MASTER THESIS

INTERNSHIP MOTIVATION: CAN THE FORMULATION OF HIGH QUALITY INTERNSHIP LEARNING GOALS IMPROVE INTRINSIC MOTIVATION?

Mirjam Koehorst

FACULTY OF BEHAVIOURAL, MANAGEMENT AND SOCIAL SCIENCES

EXAMINATION COMMITTEE
B.P. Veldkamp
M.C. Heitink

DOCUMENT NUMBER
-

UNIVERSITY OF TWENTE.

24-02-2016

Internship Motivation: Can the Formulation of High Quality Internship Learning Goals Improve Intrinsic Motivation?

Mirjam M. Koehorst
University of Twente

Table of contents

List of tables and figures ***iii***

List of used abbreviations ***iv***

Acknowledgements ***v***

Abstract ***vi***

Introduction ***1***
Context of the Study *1*
Current Study *1*

Literature Review ***3***
The Use of Internships in Education *3*
Achievement Goals *4*
Motivation *5*

Research Overview ***6***

Study 1: The Online Tool ***7***
Respondents *7*
Design *7*
Materials *7*
Method and Procedure *8*
Data Analysis *9*
Results *9*
Conclusions *10*

Study 2: Internship Motivation Scale ***10***
Respondents *11*
Method and Procedure *11*
Data Analyses *12*
Results *12*
Conclusions *14*

Study 3: Interviews ***15***
Respondents and Procedure *15*
Data Analysis *16*
Results *16*
Conclusions *17*

Study 4: Internship Outcome ***18***
Respondents *18*
Method and Procedure *18*
Data Analysis *19*
Results *19*
Conclusions *20*

Discussion ***20***

References ***22***

Appendix A

Appendix B

Appendix C

Appendix D

Appendix E

List of tables and figures

Table 1. *Normality tests for the four subscales of IMS* 12

Table 2. *Descriptive statistics for IMS with samples for both languages* 12

Table 3. *Correlations among the four subscales of IMS* 13

Table 4. *Descriptive statistics for IM, EMP and EMER (N = 84)* 13

Table 5. *Independent samples t-test for three subscales of IMS in Dutch and English* 13

Table 6. *Descriptive statistics for the four subscales of IMS and MeanFLG* 14

Table 7. *Correlations among the four subscales of IMS and MeanFLG* 14

Table 8. *Occurrence of labels following data analysis, per interviewee* 17

Table 9. *Descriptive statistics for the four subscales of IMS and GradeRR* 20

Table 10. *Correlations among the four subscales of IMS and GradeRR* 20

Figure 1. Research model. The arrows indicate the hypothesized correlation and direction 3

Figure 2. Connection between self-determination (SD) dimensions and motivation 7

Figure 3. Picture in the online tool representing a quality important for TCT and TEM students 9

Figure 4. Histogram of the distribution of MeanFLG for the experimental condition (N = 17) 10

Figure 5. Histogram of the distribution of the valued outcome for the internship reflection report 19

List of used abbreviations

ACT = Academy for Creative Technology

AM = Amotivation (Subscale of IMS)

AMS = Academic Motivation Scale (the English version of EME)

EC = European Credit

F&TT = Fashion & Textile Technologies

GradeRR = Grade for the final internship reflection report

ILG = Internship Learning Goals

IMS = Internship Motivation Scale (*Stage Motivatie Schaal* in Dutch)

IM = Intrinsic Motivation (Subscale of IMS)

EME = *Echelle de Motivation en Education*

EMER = Extrinsic Motivation – External Regulation (Subscale of IMS)

EMP = Extrinsic Motivation – Personal (Subscale of IMS)

MeanFLG = Average grade of all final internship learning goals per student

NVAO = *Nederlands-Vlaamse Accreditatieorganisatie*

TCT = *Technische Commerciële Textielkunde* (the Dutch version of the course)

TEM = Textile Engineering & Management (the English version of the course)

Acknowledgements

Although I finished my studies in just little over 1.5 years, it feels like a lot of time has passed. Maybe this has something to do with the fact that when I started, the sun was shining and I was probably wearing shorts. While when I look outside now, a very miserable rain is drizzling from the sky and I'm typing this with slightly damp pants (and hot chocolate, so I'm not complaining). But personally I think it is due to the fact that a lot has happened since I started the pre-master for Educational Science and Technology. My first surprise was that I actually liked it, a lot! My second surprise was that I did not end up doing my master thesis at ArtEZ, where I as working at the time, but at Saxion. The third surprise was that I got to work there as well, for which I am still very grateful. But maybe the biggest surprise, and the thing I'm most proud of, is that even before I graduate, I've found a PhD-position in which I get to further explore the beautiful world of scientific research. Even though this means I have to say Saxion goodbye.

