



## It Takes the Entire University Community to Educate Students in Becoming Academics

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### Abstract

*Development of scientific thinking is considered an essential but challenging aim of academic studies. In practice, this challenge becomes evident when students begin preparing their theses. Therefore, proper guidance combined with suitable guidance methods are needed. The staff of university libraries face this daily challenge through students' questions, which often start as 'what' questions and morph into 'how' questions. Based on these genuine necessities, a new collaborative model to implement guidance for students was developed at the Open Science Centre, Library at Jyväskylä University, Finland. The model is constructed of three intertwined principles: 1) strengthening student agency, 2) producing diverse but explicit open access e-learning material and 3) cooperation across all academic guidance units. The learning material includes a work process that models the central stages of research, such as orientation and setup, questions, concept analysis, academic resources, search strategies, reliability and ethics. Concrete tools for planning research processes are also included in the material. Cooperation across units aims at developing a new guidance culture. This combines academic content (what) and work processes (how) and uses a multiple range of pedagogical methods and technologies for different types of training and disciplines. A model for shared guidance responsibilities is perceived as necessary to respond to students' multiple guidance needs and to avoid the belief that it is someone else's job to train them. Based on students' feedback, this shared guidance model is promising, reflects true care of students, offers a safe learning environment and provides multiple resources for learning.*

*Keywords: learning communities, student agency, research process, guidance, modelling*

### 1. Introduction

Traditionally, the core task of Finnish research universities has been knowledge production through scientific research. In degree education, this aspect challenges educators in two ways: 1) Through educating new students, research communities can ensure the continuity and cultivation of comprehension in the field. Therefore, it is important to determine what is already known in the field and how students can achieve this level of knowledge. 2) Ensuring a solid knowledge base in education may easily transfer into a pedagogical practice/approach that ignores students' real learning needs and learning processes. This can be especially true when students start to prepare their theses. They may lack full understanding of the research process and related concepts, and therefore, they do not know how to ask for guidance in the different stages.

In Finnish culture, people become acquainted with libraries from early childhood. In addition, in the academic community, the library reaches everyone. Thus, after receiving study assignments, students often come to the library seeking help. 'I need some sources for my topic. What might those be?' are typical opening lines heard at academic libraries' service desks. Repeated questions from students and their frustration with information seeking have enlightened library staff regarding the genuine needs of students. Staff are challenged not only to offer good customer service with quick answers, but to develop a new kind of collaborative model to better support students. In this paper, we present the principles of this model, which include the aspects of student agency, the modelling cornerstones of information seeking and guidance as a communal effort across all units.

### 2. Purposeful learning through fostering student agency

Although recent studies on higher education (e.g. [6]; [10]) have emphasised the role of agency as essential for purposeful learning, we argue that student agency has not been noted enough in both the teaching and guidance practices of higher education. Through their studies, students construct their perceptions of themselves as learners as well as future experts in their respective fields [5]. Thus, if the purpose of higher education is to empower students to become competent in their fields, their agency as learners should be supported, e.g. with facing their genuine fears, challenges as well as aspirations in learning and treating them as whole persons.

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Jääskelä et al. [4] view student agency as an interrelationship between a student and his/her learning environment. It is constructed of intertwined resources for purposeful learning in the context (i.e. resources that are perceived and experienced by the students) as follows:

- Individual resources refer to students' self-efficacy and competence beliefs.
- Relational resources consist of experiences of emotional support, trust and equal treatment from the teacher.
- Participatory resources refer to students' experiences of being able to influence, make choices and be heard.

By applying this definition in practice, we have found that weak agency experiences in one resource area are often related to weak experiences in other resource areas. For example, if a student lacks competence (e.g. in seeking information) and has been left alone in his/her tasks, the student can feel defenseless and unable to ask for help from the department's faculty—depending on the guidance culture constructed in the departments.

