

Making and using a new support site for undergraduate nursing students

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Abstract

After a merger of four higher education institutions in Norway, the Norwegian University of Science and Technology ended up with several nursing study programmes on campuses in three geographically dispersed cities. Three library managers decided to launch a product or service specifically designed for nursing students. E-learning has been a way to serve both off-campus and on-campus students alike, and a way of providing the same service across different campuses. Getting students and staff to use new e-learning products, even when they are developed in collaboration with faculty, is not without problems, and librarians need to put in a significant communication effort. The many mergers in higher education mean that many libraries serve a larger, and more diverse, group of patrons, and finding common ground, good collaboration methods and joint services to patrons is important.

Keywords: information literacy, e-learning, faculty-library collaboration

Introduction

As a result of a merger of four higher education institutions in Norway, three different study programmes in nursing were gathered under one umbrella in 2016. The three campus libraries supporting these nursing programmes had not previously collaborated, and a project that could be a starting point for collaboration was suggested. The main goal

was to create a joint learning support service from the library to the nursing students, an equalising initiative of sorts. The mandate was very open, but the steering group wanted a uniform service from the university library to nursing students on three different campuses, in the form of a 24/7 accessible online support system.

The bachelor's students in nursing have explicit requirements for their bachelor's thesis, and a detailed plan of progression that they must adhere to. The plan describes the elements of the thesis, the level of knowledge and skills required, etc. While many students can manage this process without more than the established help and services that all the libraries provide, many also need extensive guidance and repeated help from the teaching librarians.

The project group decided to design a website that could assist nursing students with the literature search for their bachelor's thesis. The website was not designed to replace instruction and supervision from a librarian or a teacher, but as a supplement and a 24/7 help desk where students could access examples and review guidelines at their own convenience. This blended learning approach was seen as an important "harmoniser" between campuses as well as between campus and off-campus students. The goal of the project was thus to create a useful and accessible website where students could find examples closely resembling what they were expected to present in their own theses concerning e.g. Patient, Problem, Intervention, Outcome (PICO) forms, search documentation forms, analysis and search processes.

Working together to create this website gave the librarians in the project group an opportunity to learn more about the various nursing study programmes at the university and about the libraries' role in teaching the students enrolled in these programmes. While librarians at all campuses devote significant efforts to teaching, and nursing students and staff are among the groups that statistically use the libraries the most, a supplement in the form of a website was seen as a prospectively valuable asset by the librarians in the project group as well as within the steering group.

Research question

STEG: litteratursøk for bacheloroppgaven i sykepleie (STEG) was officially launched in March 2018. The project group wanted to investigate if and how such a website could contribute to the students' self-sufficiency and learning. The research question for this study is:

In what way can STEG support nursing students' ability to meet the requirements for

Background

Many academic librarians are involved with some form of teaching. Some have traditional duties, such as library tours and introductions for new students, while others have a role embedded in the curricula, and enjoy more autonomy regarding form and content as well as in designing learning outcomes. The level of involvement differs greatly. While there is no single explanation for the wide variation in librarians' roles, some key factors recur. Generally speaking, information literacy is not "institutionalised" in the sense that colleges and universities share the same understanding about the meaning of this term (Ekstrand, 2009; Rimsten, 2009). Information literacy is rarely addressed or emphasised by the leadership of higher education institutions. Even though many faculty members include elements of information literacy in their course descriptions on their own initiative, they are not formally required to do so. The national qualification framework ("The Norwegian Qualifications Framework for Lifelong Learning (NQF)," 2011) uses ideas from information literacy, but never uses the term, and the skills and general knowledge are not well described. These elements must be included in the structure of the course descriptions if information literacy is to be regarded as the foundation for learning the course content itself (Rimsten, 2009). As long as information literacy is considered as an (unnecessary?) add-on instead of a valuable part of learning course content, it will probably get the customary shrug from teachers and students alike.

