

UNIVERSITY OF TWENTE.

EST Pre-Master Self-Study Package

Experiences and Attitudes

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Bachelor Thesis

Abstract

The intent of this Bachelor Thesis was to investigate experiences and attitudes of Educational Science and Technology (EST) Pre-Master and Master Students towards an online self-study package. This package was set up to prepare potential EST Pre-Master Students for the on-campus EST Pre-Master Program. The study was conducted on behalf of the Faculty of Behavioral Science at the University of Twente. In total twelve respondents were asked nine closed questions about usage and effect via a Likert Scale and three open questions about value, satisfaction and suggestions for improvement.

It was found that the students use the package in general, yet they do not use it frequently and have mediocre opinions about the effect the package would have. The package has both advantages and shortcomings according to the students' responses. Advantages are an opportunity to prepare them for the actual EST Pre-Master Program, gaining first insights into the content of the program and getting used to and practice standards at a university. Listed shortcomings contain little support from the faculty and no feedback from experts as well as an overwhelming content and little motivation. These findings are presented elaborately and give suggestions for improvement and new ideas. It concludes with bringing together and interpreting literature findings and outcomes from the questionnaire.

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Introduction

Many pupils and students from diverse professional areas wish to have a Master graduation for Educational Science and Technology (EST); Even though they did not graduate as Bachelors at a university or have other required qualifications. The University of Twente in Enschede (NL) offers an EST Pre-Master program for those without a qualifying graduation to be able to follow the EST Master program. For the academic year 2014/2015, the extent of this program has been reduced from 60 to 30 European Credits (ECs). Yet, to prepare future EST Master Students appropriately, an online self-study package was set up. This EST Pre-Master's online self-study package aims to prepare interested students for the EST Pre-Master's courses on-campus. All essential and basic knowledge that enables potential EST Pre-Master Students to participate in the courses will be offered in this self-study package. The package is non-obligatory, but it is highly recommended to read the literature that is offered in the self-study package and work on the self-study assignments as the provided content is assumed to be basic knowledge throughout the EST Pre-Master as well as the EST Master program ("Selfstudy package", 2015).

The online self-study package contains information texts, introductory videos, scientific articles, and assignments. As this package has a self-study character, no evaluation or rating will feed back. Prospective EST Pre-Master Students are left to their own estimation of progress and success. It is supposed that EST Pre-Master Students use this package frequently before and during their Pre-Master Program, yet no ECs will be granted for working with the package.

The emphasis of the EST Pre-Master's degree at the University of Twente lies on the design and evaluation of learning arrangements in schools and organizations. The university's main interest is educating their students in the best way possible and providing them with information necessary to successfully graduate. The online self-study package is an attempt to meet student's demands of support in order to achieve required objectives. Therefore, given topics within the self-study package are related to the two sub-domains of EST that are considered most important in this field: Educational Design and Effectiveness (EDE) and Human Resource Development (HRD). Both topics are linked to the design-based approach.

Particularly, the EDE folder gives information about five areas: (1) curriculum theory, (2) ICT in education, (3) evaluation and assessment, (4) school management and (5) teacher's professional development. The focus lies on interaction between these topics. It is practical for potential EST Pre-Master Students to first learn more about the separate components and then bring these together and then discuss interrelations.

In addition, the HRD file presents four aspects: (1) HRD design and consultancy in live context, (2) leadership and organizational change, (3) learning at work and (4) regulation and facilitation of workplace learning. All these elements concentrate on learning and development of people in a work context.

The urgent question that arises here has its focus on usage and effect of this package as well as experiences with it. In the context of this Bachelor thesis, qualitative and quantitative research will be conducted to investigate EST Pre-Master Students' experiences with and attitudes towards the self-study package. The Faculty of Behavioral Science at the University of Twente has great interest in the results of this study since it is the initial client. Its purpose is to generate information about the variety of usage, perceived effect and individual value of the EST Pre-Master Self-Study Package. The primary research question, originating from this intent reads:

What is the attitude of EST Pre-Master and EST Master Students at the University of Twente who have followed the online self-study package towards this package to prepare them for the EST Pre-Master program?

Before an answer to this question can be found, it is necessary to review scientific literature about the topic of online self-study programs in order to acquire background knowledge and gain certainty about advantages, disadvantages and characteristics of online self-studying.

The central question for reviewing the scientific literature is: *What is known within scientific literature about effective self-study programs?*

The answer to this question will yield an overview on the character of self-studying, required motivation, learner's support, how to design an online course and challenges with online self-studying. It will help with clarifying opinions and aspects regarding effectiveness and problems concerning self-studying and providing a context for this research. The vital concepts here are self-study and related effectiveness.