The process of writing this thesis has taught me I still have a lot to learn. It also taught me that that's okay. I am a big believer of livelong learning, so hopefully I'm nowhere near finished. But of course, I could not have done this on my own. There are people that helped me at times I was not feeling so awesome about research. In first place I like to thank my supervisor Bernard Veldkamp and my external supervisor Jan-Chris Hullegie. Bernard was always available for good advice and never made me feel like I couldn't accomplish finishing this project. Jan-Chris was highly approachable when I needed organizational advice or just some good old enthusiasm. The internship coaches Margriet Meijer, Marieke Engberink, Margé Kooij and Roos Altay never protested when I made one of my many demand. I'm particularly grateful for Roos, who, next to being a good friend, also helped me find this project. And her honesty helped keeping me grounded.

Finally I am unbelievably grateful for my boyfriend, Ruben, who is always doing everything in his power to make me feel safe and loved and provides me with proper food. He is always on my side. And of course my parents, who (make me) critically review my choices, but - even after 3 studies and a lot of other shenanigans - never fail to believe in me and support me.

Abstract

College students on their 3rd year internship had to formulate internship learning goals. In a quasi-experimental post-test only study, students in the experimental condition used an online tool that connected the competencies described by their training to goal-formulation with the use of the SMART-method, by letting the students self-assess their skills with pictures. In study 1, all internship learning goals were graded (N = 69) and a comparison was made between the experimental- and the control condition. In study 2, the Internship Motivation Scale (IMS) was used to measure a student's motivation to go on this internship (N = 84). In study 3, 7 students were interviewed on competencies, motivation, study organization and the formulation of internship learning goals. In study 4, the internship reflection reports were graded (N = 71). The results show no significant difference for the grades of the internship learning goals between the experimental and the control condition and no correlation between the grades of the internship learning goals, intrinsic- or extrinsic motivation and the grade for the internship reflection report. However, the interviews revealed that there is a lot to gain on the awareness of competence-development within students; since none of the students were familiar with the competencies they had to develop to graduate.

Keywords: motivation, competencies, learning goals, internship, higher education

Internship Motivation: Can the Formulation of High Quality Internship Learning Goals Improve Intrinsic Motivation?

Introduction

This dissertation was written in the context of the master-course Educational Science and Technology at the University of Twente. The research was conducted at Saxion[1] and aimed to give an answer to the question whether high quality internship learning goals influence the outcome of an internship and if there is a correlation between motivation and the quality of the internship learning goals. In commission of Saxion, the influence of an online tool on the quality of learning goals and the motivation of students was also examined. Since the aim of formulating learning goals is to give students a clear trajectory during their internship, it was also examined if there was a correlation between the quality of the learning goals and the final grade of a students' internship reflection report and what the role of their personal motivation was in performing well at their internship.

In March 2015, plans were made to conduct a study on the effectiveness of an online tool for the formulation of internship learning goals. The initiator of this idea was Jan-Chris Hullegie, lecturer and internship coordinator of the courses *Technische Commerciële Textielkunde* (TCT) and 'Textile Engineering & Management' (TEM) at Saxion. His main concern was that students were too focused on attaining their European Credits (ECs, of which a student has to retrieve 240 throughout the entire bachelor course) instead of preparing themselves for their future professional lives by working on their competencies. Mister Hullegies' vision was to develop a tool that would connect (a) the necessary steps that have to be taken by students within the curriculum and (b) the awareness of the developed competencies. The decision was made to focus this research on students going on their 3rd year internship, with the possibility to expand the scope of the tool if deemed successful. As part of their own curriculum, 2nd year students of the course 'Information Technology' (IT) at Saxion developed the online tool, which would help the students of TCT and TEM link their course's competencies with their own learning goals, all whilst formulating high quality learning goals with the use of the SMART-method.