Another issue is that, while librarians' typical skills, such as information organisation and retrieval, are still in demand and valued by students and teachers, collaboration between the libraries and teaching staff is not always uncomplicated (Øvern, 2014). The power distribution between the two main parties, librarians and teachers, is unequal. There is some evidence suggesting that librarians know more about teachers than vice versa (Caspers, 2013; Christiansen, Stompler, & Thaxton, 2004; Ekstrand, 2009; Rimsten, 2009). This can be problematic because teachers generally only ask for the services that they know that librarians can provide. The stereotypical librarian is not doing a good enough job in outreach (Dewey, 2005) or promoting his or her skills, and s/he is often frustrated at the lack of interest from faculty (Ekstrand, 2009). Some teachers have old-fashioned mindsets about libraries, and do not consider librarians as related to teaching activities (Rimsten, 2009). Because information literacy is often not described, or only mentioned in a general way, in course descriptions, the collaboration is often a bilateral agreement between teachers and librarians (Asplund, Hakala, Sallama, & Tapio, 2013; Ekstrand, 2009), and whenever there is a change of staff or a restructuring of course content, the collaboration dies out or needs a complete reboot. This can be time consuming and frustrating, particularly for the librarians who need to start over to build the personal relationship with new teachers that they need to gain access. This in turn is connected to the lack of "institutionalisation" of information literacy.

The power distribution problem is most prominent in the context of access to students, which librarians need in order to help students with their information needs. Many students come to the library on their own or with their peers, but librarians cannot reach out with their content, services and skills to all students that way. To make a real difference, librarians need access to students while they are with their teachers in classrooms, etc. Teachers tend to have little class time, or they have too many students to deal with, and therefore time with the student group is precious and can ill be spared. Teachers therefore need to be certain that librarians can deliver content in an efficient and effective manner. That is not an unreasonable requirement. Librarians, while just as diverse in their teaching efforts as everyone else, generally have little formal education on the subject in Norway (Øvern, 2014). Their training is mostly done on the job or as supplementary, single courses once they have entered their profession. Many librarians are left to trying to figure it out on their own (Houtman, 2010). The lack of class time leaves many librarians stuck with providing so-called “one-shots”, a practice that usually includes being invited into a class for a single or double session (45-90 minutes) on library research (Buchanan & McDonough, 2014; Phelps & Hyde, 2018). The one-shot is often a difficult affair, as the librarian most times has very limited knowledge on the students’ previous knowledge and skill levels, as well as very limited time to convey concepts and skills that would be better conveyed in a more distributed manner (Phelps & Hyde, 2018). There are some ways to address this, however, either by supplementary workshops, or, as in this case, a website to help the students with practical, concrete examples.

Yet another issue is the resource situation in libraries. Many libraries are understaffed and overworked, due to a general increase in student numbers and activities. This has led to more pressure on all services, and librarians often have to juggle many tasks. Unless the library has a strong emphasis on teaching and staff development, this lack of resources can be challenging for those who are trying to gain more experience and develop their teaching skills. However, as an answer to the increase in activities and the call for more student learning support, many libraries have started using social media and other communication platforms to support their teaching efforts. At the Norwegian University of Science and Technology the librarians have spent time and effort in building a scaffold over a period of 10 years that can support learning for students that are either off-campus or cannot join some teaching sessions. Videos ranging from lecture capture, screencasts and movie-like trailers (short videos) to podcasts, websites and self-paced courses have been published on a variety of platforms to give students the option to help themselves. This has been done in addition to making library services more accessible through communication on more platforms, e.g. chat, and installing library systems that make self-service opening times happen. Still, even within the newly merged institution, these services and the librarians’ involvement vary greatly. The development of the product described in this article is the first of its kind at the Norwegian University of Science and Technology. Although the different libraries at the institution have produced their own videos, podcasts etc. before,

this is the first product that includes many different examples in one uniform product.

E-learning exists in many forms; some e-learning sites are self-paced tutorials, some are workshop-like (with assignments and tests), some are more interactive, where the teacher or librarian is available for feedback, and some are not much more than a document archive with a few add-ons, like quizzes or a Q&A section. The number of institutions and organisations that offer 100 percent e-learning programmes is on the increase (Allan, 2013), but blended learning, mixing e-learning with traditional face-to-face interactions, seems to be a more popular option for many students (Allan, 2013; Blau et al., 2018).