The found literature shows five interesting points concerning online self-studying. This extract from an earlier done literature review begins with (1) a general introduction and advantages of online self-studying, followed by (2) the motivation aspect of students; which is closely related to (3) the support of students and their motivation. The next point gives hints and implementation principles for (4) designing an online self-study program; the review ends with an investigation of (5) challenges and problems with online self-study.

(1) Introducing Online Self-Study Programs

Online self-study packages become more and more popular as a means to promote autonomous and effective learning among pupils and students (Shea & Bidjerano, 2010, Smart & Chappel, 2006). It can be said that online self-studying, or E-learning, is a growing trend in education. Especially in college or higher education it is essential to make use of modern technology to meet global standards and sufficiently prepare students for a highly competitive global market (Smart & Chappel, 2006). E-learning has a positive influence on many aspects of education which causes a growing interest and use of online self-study programs and facilities. The relating scientific literature gives reasons for this trend. These causes are reviewed in the following.

In general, students in an online learning environment significantly outperform their peers in a more traditional learning environment and, furthermore, score higher on metacognitive skills as self-reflection and self-monitoring (Shea & Bidjerano, 2010). Brucato and Neimeyer (2011) stated that online preparation programs significantly increase self-efficacy and capability of decision-making. And thus, have a positive influence on student's confidence and their belief in their ability to make career-related decisions. The term "self-efficacy" is frequently used within the investigated literature (Shea & Bidjerano, 2010, Brucato & Neimeyer, 2011, Schunk & Ertmer, 1999). Bandura (1981) set up a theory concerning this self-efficacy where he states that high self-efficacy has a positive relation to high motivation. His theory will be discussed under the following headline. However, there is evidence that online self-study has a positive effect on self-efficacy.

To summarize the preliminary outcomes, online self-studying concentrates on the learner Lin (2008) and has positive effects on the meta-cognitive development of the individual that is self-regulation, self-evaluation, self-correction Dixon and Hondo (2013) and self-efficacy. Yet, effective online self-study is highly influenceable by the learner's motivation.

(2) Student's Motivation regarding Online Self-Study Programs

As already stated, motivation is a crucial factor when it comes to (online) self-study (Smart & Chappel, 2006). This comes as no real surprise as the student him or herself is fully accountable for his or her own progress without the guidance of others.

Chen and Jang (2010) described high attrition rates from online courses as an indicator for a lack of motivation. They continue that these rising dropout rates put severe pressure on online educators and are a pressing issue for online learning in general. They indicate that an investigation of learner's motivation has great priority in this context. When it comes to students' motivation, two relevant motivation theories have to be taken into account. One of these has been marked in the beginning: Bandura's Self-Efficacy Theory (1981). Another theory that is often referred to is the Self-Determination Theory of Deci and Ryan (2000). Both are related closely to the topic of self-studying. Bandura set up his theory in 1981, but it is still as relevant. He defined "self-efficacy" as the extent to which a person believes in his or her own capability to fulfill a task or perform as expected. With a

high self-efficacy, one believes that he or she can successfully meet a set goal or perform according to certain expectations and behaviors (Bandura, 1981). This very trust in the own competence is not necessarily linked to actual talents or abilities. However, one's self-efficacy, or so to speak self-confidence, increases the motivation for learning significantly and even leads to a better performance. It is further certain that a person with high self-efficacy is more willing to invest time and effort in a (learning) task and will not give up as soon as a person with lower self-efficacy (Bandura, 1981).

Deci and Ryan's Self-Determination Theory (2000) is based on three aspects that have influence on motivation and will help in keeping or increasing it: Competence, autonomy and social connection.

Competence can be stimulated by positive feedback and encouragement. If there is encouraging feedback, a person will develop a sense of being capable or being special and this directly leads to a higher motivation for a certain action. The more positive responses a person gets, the higher their motivation will grow and this even fosters a feeling of worthiness (Deci & Ryan, 2000).

Autonomy is another important factor for students' motivation. Autonomy means here that a person may make own decisions and can independently determine which actions he or she will take and how to carry them out. This will lead to a student linking personal achievements to the own ability and that will result in a higher motivation (Deci & Ryan, 2000).

The third factor is social connection. If there is a mutual support and teamwork, the motivation will increase automatically. As social beings, humans are influenced by their environment. The feeling of belonging to a group triggers motivation to act and work for the group itself (Deci & Ryan, 2000).

These two motivation theories can serve as a scaffold to investigate motivation factors within the EST Pre-Master self-study package.

Other authors reviewed these theories and added aspects and ideas (Smart & Chappel, 2006; (Shea & Bidjerano, 2010; Chen & Jang, 2010). Yet, the core stays the same as plenty of research has indicated that online self-study requires a great deal of discipline and even more self-motivation.

(3) Support for students and their motivation

The degree and quality of support for students have distinctive influence on the student's motivation for self-studying. In the following, results and findings concerning this topic will be reviewed.