Klemencic [5] argued that students are likely to be 'agentic' and will try to influence their educational trajectories. She later [6] noted that it is important to determine to what extent students are prepared to take responsibility for their own learning when we foster student agency. Thus, recognizing the students' needs and preparedness for learning is important. For example, engaging in the quickest possible way to meet individual demands may offer an impression of effective and qualified customer service; however, it has little to do with support of agency or meeting the essential aims of academic studies.

Ronald Barnett [1] has described the pedagogical challenges of higher education, especially in the fields of knowledge and ontologies. One of these challenges deals with content-based knowledge construction in education, which suggests offering more space for disciplinary wonder. The second challenge involves learning processes and skills, suggesting a greater focus on pedagogical processes that offer students possibilities to grow as human beings and ultimately foster agency. The theoretical views described above constitute a basis for the practices discussed in the following sections.

### 3. Modelling the information seeking process

Information seeking is a central part of the scientific method, and it is mentioned as a required competence in the framework of the university's curricula for 2017–2020 [8]. In the library, staff is constantly facing students' deficits in understanding this method. Information seeking is often experienced as a confusing and even an oppressive process by students. While normal, these emotions are possible to overcome. In guidance situations, the library staff accepts students' uncertainty related to their study tasks. To help with academic processes and to support students' sense of self-efficacy, a model as well as learning material aimed at guiding the process of systematic information seeking in research was developed. The model (Fig. 1), which is presented in the Library Tutorial (described below), was created together with students and based on their questions, needs and experienced challenges. The model aims to make the processes visible to such an extent that the students themselves learn to apply them to their work [11].

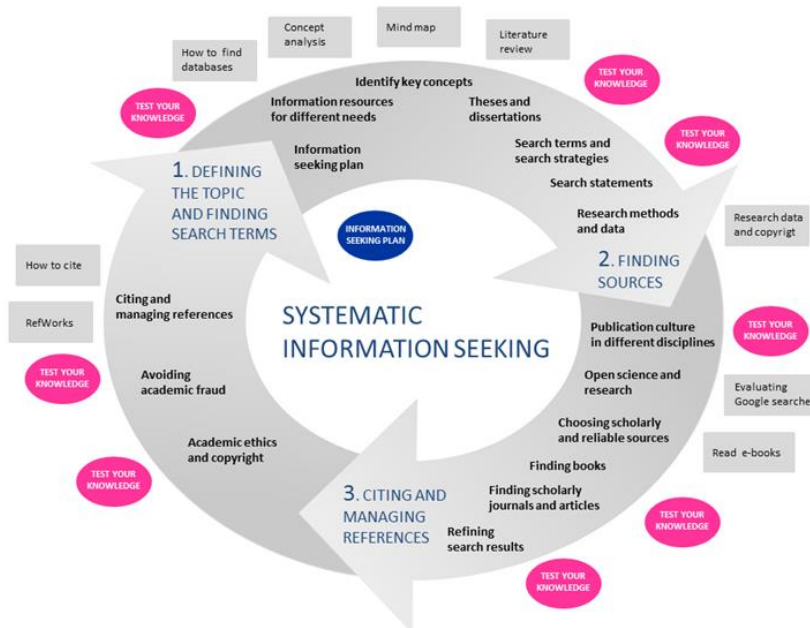


Fig. 1 – Systematic Information Seeking model



Library Tutorial is an open access e-learning resource. Its multi-channel material consists of quizzes, videos, examples and links as well as a guided tool for the information seeking process. It aims at providing students with a basic understanding of the different steps of information seeking in the research process. It also offers the students concepts for discussing their research processes. Instead of giving pat answers, the material challenges students to actively process their research topic to better understand and locate information about it. After learning the basics of the process, students can actively develop it further in either their academic or professional contexts.