Context of the Study

This study was conducted at Saxion University of Applied Sciences. Saxion is a university for higher professional education (HBO or *Hoger BeroepsOnderwijs* in Dutch) and is located in four different cities in the east of the Netherlands namely Enschede, Deventer, Apeldoorn and Hengelo. It has over 24.000 students and 2.800 employees and operates in close contact with companies and other universities throughout the world (Saxion, 2015b).

The study courses TCT and TEM are study trajectories within Saxion that are part of the Academy for Creative Technology (ACT) and fall within the national study trajectory Fashion & Textile Technologies (F&TT). The courses' two different specialisations are unique for Dutch education. The first - Product Management Fashion - prepares students for management functions such as product developer, quality- and fitting manager, buyer or merchandiser within fashion and retail companies. Product Management Textile teaches students all about materials and their production processes (Saxion, 2015a).

The first two years of the training are meant to give students a broad foundation, before they choose one of the two specializations for the third and fourth year. In the third year, students have to go on a six-month internship and chose a minor. Since Saxion, and TCT and TEM in particular, maintain close relationships with companies and partner universities around the world, students are found to go on their internships as far as Bangladesh and Vietnam. It was during the internship period that lasted from August 2015 until January 2016 that this study was conducted.

Current Study

The Nederlands-Vlaamse Accreditatieorganisatie (NVAO) is an organization that compiles requirements for all Dutch institutes that offer bachelor- and/or master programmes. This organization also selects experts for inspection. Institutes have to be accredited by the NVAO to be recognized by the Dutch Ministry of Education, Culture and Science. During inspection, competencies are a big part

[1] Saxion University of Applied Sciences, Enschede, the Netherlands

of accreditation (Nederlands-Vlaamse Accreditatieorganisatie [NVAO], 2013). At Saxion, the learning trajectories TCT and TEM have a clear defined set of competencies (Appendix A). However, educators experience that, although students are benefitting from the connections with the industry, their awareness of the developed competencies and the self-directedness in their learning have not significantly changed since competencies were integrated in the curriculum. Students are mainly focussed on retrieving the necessary ECs they need to finish their education. Mulder (2004) acknowledges that in many cases the way competence-based education is implemented in vocational education is far from the desired situation. Important outcomes of research aiming to formulate and test principles for design for competence-based vocational education were that students often found themselves confronted with the concept of competencies, however, the added value for their own education was unclear (Wesselink & Lans 2003; Wesselink, Lans, Mulder & Biemans, 2004). It was also found that students struggle to connect those job competencies with their own educational programme.

This research' aim was to connect the questions that have risen with regards to the online tool with factors that might influence the success of competence-based education from a students' perspective. One big factor in student achievement is motivation. Could motivation also have an influence on how competencies are adopted by students? Or how assignments like the formulation of learning goals are executed? To get a better insight in what factors influence a student's achievement and motivation while on their internship, this research examined the following questions:

1. What is the difference in the quality of internship learning goals between the group using the online tool and the control group?
2. To what extent are students aware of the competencies they are developing during their internship?
3. What is the relationship between the valued outcomes for the internship learning goals and the internship reflection report and motivation?
4. What is the relationship between the valued outcomes for the internship reflection report and the valued outcomes of internship learning goals?

These four sub questions were used to answer the main research question:

To what extent can improving the quality of internship learning goals, using an online tool, increase student motivation and performance?

In Figure 1 all factors that were examined are indicated by white rectangles. The online tool, shown as a blue rectangle, was used as an intervention. The tool was believed to influence both the valued outcome (grade) of the learning goals as the students' perceived understanding of the competencies as described by their study trajectory. Motivation was measured by a questionnaire after which interviews were held to gain insight in students' view on competencies, motivation and the formulation of learning goals. Finally, data on the internship reflection reports were gathered to connect this factor to the learning goals and motivation.

The outline of this paper is as follows: First, in the literature review the most important theories concerning competencies, achievement goals and motivation will be discussed to provide a framework on which this research was build. The hypothesized correlations between the different factors in Figure 1 will also be clarified in the literature review. The research was divided into four different studies. Since all studies used a different sample of respondents, they are separately discussed. Under the results and conclusions sections the studies are connected to provide an answer to the research questions. Finally, conclusions and recommendations are given in the 'Discussion' chapter.