Chen and Jang (2010) state that instructors for online learning need to understand student's needs. This can be promoted by an open and interactive atmosphere between students and instructors where students can express thoughts, feeling or worries freely. Understanding and respecting the needs of students and more importantly, giving them the feeling of understanding stimulates their motivation significantly. It was found that aimless and random support could even lead to worse than "no effect"-outcomes. Contextual support is notably important because students within self-study environments are left to their own devices and need structured support that is concerned with student's actual needs. A study by Kaul and Lakey (2003) revealed that "perceived support" has a positive influence on motivation whereas "received support" did not show any relations to motivation. They state as well that it is important to know the needs of students and to address them in the right way, which then leads to "perceived support" (Kaul & Lakey, 2003).

In general, motivation is a wide field with many aspects and individual characteristics. An instructor cannot expect students to have the same reasons and drives to participate in online self-study programs. To provide effective and meaningful support, the responsible instructor needs to know about different motivations, that means internal and external reasons and motivators, of their students (Jang, 2009).

Otis, Grouzet and Pelletier (2005) found that these individual differences between students have long lasting and regulating impacts on student's attitudes and behaviors. They advise online instructors, again, to investigate student's needs and intentions and provide individual assistance in order to reduce insecurities and solve particular problems of students. This will lead to more self-determination and thus motivation and eventually to more enjoyment of online learning (Otis, Grouzet & Pelletier, 2005).

(4) Design of Effective Online Self-Study Programs

As discussed earlier, online self-study has many advantages over traditional learning. To recall a few, it can be said that online learning promotes autonomy, enables asynchronous learning (Dukes, Waring

& Koorland, 2006) and can improve self-regulation processes and capabilities of students, while it respects individual learning styles.

Lin (2008) reviewed the Seven Principles of Good Practice that were created in 1987 and adjusted in 1996 by Chikering and Gamson. He writes that every new technological tool that will be used for teaching and learning should be consistent with the Seven Principles. These principles serve as a guideline for designing and implementing new technologies within education and will be summarized in the following:

(1) Encourage Contact between Students and Faculty. It is essential for student's motivation to be connected to the faculty and to perceive their support. This can be achieved by e-mail, live chats, discussion boards etc. Communication like this can be safer and open compared to a discussion about problems or worries within a classroom or faculty office.

(2) Develop Reciprocity and Cooperation among Students. To improve learning, collaboration and socialization between students, they should be facilitated by stimulating student's higher order thinking and knowledge sharing. By using means of technological tools like chats or discussion boards, students can cooperate and support each other regardless of place and time.

(3) Encourage Active Learning Techniques. It is important for students to apply different learning strategies in order to cope with the study load, diverse contexts and requirements. New technologies can provide support and facilities when it comes to applying different learning strategies. Through online libraries, virtual laboratories and such, students can try out and practice a variety of learning strategies.

(4) Give Prompt Feedback. It is crucial to provide learners with reasonable and timely feedback with the character of formative feedback as it should help students to regulate and control their progress in order to improve. Here, technologies can be useful tools. Self-assessment, recalling information tests or open assignments can help students to navigate successfully through the content.

(5) Emphasize Time on Task. In the modern world, time is a critical factor in every respect. Using technology for teaching and learning can save plenty of time that would have been lost through for example long ways to the campus or obligatory lunch breaks. Electronic materials and sources are immediately applicable which saves even more time.

(6) Communicate High Expectations. Institutions ought to have high expectations for students and need to make sure students know about that. New technologies can provide facilities to communicate high expectations by e.g. presenting challenging scenarios or conflicting perspectives. Through this, students get a feeling of the institution's expectations and learn how to tackle and handle these expectations.

(7) Respect Diverse Talents and Ways of Learning. Students have differentiated ways of learning. Some will be good at learning theoretically and structurally, others need to see objects or schemes or would listen to contents to effectively learn. It is essential for education to give students the opportunity to show their skills and talents in various manners. By using technology for learning, students have the possibility to learn as they prefer it. They can choose the place, time and strategy which leads to less frustration and more motivation to learn (Lin, 2008).

(5) Challenges with Online Self-Study Programs

The advantages of online self-studying became certain throughout the previous sections. But there are also distinct problems and disadvantages to be kept in mind. Shea and Bidjerano (2010) argue that a pure online learning environment or course runs the risk of increased uncertainty. On the one hand students are not normally used to this free way of learning and teaching and on the other hand they are directly forced to work autonomous and self-regulated (Shea & Bidjerano, 2010). Here, the authors advise to pay more attention to support and self-efficacy as well as self-determination of students. Smart and Chappel (2006) note that online learning is not effective as a standalone means when it comes to certain educations with a high degree of practical contents. Additionally, learners miss the classroom interaction where a lot of indirect and practical learning takes place in the field of application, problem solving and utilization (Laine, 2003). Further potential issues of online learning and self-studying include learner frustration, confusion, isolation (Brown, 1996; Hara, 2000) and higher attrition rates (Laine, 2003). Online self-studying requires student's commitment to a great

extent as there is the need for discipline, writing skills, self-motivation and self-organization and the willingness to contribute time to learning (Serwatka, 2003 in Shea & Bidjerano, 2010).