All these issues form the backdrop of why the libraries are trying new forms of outreach to students. Developing a collection of examples with concrete tutorials meant that the librarians' expertise was available to students 24/7, without spending all of the libraries' resources on one group of students. It also meant that, while the librarians sought collaboration with the teachers during the development of the product, and the teachers' help in promoting it, etc., they did not have to spend more class time than before to offer a better service to them and their students. Last, but not least, it made the services from the libraries more equal, in the sense that it offered this product to all nursing students on all three campuses.

Method

STEG: litteratursøk for bacheloroppgaven i sykepleie (STEG) was developed over some time, from October 2016 to January 2018. It was launched in March 2018. The initial assessment was done in May 2018. At one campus the librarian asked students to fill out a questionnaire. This was not possible at the two other campuses, but a librarian at one campus had a meeting with a "course reference group" consisting of some student representatives and teachers in charge of the course. In November 2018, a short questionnaire was sent to all teachers who had acted as supervisors for the students who handed in their theses in May 2018. In addition, usage data were collected from the learning management system (LMS) for the period March - May 2018.

Questionnaire to students

During a lecture for the student group on one of the campuses, a questionnaire was handed out where questions about the use of STEG were included. The following questions were asked:

1. Have you seen STEG in Blackboard?
(Answer options: Yes, No, Do not know)
2. Have you used the resource?
(Answer options: Yes, No, Do not know)

3. If yes, how satisfied were you with STEG?
(Answer options: Extremely satisfied, Fairly satisfied, Satisfied, Not satisfied, Extremely dissatisfied)
4. If you have not used STEG, why not?
(Answer options: Did not know it existed, Did not need it, It was cumbersome to register, Other (open comment field))
5. If yes, do you have any suggestions for improvements?
(Answer options: Open comment field)

Reference group

At one of the other campuses, STEG was evaluated in a course reference group with participation from student representatives and supervisors/teachers. The librarian was granted access to one of their meetings to discuss STEG. The students were asked the same questions as in the questionnaire mentioned above.

Questionnaire to supervisors/teachers

The student evaluation was supplemented with a questionnaire to supervisors/teachers. The following questions were asked:

1. Did you and your students talk about STEG?
(Answer options: Yes, No, Do not know)
2. If no, why not?
(Answer options: Did not know about the resource, There was no time in the tutor sessions to discuss the resource, Open comment field)
3. Did you get the impression that your students used STEG?
(Answer options: Yes, No, Do not know)
4. If yes on question 3: Do you think STEG was useful to the students?
(Answer options: Yes, No, Do not know)
5. If no on question 3: Why do you think the students did not use STEG?
(Answer options: Did not know about the resource, The resource was not useful, It was cumbersome to register, Open comment field)
6. Do you have suggestions on how to improve the resource, regarding content, design, access, etc?
(Answer options: Open comment field)

Weaknesses of the methodology

Access to students was an issue in the assessment and feedback of this product. While the students were working on their theses, they had few or no joint lectures or other class time. When the students had handed in their theses, they were preparing for their oral exams, and were not accessible to the librarians. This made it hard to reach the students for formal feedback. At only one campus was it possible to get enough students together to have them answer the questionnaire. The questionnaire was linked in the LMS, but no additional responses were registered from there.

Access to the supervisors/teachers also proved somewhat difficult. When the questionnaire reached the supervisors, they were busy marking the theses and other assignments, and this may be the reason why only 13 of the 64 supervisors responded. In retrospect, the authors see that they could have included broad or in-depth interviews to get more data. Because STEG is a new service, and it will continue in the same format until further development can be done, it is possible that this can be done later, when the product is better known.

Results

While this article is about using the new product, a description of the product itself is included to provide a background for the usage results.