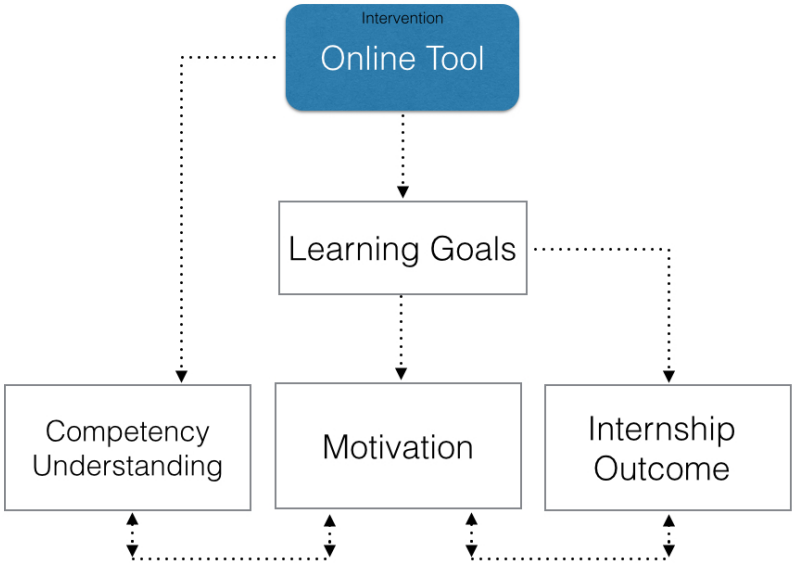

Figure 1. Research model. The arrows indicate the hypothesized correlation and direction.

Literature Review

This study was conducted by collecting data from students on their internship. Why are internships used in education and what makes an internship a successful tool for learning? In the following section, these questions were explored by first reviewing the aim of current education in the Netherlands and what role internships play in reaching this aim. Second, the use of learning goals by students and the influence of these goals on education were explored, after which the correlation between motivation and learning goals was examined.

The Use of Internships in Education

Educators are always aiming to give their learners the best education possible. They want their graduates to be adequately prepared for the labour market. To make the transition from student to professional gradual, educators incorporate the envisioned future work environment of their students into their educational courses. This is not a recent development, but has been common practice for many decades (Dall'Abla & Sandberg, 1996). With the use of internships and projects, the industry gets involved in education (Boahin & Hofman, 2012). These internships let students get acquainted with how the labour market works, what opportunities are present in the current economy and let them experience whether the future they are envisioning for themselves could become reality or whether they should adapt their expectations. The degree to which a student collects useful experiences strongly depends on the preparation and motivation of a student. This raises the question in what situation a student benefits most from these internships?

Competencies. What are the skills a student should develop during an internship? To be able to verify if learners meet the standards that the industry has set for professionals, every bachelor- and master trajectory in the Netherlands has a set of demands, or so called competencies. These describe skills that students need to have before they can graduate. A definition of the term competence is given by Mulder (2001) (as cited in Biemans, Nieuwenhuis, Poell, Mulder & Wesselink, 2004): "Competence is the capability of a person to reach specific achievements" (p. 530). In light of education, students should have knowledge and cognitive, interactive and affective capabilities necessary to perform tasks in their envisioned profession, together with the right attitudes and affective capabilities (Biemans et al., 2004). In close relation to competencies, *competence-based learning* was described by Grant et al. (1978) as "attempts to certify student progress on the basis of demonstrated performance in some or all aspects of that role" (p. 6). These competence-based approaches of education "usually start with a task analysis in which jobs are broken down into single tasks, resulting in skill-based instruction and training (Biemans et al., 2004, p. 526). However, this

does not always lead to successful competence-based education. According to Biemans et al. (2004), the current culture of assessment for competencies heavily leans on behaviourism, whereas a holistic approach, in which the development of the student as a whole plays a central role, is much more preferred in a society where flexibility and self-directedness is expected from its workers. For this reason, a personal development plan or individual learning plan is commonly used in competence-based education (Hamilton, 2009), by which holistic learning is approached by combining knowledge, skills and attitudes (Velde, 1999).