Singh (2003) states the layout and structure of online courses are often problems as well. Many are presented in a very dry and prosy way and further contain no practical exercises or applications that would keep the students focused and interested. These characteristics often lead to high drop-out numbers in full online courses (Young, 2002).

As said in the beginning, the collected literature findings were structured into five interesting points when it comes to investigating online self-study programs. In the course of the Bachelor Thesis the questionnaire-outcomes will be linked to these literature findings to create a scientific base for the interpretation of results and the concluding.

Method

Respondents

At the time of data collection there were 43 EST Pre-Master Students and 48 EST Master Students registered at the University of Twente. At a first contact with possible respondents during a lecture for EST Pre-Master Students, it became clear that there are only 16 students who actively follow the EST Pre-Master program. It was expected that the EST Pre-Master Students are more likely to participate in this study simply because it has greater relevance to them. Though, the EST Master Students will be approached as well. Gender and age are of no interest for this study.

There are twelve respondents in total. All twelve students answered the Likert Scale items. Yet, only eight of them answered the open question. Even though at first sight the sample might seem small, it represents more than half the amount of the 16 active EST Pre-Master Students. However, relating the sample to the 48 EST Master Students, it is quite small.

Instrument

An online questionnaire was generated and sent via E-mail to 2014/2015 EST Pre-Master-, and EST Master-students of the University of Twente. The questionnaire contains quantitative and qualitative items, i.e. a mixed-method survey. Usage and effect are quantitatively assessed via five and four items, respectively, on a five-point Likert scale, ranging from “strongly disagree” to “neither disagree nor agree” to “strongly agree. One of the five statements for usage was: “I used the package frequently, before starting the Pre-Master”. Effect was measured with statements like: “I can say that the package is/was a helpful assistance during the Pre-Master”.

To measure the internal consistency and reliability of items, the Cronbach’s Alpha was assessed. Concerning “usage” the Cronbach’s Alpha was sufficient: $\alpha = .57$ and with “effect” it was good: $\alpha = .74$, after reversing a negative item.

Three open questions follow, comprising the qualitative element of the method. These questions ask the individual to elaborate on their experiences with the package, their attitudes towards the package and shortcomings of the package that they can think of.

The questionnaire is designed to meet the faculty’s requests and thus will pose questions about: usage (frequency of usage, moments of usage, sort of usage), effect (experienced effect, expected effect, effect while following the Pre-Master program), and value (experienced value, beliefs about value) of the self-study package. The focus lies on personal experiences and satisfaction. Further questions investigate possible improvements and critiques. The questionnaire contains nine questions on a five-point Likert Scale and three open questions. The Likert-Scale items cover the topics usage and effect, while the open questions ask students about their experiences and attitudes. The questionnaire was generated and distributed with qualtrics.com, which also collected the responses.

Data collection

The questionnaire was sent by E-mail and answered electronically. The given responses were collected with qualtrics.com. The data is treated confidentially and is used exclusively for this research; third parties will not be provided with access to the data. Names and other personal information are not collected.

Data analysis

The quantitative data was analyzed with SPSS version 23. At first, a factor analysis was conducted to determine different dimensions of the questionnaire and to check whether the questionnaire actually represents two constructs, namely usage and effect.

The factor analysis did not yield a clear distinction of the two topics. When forcing the items into two factors, a leaning of the five respectively four items towards usage respectively effect can be seen, but it is not definite. The two factors explain a cumulative 53.44% of variance. An explorative factor analysis shows four factors with an eigenvalue above 1.00. However, the fourth eigenvalue was 1.04, thus very close above 1.00. These four factors cumulatively explain 82.11% of variance.

The research is continued with two dimensions as a tendency can be seen and it would be beyond the scope of this study to investigate four different factors. The scores are normally distributed, which was tested with a Shapiro Wilk's Test (for usage: $p = .46$; for effect: $p = .08$). There are no outliers according to a boxplot inspection. The sums of every respondent for "usage" and "effect" were computed. These sum scores were used to conduct two one-sample t-tests. That means, one t-test was run for "usage" and another t-test was run for "effect".

The tests meant to clarify whether the sum scores of "usage" and "effect" are significantly conform to the neutral option (Neither disagree nor agree = 3), that is $M=15$ for "usage" and $M=12$ for "effect". With the result we come to know whether the overall attitude of students towards the EST Pre-Master Self-Study Package is neutral.