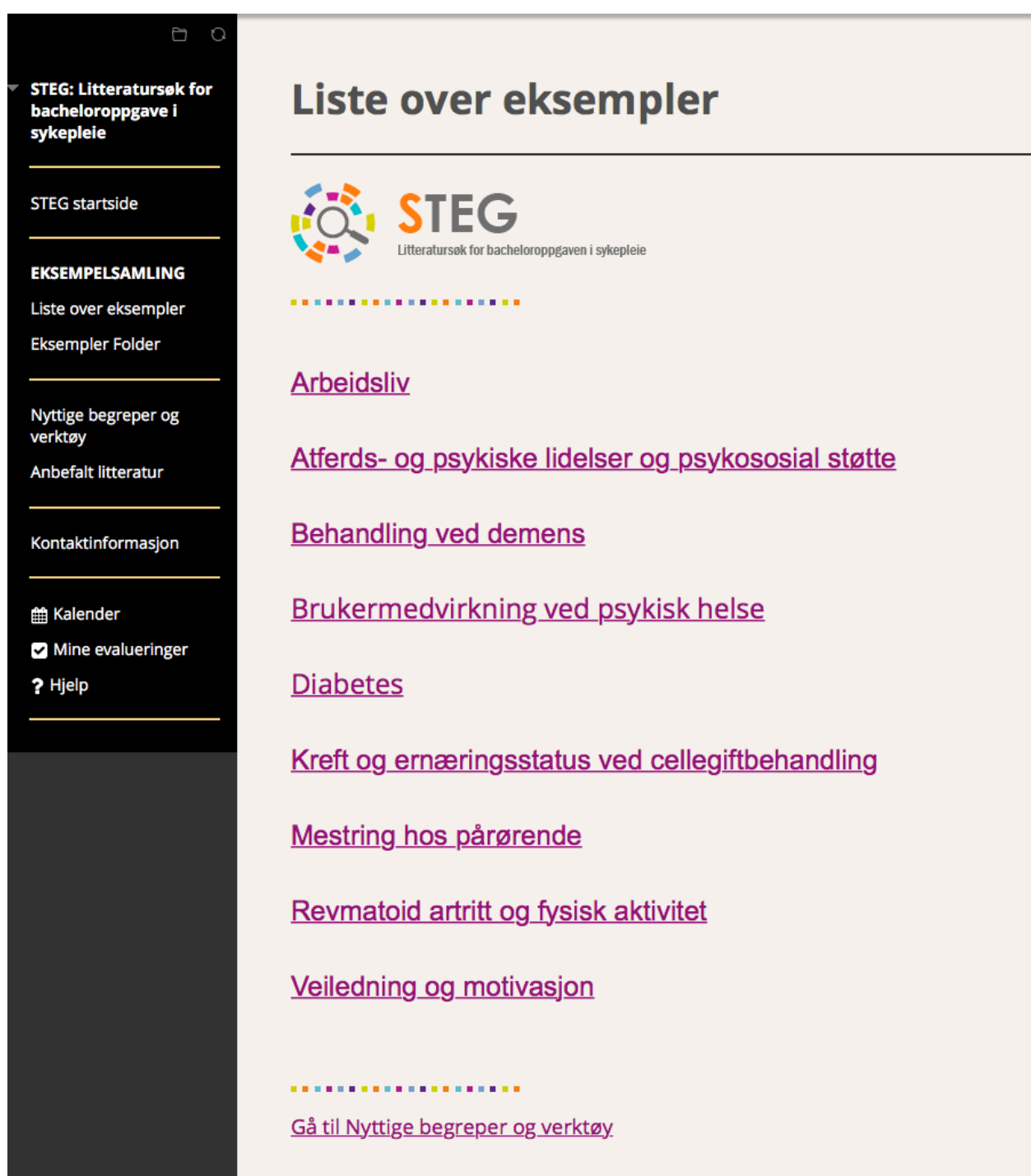
The product

The end result from the project became a product named STEG: litteratursøk for bacheloroppgaven i sykepleie (STEG) (translation: STEG: literature searching for the bachelor's thesis for nurses). The product consists of examples of how to find search terms and search for articles, how to use a search documentation form, and other relevant information, e.g. PICO forms, flow charts, etc. There are plenty of academic writing sites online that offer support on a generic level. Norwegian University of Science and Technology has its own platform for that. Although these sites offer support on important aspects of academic writing, such as structuring the paper, reference management etc., they do not provide extensive examples relevant to all subject areas. The idea behind the product developed in this study was that students could access some practical examples directly related to their bachelor's thesis. Therefore, all examples were developed on the basis of subjects in former bachelor's theses, and these were developed to match current objectives for the bachelor's thesis at the Norwegian University of Science and Technology. The examples were also discussed with faculty, and faculty members participated in testing the product.


STEG's content is placed in one main content box. In addition to this, there is a category for tools, methodology, suggested literature, etc. There are nine examples, and because the

Making and using a new support site for undergraduate nursing students structure is set, librarians can add on more examples on demand.

STEG: Litteratursøk for bacheloroppgave i sykepleie | [Liste over eksempler](#)



Liste over eksempler

 **STEG**
Litteratursøk for bacheloroppgaven i sykepleie

[Arbeidsliv](#)

[Atferds- og psykiske lidelser og psykososial støtte](#)

[Behandling ved demens](#)

[Brukermedvirkning ved psykisk helse](#)

[Diabetes](#)

[Kreft og ernæringsstatus ved cellegiftbehandling](#)

[Mestring hos pårørende](#)

[Revmatoid artritt og fysisk aktivitet](#)

[Veiledning og motivasjon](#)

[Gå til Nyttige begreper og verktøy](#)

The structure is set for all examples, but the search strategies, interface, etc. may differ a little between them. A typical structure for an example is:

- A presentation of the example topic
- Research question

- PICO form
- Possible search terms
- A generic video on how to locate search terms
- A presentation of some databases that could be useful for the subject
- A search documentation form
- Video that shows searching for the particular subject in one or several of the databases

The examples were developed by all three librarians involved in the project, and there are therefore slight differences in how they built the search, how they made the videos etc. Still, they all followed the overall structure, and the project group decided that it was a strength in the product that there were slight differences in the examples so that students could see that there was more than one way to do this.