In order to facilitate flexibility and self-directedness, students will have to be held more responsible for their own learning. Teachers, in their turn, will need to adopt a facilitating role to shape desired learning experiences for students (Biemans et al., 2004; Boahin & Hofman, 2012). This paradigm shift has to occur for the competencies to have the desired effect. However, little is known on how this affects students and their view on the competencies they have to develop.

The concept of competence-based education has been around since the 1970's. However, Mulder (2004) believes that principles for modern competence-based education differ from those a few decades ago. By focusing on vocational education, he proposes the following principles: (a) competencies should be on the basis of professional practice, (b) competencies should be integrated in the curriculum by aligning theory and practice, (c) the competencies should be assessed before, during and after training, (d) competence development should integrate knowledge, skills and attitudes, (e) there should be a competence-development-based relationship between teachers and students, where students should be seen as junior colleagues, (f) students are personally responsibility for competence development and entrepreneurial learning and (g) competence development should be personal and individual "with the help of personal development plans and portfolios in which the development of competencies is documented" (Mulder, 2004, p. 8).

For Dutch vocational education, the first principle is embedded in guidelines mandated by the Dutch government. By using competencies, it is expected that the gap between education and the labour market will be diminished. Since competencies are context specific, they should be described very concise. By doing so, assessment of these competencies can be done with the knowledge, skills and attitude required by the intended labour market in mind (Biemans et al., 2004). Since it is not mandated to specify these competencies per course, but only for an entire curriculum, individual teachers might not be developing their courses with competencies in mind. This might result in competencies that are not effectively integrated in the curriculum and in modulated assessments. However, the principles of Mulder (2004) state that knowledge, skills and attitudes should be intertwined. Biemans et al. (2004) fear this might push "educational practice back to the traditional mechanistic and reductionist approach" (p. 528). The danger of not implementing competence-based education in all facets of the curriculum is that the competencies described are solely used to guide accreditation, instead of transforming education to prepare learners for a fluent transition from student to professional.

In the context of this study, the competencies were integrated in the curriculum by defining and describing them in a study guide. However, it was unclear to what extent the students were familiar with the competencies they were developing during their internship. The online tool developed for this study integrated the competencies specific for TCT and TEM with the formulation of the internship learning goals. Therefore, it was hypothesized that students in the experimental condition would have a better understanding of the competencies they were developing in comparison to the students in the control condition.

Achievement Goals

Archer (1994) makes a distinction between three types of achievement goals: the performance goal, the mastery- or learning goal and the academic alienation goal. The performance goals and the mastery goals are based on findings of the research of Dweck (1986). A person who holds a performance goal wants to show his/her ability or skill to the outside world. Achieving this goal is often dependent on the perceived ability of others. The mastery goal however, is achieved by understanding the subject and developing competence. The person who holds this goal is aware that this can be achieved by working hard (Archer, 1994). Achievement goal theorists believe that goals can determine the actions and purposes of students and therefore the quality of certain behaviour suited for these goals. The meta-study of Covington (2000) has found that learning goals are related to

better processing and effort of students, which in turn lead to better achievement. This study also states "there is a general agreement that mastery goals refer to increasing one's competency, understanding and appreciation for what is being learned" (p. 174). Mastery goals can also improve valued student outcomes, achievement and intrinsic motivation (Conley & French, 2013). Locke and Latham (2002) have found in their meta-analysis that the difference between mastery- and performance goals is becoming more important in research. However, there is little research to a combination of both goals together. They state: "Performance goals improved grades but did not affect interest, whereas learning goals enhanced interest in the class but did not affect grades" (p. 712). Mayer (2008) concludes that both performance- and learning goals can contribute to positive outcomes. He believes that adopting a combination of both goals will have beneficial effects for student achievement.