After running these two one-sample t-tests, we can make a first statement about the overall attitude of EST Pre-Master and Master Students towards usage and effect of the EST Pre-Master Self-Study Package. As a last step, a Pearson's correlation analysis was conducted to investigate if the two dimensions are related.

The answers to qualitative items were analyzed by finding discriminative themes and topics to get a deeper insight on student's attitude towards the self-study package. This was done with the help of a tool named Thematic Network (Attride-Stirling, 2001). Thematic networks are web-like illustrations that summarize the main themes and topics of the accumulated text data. This technique is a robust and highly sensitive tool (Attride-Stirling, 2001) for structuring and presenting qualitative analyses. The data was processed by using atlas.ti. In a first step a coding framework was established and the text was dissected by applying the framework that is mainly based on literature findings. The codes are then abstracted and put together into a web-like Thematic Network. This Thematic Network contains so-called basic themes, organizing themes and a global theme (Attride-Stirling, 2001). The focus was on general themes across the respondents.

Findings

Usage

The first one-sample t-test was run to determine whether the sum of usage score in recruited subjects was different to the neutral option "Neither disagree nor agree", defined as a usage score of 15.0. The sum of usage scores were normally distributed, as assessed by Shapiro-Wilk's test ($p = .46$) and there were no outliers in the data, as assessed by inspection of a boxplot. The mean sum of usage score ($M = 16.08$, $SD = 2.97$) was statistically not significantly lower or higher than the neutral usage score of 15.0, $t(11) = 1.26$, $p = .23$, 95% CI [-0.80 to 2.97].

Effect

The second one-sample t-test was run to determine whether the sum of effect score in recruited subjects was different to the neutral option “Neither disagree nor agree”, defined as an effect score of 12.0. The sum of effect scores were normally distributed, as assessed by Shapiro-Wilk's test ($p = .08$) and there were no outliers in the data, as assessed by inspection of a boxplot. The mean sum of effect score ($M = 12.45$, $SD = 2.21$) was statistically not significantly lower or higher than the neutral option score of 12.0, $t(10) = .68$, $p = .51$, 95% CI [-1.03 to 1.94].

A Pearson product-moment correlation coefficient was computed to assess the relationship between the attitude towards usage and the attitude towards effect. There was no correlation between the two variables, $r = -.09$, $n = 11$, $p = 0.79$. Overall, there was a weak and insignificant negative relation between the attitude towards usage and the attitude towards effect.

Attitudes

The respondents have been asked three open questions. The given answers are analyzed without distinction between the different questions and across all respondents. In total, 51 text segments were found, reduced to nine basic themes and ascribed to three different organizing themes. These organizing themes were (1) Usage, (2) Effect and (3) Problems and are strongly related to the scientific literature and the quantitative part of this study.

The quotations, basic themes and organizing themes are constructed to build a network with one global theme in its center. This Thematic Network is shown in figure 1. In the following, the three organizing theme are discussed by means of their underlying basic themes.

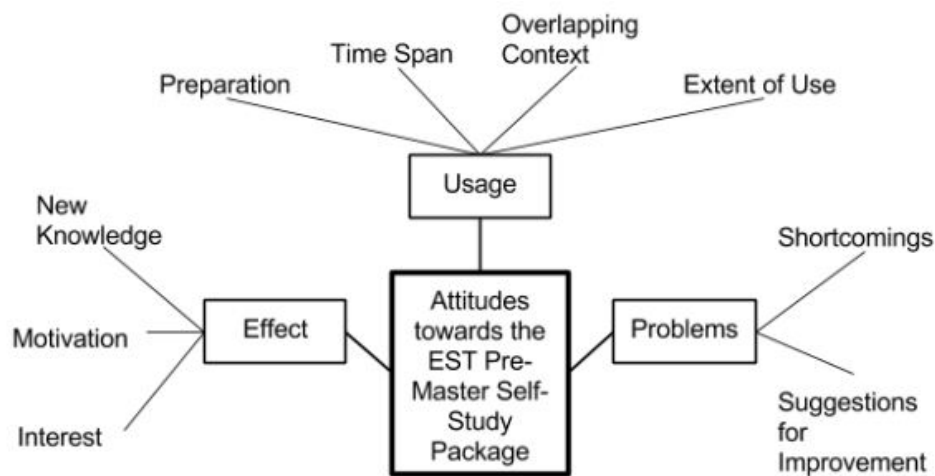


Figure 1. *Thematic Network of the Attitudes towards the EST Pre-Master Self-Study Package*

Organizing Theme: Usage. This organizing theme concerns statements about time, extent and purposes of using the EST Pre-Master Self-Study Package. It became certain that most students used the package to prepare themselves for the EST Pre-Master Program, but also for the later EST Master Program. 16 text segments could be found that document this. The students use the package to get to know the content and to have a first idea about the field of educational science and technology.

