: “Please, keep in mind that there has to be a heart in the library in the future as well. We may not need a leading star, but we do need a heart in the library.”

Students’ focus group

A strategic selection process was also used for the students’ focus group, to ensure a broad representativeness of the students at the school. The school’s Students’ Council includes a representative from each class, so we invited them all. Eight members of the Council agreed to participate. These Council member students are not representative of the typical student. They have been chosen to represent others and can be expected to have a higher level of engagement than the average student. Recruiting for this interview was not easy, invaluable help was given by the Guidance Counsellor to motivate the students to participate.

The students spoke of many different reasons for using the library. Some are sent by their teacher, some get permission to work by themselves in the library from their teacher, some are doing school homework in their spare time – and some are just comfortable staying in the library or meeting friends there.

Getting the possibility to work in the library during lesson time is regarded as an act of confidence from the teacher. According to student respondents, the same group of students are using the library most of the time. During the students’ focus group interview the importance of the presence of adults in the room was emphasized several times. The informants found this presence important for two main reasons: the first that library staff were available to supervise or give guidance, and secondly that the staff ensured and controlled the good working conditions. The students like the silent area on the second floor, in particular when they were preparing for tests. They reported a high degree of self-control in this area, because users respected the rules. They argued in the same way as the teachers, that this is the only quiet area in the whole school and it was important to maintain it.

The insufficient number of group rooms was mentioned several times during this focus group interview. It was the general opinion of the participating students that there was a real shortage of areas available for students to work outside the classrooms. The students were keen to have an automatic digital system for reserving group rooms. At the time of the interview students had to ask for help at the library service desk to reserve rooms.

The respondents said they found the library staff welcoming, approachable and competent. They regarded them as quite strict, but still fair and very willing to help. One of the repeated issues with the library rules was the prohibition of eating in the library. The students would very much like this to be changed. The reason for introducing this rule some years ago, was that the library

staff thought that much time was spent unnecessarily on cleaning up after the students' snacks. Some of the informants claimed that the non-eating rule made the library much less accessible for students, who wanted to use the library for schoolwork in their free time.

Survey of teaching staff use of support functions

In the autumn 2017 all staff were requested to participate in a survey of the school's support functions. The library was one of the functions included in this survey. The library staff were asked to formulate questions about the library service for the survey.

The results of the survey showed that the staff are very content with the library service. The fields where respondents signalled potential for improvement were mainly connected to the library's collection of physical books. Respondents felt that both the fiction and non-fiction collections could be more up-to-date and larger. Several of the respondents also wanted a wider collection of easy-to-read literature for students with learning difficulties.

The survey included questions for teachers, who had participated in the yearly reading project for the first-year students in vocational subjects. About one quarter of these respondents found that their students had had major learning outcomes from the project, while the rest of them answered "agree with" the project. One respondent commented: "45 minutes of continuous reading is too long for students with weak reading skills". Very few of the respondents reported that they use the digital resources available on the library's web pages. These include different kinds of resources, mainly encyclopaedias and media resources.

To follow up on this issue, a LIS-student doing his internship period in the library, investigated this issue further. The library spends quite a lot of resources subscribing to these digital services, and the library staff wanted more information about the use. This study, carried out using a survey among the teachers teaching the most relevant subjects, confirmed the impression. Very few used the resources; some reported that they had intentions of using it more in the future.

Summing up the findings

The library is used a lot by the students, but the numbers of users vary greatly at different times of day. The main use is by students working with schoolwork. Most of those present use both laptops and physical books when they are working in the library, and most prefer to sit together with other students, independent of whether they are working together or on their own.

The patterns and volume of use were clear, with relatively consistent changes according to the day of the week and time of day. The group rooms were in much demand and many students experienced being rejected when they tried to find an available group room. A consistent number of the users (approximately 13 %) prefer to work in the quiet area on the first floor.

There are some differences between the SF and YF student numbers, both in number at the school and their distribution among the library users. The SF students are slightly overrepresented in the library, but not as much as expected. Among the YF students, there seems to be great variation of library use among the different branches of study.

The student participants in the focus group interview expressed satisfaction with the library services. At the same time, they had several requests for improvements, in particular with some of the physical facilities. They also wanted expanded opening hours and less strict rules about eating in the library room.