If adopting achievement goals like performance- and learning goals will be beneficial for student achievement, what form should these goals have to facilitate the highest gains? According to Locke and Latham (2002), there are four mechanisms that influence performance: First, they believe goals should direct attention to activities that are relevant for achieving this goal, in both the cognitive and behaviourist respect. Second, goals should lead to effort and therefore have an energizing function. Third, well-crafted achievement goals should affect persistence and fourth, goals should help to arouse, discover and adopt relevant strategies and knowledge (Locke & Latham, 2002). To foster these mechanisms goals should be formulated in a manner that clearly describes what level a student wants to achieve and how they want to achieve this. "Goals without clarity as to when and how a student (and teacher) would know they were successful are often too vague to serve the purpose of enhancing learning" (Hattie & Timperley, 2007, p. 88). A method that has proven to be successful in formulating clear goals is the SMART-method. SMART is an acronym for *Specific*, *Measurable*, *Achievable*, *Relevant* and *Time-related* (Hamilton, 2009), although other variations are also used (Conzemius & O'Neill, 2006). By formulating the goals specific, it can delimited what the student wants to learn, which helps in the first mechanism that influences performance, namely to direct attention to activities relevant for the achievement of that specific goal. Adding a measure also helps by focussing attention, since students tend to put effort into what gets measured (Conzemius & O'Neill, 2006). This focussed effort will help with energizing the student and improve persistence. For goals to help with motivation and to expect students to put effort towards attaining this goal, it should be achievable. There is a delicate balance in how high or low a goal should be. Lock and Latham (2006) put it like this: "High, or hard, goals are motivating because they require one to attain more in order to be satisfied than do low, or easy goals" (p. 265). However, if a goal is too hard, students will not experience the satisfaction of achieving that goal. Thus, a goal should help a student reach to a higher level of achievement, but it should still be attainable. By formulating a goal that is relevant and time-bound, it helps students to achieve something within an area that is relevant for their training and within the time limits set for this training. Ability and motivation are both influencing performance, so in order to fulfil a goal successfully, one must also have the relevant knowledge and skills (Locke & Latham, 2006). Since the SMART-method of formulating goals is frequently taught in Dutch education, it was decided to adopt this method for the research. It is important to clarify that TCT and TEM do not differentiate between performance- and mastery goals. In the internship manual the goals students have to formulate are referred to as 'learning goals'. Therefore, from now on, all goals regarding this research will be mentioned as learning goals or 'internship learning goals'.

Since research shows that properly formulated goals can improve achievement, it was expected that students with a higher grade for their internship learning goals would have a higher valued outcome for their internship. It was also expected that, since the online tool developed for this study helped the students formulate SMART goals, that students in the experimental condition would have significantly better grades for their internship learning goals in comparison to students in the control condition.

Motivation

By focusing on goals, learners can more easily adopt effective strategies for learning which helps to promote intellectual growth (e.g. Ames & Archer, 1988; Meece, Blumenfeld, & Hoyle, 1988; Dweck, 1986). An achievement-oriented environment, which can be accomplish by asking the students to formulate learning goals, is debated to influence motivational processes. When a task-involving

climate is created, students are more likely to adapt effective learning strategies and have higher intrinsic motivation and a positive attitude towards the task or activity (Treasure & Roberts, 1995; Conley & French, 2013). Therefore, it was hypothesized that there would be a positive correlation between intrinsic motivation and the grade of the internship learning goals. Since it was already hypothesized that students with a higher grade for their internship learning goals would have a higher valued outcome for their internship, it was also expected that would be a positive correlation between intrinsic motivation and the valued outcome of the internship.

However, achievement goals are not solely responsible for a students' motivation. According to Mayer (2008), recent research shows that interest, attitude, beliefs and self-efficacy also play a big role in motivation. Conley and French (2013) have concluded that by working towards an attainable goal, students will show higher levels of self-regulation. According to the Self-Determination Theory (SDT), self-regulation is an important aspect for personality development and motivation (Ryan & Deci, 2000). Students with high self-regulation and high levels of self-directedness in their learning have the ability to use intrinsic motivation to overcome learning-related obstacles (Raemdonck, Leeden, Valcke, Segers, & Thijssen, 2012)**.** For decades, researchers have been aiming to measure the many different aspects of motivation that influence student achievement.