- *“Highest advantage of the self-study package is that you get a good idea (in advance) of the topics that will be discussed during the program.”*
- *“It helped in getting to know the subjects and relevant content a bit, so that it was not all new when I started the pre-master.”*
- *“As a student you benefit when you did prepare by means of the package in the rest of your study (content overlap).”*

One student said the package helped him gaining more security concerning the study load.

- *“It helped me to [...] gain self-confidence that I could handle the study content of the (pre)master.”*

Almost every respondent used the package as an introduction to the course and found it a useful start and preparation for the EST Pre-Master Program. Yet, this was not the only use of the package. Some students did not follow an EST Bachelor before coming to the University of Twente. For those students, it was particularly important to prepare themselves for the academic standards.

- *“[...] preparing for the reading and understanding of academic English, critical thinking and getting to know educational science theories and research.”*

- *“It prepared me for the academics.”*

- *“I wasn't used to University-level, and way of studying, it was good for me to be confronted with this way of studying by learning for myself how to read self-study package.”*

- *“I learned that I got used to the level, and reading in English.”*

Thus, the package was used in two terms of preparation, not only with regards to the content, but also a more indirect preliminary for the academic way of learning and working and “to get myself in the study mode”.

Not every student used the package frequently during the EST Pre-Master or Master phase. As it is mainly a preparation package, some students used it exclusively before starting the EST Pre-Master program.

- *“I only used it prior to the pre-master, I did not really looked at it anymore once the pre-master actually started, since we had to read a lot already, and it was not per se relevant to go back to the material of the self-study package.”*

- *“I worked through the entire self-study package prior to the start of the pre-master.”*

Organizing Theme: Effect. This theme summarizes information about student's view on motivation, interest and newly acquired knowledge. It is investigated to what extent students believe the EST Pre-Master Self-Study Package has a positive effect on their working and learning. Statements about new knowledge were most salient here, but motivation was named a few times as well. New knowledge refers to new abilities and a content-wise improvement of understanding. This is closely related to the code “preparation”. The students acquired new knowledge about academic literature and how to cope with it, but also get new insights in the field of educational science and technology.

- *“Learning to read scientific articles was new to me and the only way to learn it is by practicing. The self study package gave me the chance to do so.”*

- *“For me it gave a lot of insights into the topics that would be at stake in EST.”*

- *“I liked it that the self-study package gave me an opportunity to get some background information on the courses/study I was going to start.”*

- *“I found the content very useful, it provides background information that could be used during the whole master phase.”*

At first glance, these quotations overlap in a great way with the quotations of “preparation”. Yet, there is a difference in meaning between them. Statements related to “preparation” are dealing with the actual use of the Self-Study Package. The students use or used it to prepare themselves for the EST Pre-Master and even Master Program, by getting used to the way of academic learning or gaining a first idea of the content. The Statements related to “New Knowledge” refer to the effect of the Self-Study Package that is acquiring new insights and capabilities through it.

The effect on student's motivation was interesting as well. It became certain that an array of students was not distinctively motivated to study the package. They wished for more guidance and participation of faculty staff in their progress and feedback from them.

- *“However, a little bit more guidance, maybe by a forum where people (from the UT/EST program) take initiative to ask you about your progress would have been more motivating for some people to really study the package.”*
- *“What I strongly missed is that no feedback was provided by experts, so I was not really motivated to do the assignments, although I read everything carefully.”*

One student gave an example of another university where there was a test about a self-study package. The student said that this had extra influence on motivation and led to more commitment and effort.

- *“Therefore, they conducted a test in which the knowledge of the self-study package was tested, and assigned 4 study credits for it. This (externally) motivated the students (like me) to read all the articles thoroughly.”*

Another effect of the EST Pre-Master Self-Study Package was arousing interest for the topic of educational science and technology. Though, the statements about interest were rather short and do not give further information about what was interesting in particular. This is why it merely can be said, that the package appeared interesting to some students.

- *“The self-study package was interesting.”*
- *“The articles were interesting.”*
- *“A lot of interesting articles [...]”*

Organizing Theme: Problems. This theme contains information about the self-study package’s shortcomings that were perceived by EST Pre-Master and EST Master Students. Additionally, opinions and suggestions about improvement were found and assigned to this topic, as these suggestions aim to mend the shortcomings and give extra information about the character of shortcomings. Six out of eight respondents expressed to have perceived shortcomings and problems while working with the EST Pre-Master Self-Study Package. When most students opened the self-study package they were overwhelmed by its size, but also experienced it as too extensive at a later state.

- *“When I started with the self-study program, I was a bit overwhelmed.”*
- *“When I first got it it overwhelmed me.”*
- *“It was a lot. Even when I spend a few hours each day for 3-4 weeks I couldn't manage to finish it properly.”*
- *“However, it was so much that I didn't manage to complete everything.”*

One student said that the large and seemingly unmanageable scope may lead to discourage for some students.