The respondents, both teachers and students, expressed a high degree of satisfaction with the library staff. The teachers emphasised in particular the library staff's efforts with reading advisory and book recommendations for the students. Both stressed the library staff's knowledge of youth literature and their skills in questioning the student's interest as very important. The teachers also expressed a high degree of satisfaction with the librarians' efforts in teaching information literacy, citing and reference management rules. Both students and teachers emphasised the importance of the library staff presence and availability for the users, both professionally and as responsible adults available for the students. Both teachers and students perceived the library space as an attractive and important physical place for students to work.

Discussion

The collected data has given valuable information about many aspects of how the library space is used. It has also given some information about the students' and teachers' opinions and wishes for the library service. This kind of data is of course based on small samples of users and collected over limited periods of time. However, we believe there is enough consistent data to draw some conclusions about the use of this library.

Some of the findings give quite precise information for potential improvement, one example being the ergonomic improvement of seating. Another clear finding is the importance of maintaining the quiet zones of the library, the use of these areas is under pressure, because of lack of space in the school.

Addressing most of the proposals for improvement are of course a question of available resources, both in the library budget and the available working hours of the library staff.

The library staff, who conducted most of the data collection, agree that they have gained much knowledge through the project. Both from the concrete collected data, and also in other ways; by being given the possibility to look at the library service with new eyes. All the related discussions during the project have contributed to these results as well.

The project report resulted in some immediate response from the school management to address improvements and consider potential changes recommended, such as grants to buy more ergonomic chairs.

The findings correspond well with the ones we have found from other studies, such as the importance of the librarian's different roles and the school library as an important room for both studying and free space in the school day (Gårdén, 2017).

The data collection methods

In this project a variety of data collection methods have been used. These have given different kinds of data sets and can be seen, when brought together, to give a quite extended description of the use of the library.

The project had a meta-goal, in addition to describing the use of this particular library, which was to try to find adequate and not too work-intensive methods for other school librarians, who want to document their library use. There was great variation in how challenging and work-intensive the different methods proved to be.

One experience that relates to several of the data collection methods is the great difference between manual and automatic data gathering. The studies that required manual registering of the data, involved much more work. Both interpreting the data (e.g. class codes given manually) and the actual registering of the data.

The TTT method is quite simple to start using because the method is thoroughly described. It is also a method that results in quite extended data sets about the use of the library room. At the same time, it is a method that uses manual data collection and manual registering of the data. If there were an app developed for the registering use categories, the time needed could have been reduced considerably. It is important to note that the library staff found collecting the TTT data valuable; spending this time out in the library space observing the students' use of the different areas. At the same time, as mentioned earlier, this is a quantitative method that needs to be combined with more qualitative methods to give a complete picture.

The study showed very clearly how important it is to keep variation of the activities during different weeks in mind when planning to map the use of the library. Activities like all-day tests, exam periods, internship periods, reading projects and so on, produce great variety in how the library is used. In the data sets from this project, it seems that both very busy and very quiet weeks in the library were covered.

The most demanding method used in this project was without doubt the registering of students' errands in the library, by asking them to answer the short questionnaire at the entrance door. This

gave very valuable data, such as the class code and the exact purpose of the visit but was extremely challenging to conduct. The method was both work intensive for the library staff and difficult, because the students quickly got tired of being asked, especially on multiple visits on the same day. We have looked for other objective ways of collecting this important kind of data and found it difficult to identify an easier alternative. For example, if one was to ask some of the students sitting in the library, one excludes the ones that go in for an errand and do not sit down. One could also choose some students and not others. It would be easier to ask the ones sitting alone or two together than a group of 6 students talking to each other. If the survey was done by automatic answer selection, for example when leaving the library, it could result in some groups, who always answer, because they feel they ought to and others that never answer because they did not have to. This is an interesting and ongoing discussion that we hope to take further to find a balanced solution.

The focus group interviews were carried out using an established specific method. The main challenge for these was recruiting respondents. In parts of the interviews, it was also challenging to make the respondents discuss their future dreams for the library services, independent of the interview facilitator.

Some of the data from the library's digital systems can be made more out of than this library has done. For example, by adding an automatic counter at the entrance door one can calculate average time for the users' stay in the library during a TTT counting period. By using a more advanced program for reservation of group rooms one could easily find out both who the users are and what the real need for such rooms is. There is also quite a lot of data in the library system that could give information about use of the different library collections.