The product was developed in the Norwegian University of Science and Technology's LMS. This gave the project group some challenges. The graphical user interface (GUI) of this LMS was not very appealing and exciting for end-users, and the project group had to rely on the resources available in the LMS itself. Another concern was that the content would be locked into the LMS, and that it would not be available to other users and that exporting content would be more difficult than if an open platform like WordPress had been chosen. Still, the decision to place this content in the LMS was made based on where the students look for information. Norwegian University of Science and Technology has many platforms, and it was important for the project group to make sure that the content was located on a platform that the students would have to use. The product was released in early 2018, open to all students of Norwegian University of Science and Technology, since there was no way to give automatic access to the nursing students alone. Manual access management could not be undertaken, and automatic access to all students was therefore the only option. A direct link to the product was placed in all relevant rooms in the LMS. However, students needed to register manually (similarly to signing up for a course) after clicking the link. The product would then show up on their course list.

Using the product

Results from the questionnaire from one campus

The initial questionnaire showed that 17 of the 38 students who answered had seen STEG in Blackboard. 16 had not seen STEG and four answered that they did not know whether they had seen it.

Of the 38 students that answered the initial questionnaire, 26 had not used STEG. Eight students had used it, and four students did not know whether they had used it. Of the eight students that had used STEG, four were fairly satisfied with it, two were satisfied, one was extremely satisfied, and one was not satisfied. Of the 28 students that answered the

question: “Why have you not used STEG?”, 14 answered that they did not know that it existed, eight answered that they did not feel that they needed it, four said that it was cumbersome to have to register for it, one said s/he forgot it and one said that s/he did not want to spend time learning something new. In the open-ended question, “What could be done to improve STEG?”, only one commented, and said that s/he wanted more videos and examples.

Results from the reference group meeting

Results from the reference group meeting showed that the students had little or no knowledge about STEG. It turned out that only one of the three students participating in the meeting had heard of the resource. But although s/he knew about it, s/he had not used it. S/he reported that because none of the examples matched her/his research question completely, s/he had not seen the value of using STEG.