- *“It was known, from the beginning, that it would take quite some study-hours, but I think this demotivated many people to start on it, or to properly finish it.”*

Another investigated shortcoming was the missing support from the faculty or experts. This was already named as demotivating in the second organizing theme “effect”, where the lack of feedback was held responsible for less motivation. Thus, the student’s need for guidance and support became very explicit.

- *“What I strongly missed is that no feedback was provided by experts”*
- *“[...] nor was the possibility to ask questions to experts.”*
- *“Without expert feedback, the assignments in the package don't seem useful to me.”*
- *“Provide feedback to assignments, or remove them.”*

Many students did not see a great meaning and use of the EST Pre-Master Self-Study Package in the beginning. They have doubts concerning the actual advantages the package will grant them. But even at a later date, some students did not find the package useful or necessary. They argue that the lectures repeat what they already read in the package and wonder why they had to make an effort before the EST Pre-Master started.

- *“I had a hard time seeing the use of it. Later I was a bit disappointed by the small extent to which the content of the package was useful during the (pre-)master.”*
- *“[...] but I didn't really feel that a lot of topics or keywords were used during the courses.”*
- *“I am not so sure it helped me a lot content wise.”*
- *“It was annoying that a lot of the literature was repeated in the pre-master, not only as reading assignment, but also during lectures (where nothing new was presented then).”*

The last section represents the given suggestions for improvement. Several suggestions are implied in the perceived shortcomings, but there are named a few ideas for improvement quite directly. The findings above express the need for more guidance and instruction. They require support during their work with the self-study package. The students feel the need for more explanation, especially when they are new to the university and its standards.

- *“And maybe also provide you tips on how to study it, or have a dialogue about the content. I was very insecure in the beginning about how to study the material...”*
- *“Maybe a clear guide and introduction that explains the buildup of research articles and how to read them. Some literature was quite heavy for a beginning pre-master's student so more entry-level articles would be better.”*
- *“More web lectures, more concrete assignments with step by step guidance.”*

Some students stated that it would be ineffective to have no obligatory parts of the package. They argue that this leads to a different level of knowledge across the Pre-Master Students, which then leads to frustration and disharmony within the course. Overall the students wish for more certainty and structure. They found it confusing to have no obligations, particularly when they are working completely self-regulated, but have to work within groups with potentially not the same state of knowledge in the later EST Pre-Master Program.

- *“Make those obligatory, so that everybody at least reads the articles. This would improve the quality of the pre-master and reduce frustrations (because of lack of prior knowledge of fellow students where you have to work with).”*
- *“Furthermore it would be nice to add distinctions between: things you must read things that will help you and think that can be nice to read.”*
- *“Also stating clear objectives in the start of the package is more desirable.”*

A last suggestion for improvement was to establish a forum where students and tutors can get in contact with each other and discuss topics. The student stated that this would result in more engagement of students.

- *“Also, I would have liked some forum to discuss the content. I'm not sure if this was already available, but nobody used it. It would have been useful if people from the EST program would have taken initiative to start discussions on this forum, so you would be more engaged into the topics.”*

Discussion

This Bachelor Thesis was undertaken on behalf of the Faculty of Behavioral Science at the University of Twente and tries to find an answer to the following research question:

What is the attitude of EST Pre-Master and EST Master Students at the University of Twente who have followed the online self-study package towards this package to prepare them for the EST Pre-Master program?

To do so, an initial literature study was conducted to provide background knowledge and to serve as guidance and scaffold for the following actions. The found literature was rather generic; it was problematic to find specific information about online self-study packages in the field of educational science and technology. Thus, the literature study was small in scope, but yielded a necessary and useful overview on recent developments and general assumptions concerning online self-study programs. It became certain that online self-studying is a growing trend for learning and teaching at universities. It has distinctive advantages and promotes self-regulation, self-evaluation and autonomy in general. These are features and capabilities a student needs to develop. Motivation and support are closely related when it comes to online self-studying. The internal motivation (intrinsic motivation) plays an important role because the student is fully responsible for his or her drive and progress. Here, external support can help, guiding and encourage students to learn and work on their own. The literature study generated some principles to effectively design an online self-study program. These principles lay emphasis on contact between faculty and students as well as reciprocity between the students. They advise to encourage and respect different learning techniques and to communicate high expectations. Another principle asks for immediate feedback. Some disadvantages and challenges were noted as well. A pure online self-study program runs the risk of uncertainty, frustration and isolation among the students. Additionally the layout and structure of many self-study programs are dry and by no means attractive to students to spend their time working with it.