The way forward

Still there remain many aspects of this library's function that we would like to investigate further to be able to refine the evidence-based development. For example, more data is needed about which classes use the library most and for what purposes to substantiate the existing data with more specific detail. More data is also necessary to find new ways of utilising the digital resources available through the library's subscriptions. Of course, there are many areas of the library services, which are not evaluated in any detail in the study, such as the important work with information literacy, literacy and reading advisory. These areas were touched on in the focus interviews but would require more specific investigation to see how they can be further developed.

We hope this study can inspire other school librarians to map the use of their school library. A sample of data from a number of schools can give a basis of knowledge for further evidence-based development of school libraries.

References

- Gärdén, C. (2017). *Skolbibliotekets roll för elevers lärande: En forsknings och kunskapsöversikt år 2010–2015 [The role of the school library for students' learning. An overview of research and knowledge 2010-2015]*. Kungliga biblioteket | Nationell biblioteksstrategi. Retrieved 1.2.2020 from http://www.kb.se/Dokument/Nationell%20biblioteksstrategi/Skolbibliotekets%20roll_slutversion.pdf
- Høivik, T. (2014). Tracking the traffic in modern libraries [Article]. *Journal of Library Administration*, 54(6), 529-541. <https://doi.org/https://doi.org/10.1080/01930826.2014.953396>
- Johnston, M. P., & Green, L. S. (2018). Still polishing the diamond: School library research over the last decade. *School Library Research*, 21.
- Krueger, R. A., & Casey, M. A. (2009). *Focus groups: A practical guide for applied research* (4th ed. ed.). Sage.
- Neuman, D. (2003). Research in school library media for the next decade: Polishing the diamond. *Library Trends*, 51(4), 503–524.
- Olsen, H. K. (2020). *Tverrgående trafikkteiling i bibliotek [Tracking the traffic in libraries]*. Bibliotekutvikling.no. <https://bibliotekutvikling.no/kartleggingsmetoder/kartleggingsmetoder/ttt-forsteside/>
- Rafste, E. T. (2005, 01//). A place to learn or a place for leisure? Students' use of the school library in Norway. *School Libraries Worldwide*, 11(1), 1-16.