Results from the questionnaire to supervisors

Thirteen of 64 supervisors answered the questionnaire. Ten supervisors out of the 13 that answered said that they had talked to their students about STEG. The three supervisors that had not talked to their students about it said that the reasons for this were that they had not heard about STEG (n=2) or that they had forgotten (n=1). Eight supervisors had the impression that their students used the resource, two did not think their students used it, and three supervisors said that they did not know whether their students had used it. The supervisors who thought their students had used it, thought that it had been useful (n=8), while two answered that they did not know. Of the five supervisors who answered either that they did not know if their students had used the resource or that they did not think that the students had used it, three answered that they thought the students did not know about STEG. In the open-ended questions about suggestions for improvements, supervisors commented that they would like more examples in the resource, that it should be easier to find, and that the examples should closely resemble the instructions that the students receive in their face-to-face interactions with teachers and librarians.

User statistics from the LMS

Usage data was collected from the LMS from the official launch of the product in March 2018 until the students handed in their theses in May 2018. Due to the new General Data Protection Regulation (GDPR) that applied from 20 July in Norway, statistics of use could no longer be collected from the LMS, and consequently it is not possible to get updated usage data now.

The data from March to May 2018 showed that there were in total 672 visits to STEG, distributed thus: 363 visits in March, 151 in April and 158 in May. The nine examples had varying popularity, where the broadest topics, such as motivation, coping and dementia,

had the highest number of visits. “Visit” is defined as the number of times the link to the example has been clicked.

Table 1 User statistics from the LMS

Title of example	# of visits in March	# of visits in April	# of visits in May
1. Work life	15	14	31
2. Behavioural and/or psychiatric disorders and psychosocial support	40	16	36
3. Dementia treatments			
4. Mental health and client participation	69	19	31
5. Diabetes	38	27	22
6. Nutritional status for cancer patients undergoing chemotherapy	44	17	9
7. Coping strategies for family members	28	11	1
8. Rheumatoid arthritis and physical activity			
9. Patient education and motivation	60	17	10
	12	10	6
	57	20	12

The title of each example has been directly translated from Norwegian as it appears in the LMS. Some examples have a very broad topic title, like Work life, while others have a detailed description of the topic covered, like Nutritional status for cancer patients undergoing chemotherapy.

The examples with the more general descriptions were the most visited. There is no data on why that was, but it is natural to assume a few possible reasons for this: either the descriptions, such as “Work life”, were so broad and general that users had to click on them to find out more or more students had research questions that more closely resembled these broad, general topics.

Discussion

According to a study by the European University Association (Gaebel, Kupriyanova, Moranis, & Colucci, 2014), ‘practically all higher education institutions [...] have started to embrace e-learning. [...] Besides pedagogical and economic motives, the institutions refer to a growing need for flexibility of time and place, and better use of resources, benefiting both residential students and a wider range of professional and other lifelong learners.’ (p. 7). Still, e-learning is not a convenient “one-size-fits-all” solution for all kinds of challenges concerning resources. For one, it is not the preferred method of learning for many students. It can also be costly and time consuming to produce high-quality multimedia content for such platforms and it is difficult for learners to prioritize the time for it (Allan, 2013, p. 134). A cost-benefit analysis cannot be done for every decision on whether or not to make new material for students, but higher education institutions would be well-advised to have definitive strategies and guidelines in order to make it easier for the faculty and libraries to make good decisions regarding development of new learning materials.

As the usage statistics and the other responses here showed, even when learning materials are developed for a particular user group according to course descriptions and in collaboration with faculty, it does not necessarily follow that the staff and their students will make use of it. STEG has only been tested for one semester, and it is possible that usage will accelerate when it has been introduced from the start for new students, and that supervisors are more aware of the product. However, as the authors of this study found, one should not underestimate how much promotion a new service needs before it is rooted in students’ consciousness. The most prominent feedback that was received in the questionnaires was that the respondents were not aware of the product, even with mentions of it in meetings, lectures, info screens, flyers and a link in the LMS. Still, the total of 672 visits in three months, distributed over nine examples, indicates that the students and supervisors who did use the product used it more than once or clicked on more than one example.