The questionnaire outcomes could be related to these literature insights. As a first step, the quantitative results were analyzed to investigate trends and tendencies among the students. The questions about usage and effect should generate a first idea of the overall attitudes towards the EST Pre-Master Self-Study Package. It was found that for both, usage and effect, the general position was neutral. The sum scores, thus the summarized attitude scores towards usage and effect, were not significant higher or lower than the questionnaire option “Neither disagree nor agree”, which represents the neutral middle-score. This is neither a very bad nor a very good outcome. What these results show is that, at first sight, the students have a mostly uncommitted attitude. Another finding showed that there is no significant correlation between usage and effect. This indicates that attitude towards usage do not predict the attitude towards effect and vice versa.

While the statistical outcomes give a first and rough idea about attitudes, the answers to the three open questions provide a deeper insight in students’ experiences and mindset with and about the EST Pre-Master Self-Study Package. The coding and analyzing with a Thematic Network created three present and greater themes across all responses: usage, effect and problems. The categorization was apparently influenced by the stated questions, the initial literature study and the faculty’s interest in usage, effect and experiences.

When the usage of the self-study package was investigated, it began to show that most students used the package to prepare themselves for the EST Pre-Master as well as the EST Master Program, which is one of the main purposes of the package. They had an overall positive attitude and were curious about the content and information the package would provide with regards to the actual EST Pre-Master Program. For students from another field of education the self-study package was essential to get used to academic standards, expectations and processes. The time span of usage was not consistent. Some students stated they used the package only before the EST Pre-Master Program started, while others looked back at it throughout the Pre-Master and even Master phase of their education. From the given data and information, it can be concluded that most students used the

package as it was intended by the Faculty of Behavioral Science. The students get a first idea of the content and train themselves in academic skills.

The effect of the package was for most students to acquire new knowledge. At the end of their study of the self-study package, they knew more about the field of educational science and technology and felt more certain about the topics they would face in the EST Pre-Master and EST Master Program. This was a central objective of the self-study package and it seemingly meets this aim, according to the responding students. In the course of examine the effect the students' motivation was highlighted as well. As described in the literature review students' motivation is of great importance for self-studying. The findings suggest that some students have issues to get motivated to study the package. They explained this by a feeling of not being supported and a missing opportunity to get feedback. This directly relates to the third theme "problems" and also to the principles that were discussed in the literature study. Many students wished for more engagement of the faculty. They state that it would have been more motivating if there was a contact person and in general more support and perceivable commitment from the faculty staff. Confirming this, one of the principles for effective online self-study programs advises frequent contact between students and faculty. Additionally, another principle calls for direct feedback and constructive criticism. The scarcity of contact to experts and faculty members as well as the lack of feedback cause a discouraged and less motivated attitude towards the EST Pre-Master Self-Study Program for some students.

The extent of the self-study package poses problems as well. Students felt overwhelmed by the scope and could not see a way of manage the whole content. This had a deterrent impact on many students and again led to less motivation. Furthermore, the students note that there was uncertainty about the importance of the different parts and contents. This led to confusion and frustration. As found in the literature this is a major threat for most online self-study programs.

These findings and interpretations portray a diverse picture of the EST Pre-Master Self-Study Package. On the one hand it has positive aspects to it, e.g. students use it as a preparation, to acquire new knowledge or to get used to the academic standards, which corresponds to the initial purpose of the package. On the other hand particular shortcomings were investigated. Students feel confused, frustrated and left alone. They are overwhelmed by the content and wish for more support and feedback. Some students had problems with seeing the advantages of the package; the assignments were doubted particularly.

This Bachelor Thesis is limited in volume, time and possibilities. It was not possible to investigate all factors that play a role concerning the attitudes towards the self-study package. It was thus concentrated on the faculty's interest about usage and effect as well as the experiences with and opinions about it. It was not the purpose to find practical implementations and means to tackle possible problems. The intent was to investigate and report attitudes towards the EST Pre-Master Self-Study Package. The statistical analysis is rather weak due to the little amount of respondents. Even if this part of the analysis was not central, it yielded useful general information about opinions of students regarding the package. The investigation of the qualitative answers to the open questions was more fruitful, though, and represents a grounded and general picture of EST Pre-Master and EST Master Students' attitude towards the self-study package.

While this study can be seen as an initial investigation of advantages and shortcomings of the self-study package, further research could be conducted to generate practical implementations and actions to overcome the shortcomings and problems and even to improve the positive aspects of the package. This is particularly important as the University of Twente abandoned their EST Bachelor Program, yet maintains the EST Master Program, with a resulting potential increase in EST Pre-Master Students.

The results and conclusions of the Bachelor Thesis have special importance and value for the Faculty of Behavioral Science at the University of Twente in Enschede, NL. The outcomes could effectively direct future action of improvement because they are based on scientific insights into online self-study programs and, even more important, imply experiences, opinions and attitude of actual EST Pre-master and EST Master students at the University of Twente. They will help improving the self-study package and give ideas to adjust the EST Pre-Master Program as a whole.

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