Factors influencing motivation. Different questionnaires are developed to measure a student's motivation to learn. One of them is the Motivated Strategies for Learning Questionnaire (MSLQ) by Pintrich and De Groot (1990). This is a 56-item questionnaire which focuses on (meta-)cognitive strategy use, student motivation and effort management. However, for this research there was a clear focus on the internship. The motivation for a student to do well on an internship is hard to measure with a questionnaire that focuses mainly on formal education. The *Echelle de Motivation en Education* (EME) (Vallerand, Blais, Brière, & Pelletier, 1989) is a questionnaire that is aimed at measuring a student's motivation to go to college. This questionnaire was translated in English to the Academic Motivation Scale (AMS) (Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières, 1993a) and validated in 1993 (Vallerand, Pelletier, Blais, Brière, Senécal, & Vallières, 1993b). The EME and AMS are based on the self-determination theory and are developed to measure intrinsic-, extrinsic- and amotivation. Vallerand et al. (1992) distinguish three components of intrinsic motivation and three components of extrinsic motivation. The three components of intrinsic motivation as defined in the AMS are *to know*, which measures the satisfaction and pleasure a student experiences while learning; *to accomplish things*, which measures the satisfaction and pleasure students experience while reaching for an accomplishment and the final component measures to what extent students do something *to experience stimulation*. Extrinsic motivation is measures by the components *external regulation*, that measures to what extent a student feels pressured by outside forces; *introjected regulation*, that measures to what extent a student lays pressure upon him- or herself and *identified regulation*, that Vallerand et al. (1993) describe as: "To do something because one has decided to do it although it is not fun" (p. 161).

Amotivation is defined as the state in which neither intrinsic nor extrinsic motivation is present (Vallerand et al., 1993). In Figure 2 the connection between self-determination dimensions and the three different aspects of motivation are shown, based on research of Ryan and Deci (2000).

For this research, the EME was adapted and translate into Dutch. Both the Dutch and English versions were used for this research.

Research Overview

For this research a mixed method design, as described by Onwuegiebuzie and Leech (2006), was used. The overall design of the study was a *partially mixed sequential equal status design* (Leech & Onwuegbuzie, 2007). The research was divided into four studies. First, a quantitative study was conducted in which an online tool was used to determine whether its use would lead to better final internship learning goals. In the second study, respondents filled in a questionnaire to determine what their motivation was for this internship. A series of interviews was used in the third and qualitative part of the research to determine if the use of the tool had lead to a better understanding of the competencies students were developing and to what extend this influenced their motivation. In the fourth and final study, data was collected on the grades for the internship reflection report to determine

if there was a correlation between the internship learning goal grades and motivation and the grades for the reflection report.

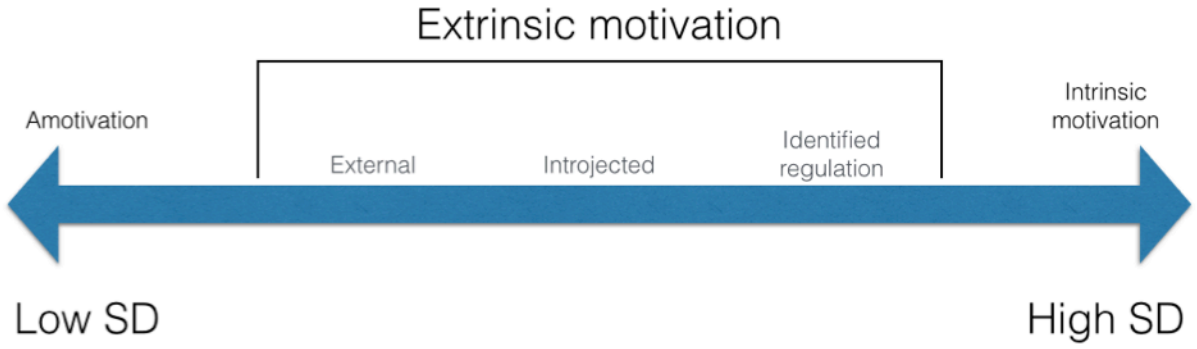

Figure 2. Connection between self-determination (SD) dimensions and motivation.

Study 1: The Online Tool

The first study followed a quasi experiment post-test only design. Originally, the study was designed to use a pre/post-test to determine baseline equivalence, by also collecting data on preliminary internship learning goals. These goals had to be handed in before the beginning of the internship. However, preliminary learning goals were formulated very differently depending on the study coach of the students. This resulted in preliminary learning goals that could not be compared to the final learning goals. Therefore, performing a pre/post-test would not have been valid and reliable. Thus, to determine the effect of the online tool on the graded outcome of internship learning goals only information about the final internship learning goals was gathered. These results were also used to determine whether there was a relation between the valued outcomes for the internship compared to the quality of internship learning goals.