The material can be learned via either a self-study online course or as a part of communication studies. In addition, the learning material can be flexibly used in blended learning and in various classroom activities using different pedagogical methods and technologies (e.g. flipped classroom and peer tutoring). The optional online course was planned and implemented in 2016, and it has sparked both students' and teachers' interest. It is a part of the curriculum guide made by the students' union at the university [2]. The material and the course outline are constantly being evaluated and developed based on students' feedback.

#### 4. Guidance of an academic learning process as a communal effort

In academic settings, where only research-based publishing gives credits, the uniform attitude towards the development of teaching is that it is both demanding and time consuming [3]. Furthermore, it is challenging to develop guidance practices with courses of action that are established and stable in the community.

In addition to the faculties, the Language Centre and the Open Science Centre both offer educational services to students during their master studies. The Language Centre provides discipline-specific language and communication teaching (e.g. in academic reading and writing). The Open Science Centre, including the university library, addresses questions concerning open science and research, especially regarding academic publishing and the management of research data. Both centres have a long tradition in educational cooperation with all university faculties. Both have also renewed their educational modules during the last decade to better connect their educational interventions to the academic processes with which the faculties are charged.

The developmental work described above has been facilitated by the university's interdisciplinary network initiatives—'Interactive teaching and learning' and 'eEducation'—which have gathered all faculties and units to both learn from each other and to plan communal projects. The initiatives have served as the forum needed for both sporadic pilots and more systematic cooperation across units to facilitate the development of a new guidance culture.

The Jyväskylä Model of shared responsibilities for guidance in learning the scientific method (Fig. 2) combines academic content and the work processes for different types of training and disciplines. It is a necessary tool for communal development, and it visualises all stages and responsibilities needed in the qualified guidance of students. The model, which was developed by the Open Science Centre, exposes the research process from the information seeking perspective; however, the content and the responsibilities are contextual, flexible and constantly negotiated (e.g. as part of the faculties' curriculum processes).

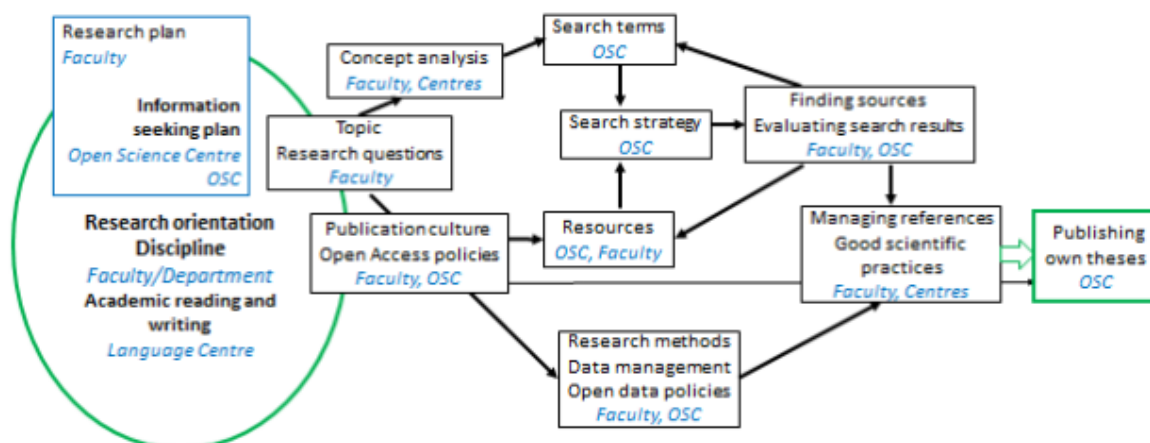


Fig. 2 – The Jyväskylä Model of shared responsibilities



The faculties have accepted this tool as a starting point, which has both simplified and enriched shared development. Students' feedback concerning the modelling has been very positive: e.g. 'This development work shows the brilliant responsibility of the library personnel for students' learning. And, at the same time, it fortifies the students' sense of security for learning, thanks to this mindset of a "whole village project".' [9]

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