Appendix 1

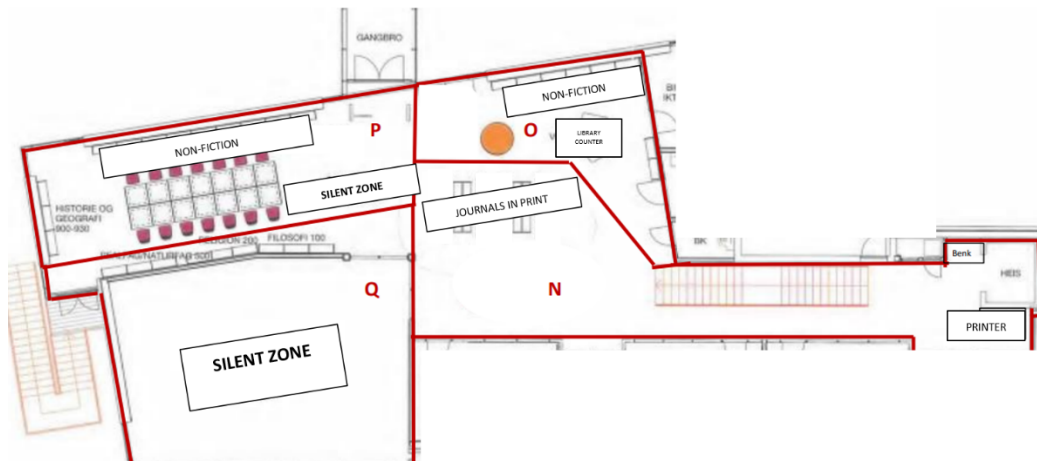
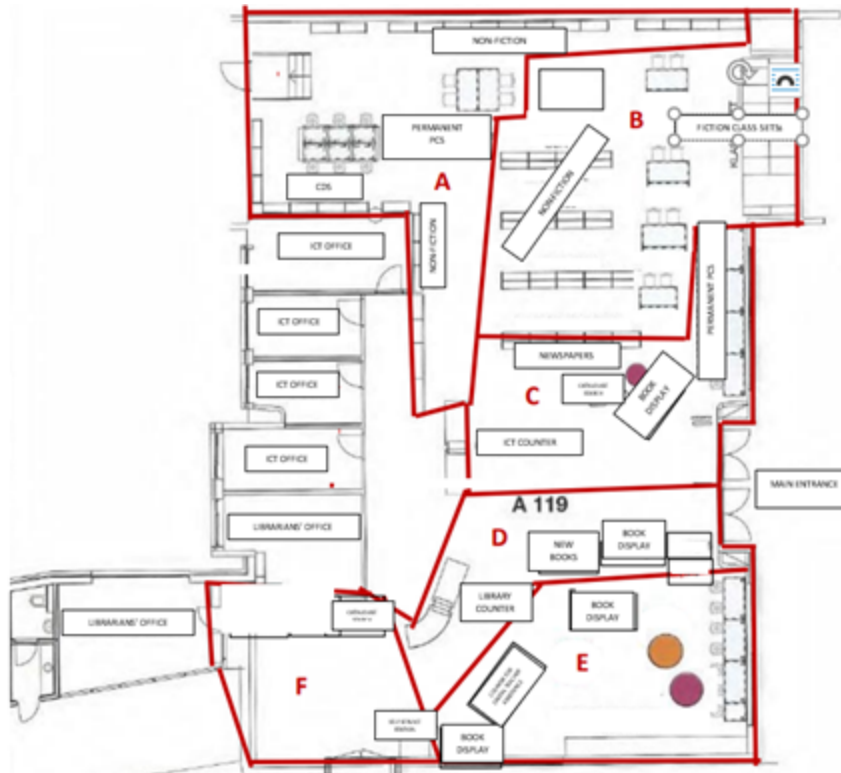
Activities used in the TTT study

ALUP	Walks or stands alone	Covers standing or walking around without browsing and without relating to library staff or other users.
ALBR	Browses alone	Covers browsing or scanning of items on shelves while standing or walking around. Includes watching exhibitions.
ALSI	Sits alone	Sits alone without relating to media, to library staff or to other users.
ALMD	Sits alone reading (or writing)	Sits and reads by her/himself. Includes individual work - reading and or writing - without using data equipment. Includes listening to music, watching videos and using other media - but not the use of computers.
ALLT	Sits alone with laptop	Sits alone with active laptop (active screen)
ALPC	Sits alone with stationary computer.	Sits alone with stationary active computer (active screen).
ALCOMBI	Sits alone with laptop and book	Sits alone with active laptop (active screen) and other media (e.g. book)
ALSF	Individual contact with staff	Covers all direct contact with staff. Here we want to register activities where staff spends time with an individual user, whether it involves speaking, writing, demonstrating or walking around.
GRUP	Walks or stands in company	Participates in a group of two or more persons that stands or walks around without browsing and without relating to library staff.
GRBR	Browses in company	Participates in a group of two or more persons that browse or scan items on shelves together while standing or walking around.
GRSI	Sits in a group without media	Participates in a group of two or more persons that does not relate to books or other media or to library staff.
GRMD	Sits in a group with media	Participates in a group without active computer, where at least one person relates to books or other media. [Use GRLT og GRPC for groups with active use of data].
GRLT	Sits in a group with laptop(s).	Participates in a group where at least one person is using a mobile PC (active screen).
GRPC	Sits in a group with stationary computer(s)	Participates in a group of two or more persons that is using one or more stationary PCs (active screen).
GRCOMBI	Sits in a group with laptop and other media	Sits in a group with active laptop (active screen) and other media (e.g. book)
GRSF	Group contact with staff	Covers all direct contact with staff. Here we want to register activities where staff spends time with a group of several users, whether it involves speaking, writing, demonstrating or walking around.
QUE	Queuing	Covers all visible waiting for service or facilities, whether in a proper line or not: waiting for staff, waiting for access to equipment, toilet queues, aso.
ETC	Other activities	Activities not covered by the other categories.

Appendix 2

The zones in the library used in the TTT study

Ground floor – part A



Ground floor – part B



First floor