Issues concerning the balance of power between faculty (including supervisors) and librarians can be a roadblock for librarians, particularly concerning access to students. A website was seen as a possible way to gain access to more students without having more class time. It was also seen as a potential win-win for librarians, students and staff alike, because the librarians could reach further with their specialist knowledge without spending more face-to-face time with students and they could manage more students with very limited resources, while faculty could also gain access to the information without having to ask librarians for help directly. Students had better access to, at least some, information through STEG. It remains to be seen whether the product had the intended effect on student learning and whether the use of the product could justify the time and energy spent on development and maintenance of the product.

STEG was developed within the LMS because it was important for the steering group to have a service included on a platform already in use by the students. While this was a good opportunity to integrate the service in the course descriptions for the bachelor's theses, and a good opportunity for the project group to become more familiar with the LMS, in retrospect, an open platform would have given the project group more scope for development. As the main reason for not using the product was reported to be a lack of knowledge of the existence of the product, placing it in the LMS seems to have had little effect. A few of the students responded in the initial questionnaire that it was cumbersome to have to register to gain access to the content in the product. While this has been made easier now, it still requires an action to gain access. It may be assumed that placing the content on an open platform, such as WordPress/ Blogger or an open website, could have given the project group more scope for interaction with the user group, either with using quizzes or other self-tester tools, through comments, etc. These features were also available in the LMS, but were challenging to find and use. Bringing the content to the open web could also have been a way of communicating with other librarians who teach, and they could have given useful feedback as to the further development of the contents as well as picking up useful tips for their own teaching practices. The steering group will consider moving the content out of the LMS and on to an open platform at a later time.

The nursing students perform a literature review for their bachelor's thesis. The requirement specification is comprehensive and requires the students to write a literature review with a detailed methodology chapter on literature searching etc. Many students are able to meet these demands with help from their supervisors and librarians with traditional lectures and face-to-face sessions. Many students also find it helpful to have access to concrete examples on searching, documenting and evaluating research articles. An online service, like a website, may be a good bonus service for these students, as it is always open and accessible. Still, the problem may be that the students see it as an extra burden on top of an already heavy workload, an add-on that they have to spend time learning, instead of a useful tool that can help them understand the principles for the literature review.

The content in STEG was the same for students on all three campuses, though it is possible that the principle of equality was more important for the libraries than for the students and faculty. In a longer term, however, a joint web-based tool may become more important also to the students. Currently, the three bachelor's degree programmes in nursing have separate curricula and it can be assumed that the students have little interest in whether their library services are the same. However, from 2020 these curricula will be replaced by one joint curriculum. Teaching methods, courses, assignments and so on will also be harmonized and coordinated. Perhaps the students will, to a greater extent, feel that they belong to the same institution/university and that access to a joint online support product will mean more to them.

Conclusion

E-learning is on the rise worldwide, and more institutions now use 100 percent e-learning courses to ensure access and availability to content for more diverse student groups. STEG is a collection of examples related to building search strings, database searching and documentation of searches for bachelor's students in nursing. Initial feedback from students and supervisors indicate that having access to an online support product can increase students' ability to perform and document database searches. Further data and assessment are needed.

STEG will be continued as a service in its current configuration for the next set of students during their bachelor's theses. Due to GDPR, statistics from usage can no longer be collected, but further assessment in other forms will be performed. Some feedback from students and supervisors suggest that the product should be further developed with more examples. In March 2019, the steering group decided to take STEG to a new phase. A new project group will work on updating and developing the content and decide whether or not the content should be moved to an open platform.

The libraries at Norwegian University of Science and Technology will have to promote the product more regularly and through different channels in order to reach the students and faculty. It takes time for new services to be firmly established within a user group, and support services that are not mandatory for the students will have to be developed and promoted over time to become rooted in the group.

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