Respondents

Respondents for this research were 76 students of the bachelor courses TCT ($N = 54$) and TEM ($N = 22$) on their 3rd year internship ($N = 73$) or 2nd internship (as substitute for a minor) ($N = 3$). They were informed of the study using the online learning environment Blackboard, for which they had to enrol at the beginning of their internship. The gender of the students was mainly female (72 female and 4 male) and their age range was 19 - 33 year ($M_{age} = 21.77$). Four students started the application in the online tool, but failed to finish it and three students used different learning goals for their internship than the ones they had formulated in the tool. These respondents were excluded from the sample. This resulted in 17 students in the experimental condition and 52 students in the control condition ($N_{total} = 69$, $N_{male} = 4$, $N_{female} = 65$, $M_{age} = 21.78$, age range 19 - 33).

Design

This study had a quasi-experiment with a post-test only design. The condition in which the learning goals were formulated was the independent variable and the graded outcome of the learning goals was the dependent variable. All respondents formulated final internship learning goals, which were graded by their internship coaches using a grading rubric. The conditions were determined by either the presence or absence of the use of the online tool. Respondents were randomly assigned to either the experimental or the control condition. However, since formulating internship learning goals was a mandatory part of the internship, respondents who failed to formulate their final internship learning goals with the use of the online tool, were transferred to the control condition.

Materials

Final internship learning goals. A minimum of three final internship learning goals were formulated by all respondents, for which they used the assignment formulated in the TCT- and TEM internship manual (Internship and Graduation office ACT, 2015). These learning goals were

determined and approved in cooperation with the internship coach and the supervisor at the internship company. The assignment as described in the internship manual was based on the book 'Managing your competencies' by Grit, Guit and van der Sijde (2012). The assignment specified that the learning goals needed to be specific and measurable and had to be situated in the field of ambition, personality, expertise and development (Grit, Guit, & van der Sijde, 2012). Students were also asked to explain per learning goal (a) why they had chosen for this learning goal, (b) how they saw themselves at that moment regarding that learning goal and (c) how they thought to achieve that goal (Internship and Graduation office ACT, 2015).

Online tool. An online tool was used by the students in the experimental condition for the formulation of their final learning goals. The tool was developed by 2nd year students of the IT Service Management programme; also situated at Saxion University of Applied Sciences in Enschede. The tool is divided into two parts. In the first part, the design of the tool follows the user interaction of a popular application for smartphones called *Tinder*[2]. The application shows users a total of 93 pictures they can swipe either to the left or right. Students are shown a picture and an explanation belonging to the picture, which completes the sentence "I'm good at…" (Figure 3) and represents one or more keywords used to describe the competencies (Appendix A). Students can either swipe (smartphone or tablet) or click on the red and green button (all devices) to indicate whether they think they possess a certain quality, in which swiping to the right or clicking the green button is affirming that they possess this quality and swiping to the left or clicking the red button denies this (Figure 3). By analysing the direction in which the students have swiped the pictures, a score will be computed for the twelve competencies. Students had to choose a minimum of three competencies for which they formulated a minimum of three learning goals. With the scores in mind, the students were expected to formulate SMART learning goals of which an explanation was integrated into the tool. After formulating a first draft of their learning goals, the students were guided through a step-by-step procedure to fulfil all the requirements of SMART formulated goals. After the final goals were written, the students could download a pdf-document with all the results.

Grading Rubric. The measurement tool used to grade the final learning goals was developed to incorporate the SMART guidelines into the grading process. The grading rubric was designed in cooperation with the internship coaches to improve the reliability of grading between the different internship coaches. A rubric with examples and defined standards the final learning goals had to fulfil, was also developed (Appendix B). An empty rubric was used to grade the final learning goals per student.

Method and Procedure

All 3rd year TCT and TEM students who went on their internship in the first semester of the school year 2015/2016 were asked to formulate a minimum of three preliminary learning goals as a part of their regular curriculum. All respondents formulated these preliminary learning goals without the use of the online tool. They were also required to sign in for the course called *Stage* (TCT) or Internship (TEM) in Blackboard (an online learning management system used by Saxion) and hand in the Request Approval Internship (Appendix C) at the internship office for Creative Technology. The preliminary learning goals were accessed and approved by the students' study counsellor. However, these preliminary learning goals were not graded. The respondents got assigned an internship coach as soon as their 'Request Approval Internship' form was approved by the Internship and Graduation office ACT.

Before the start of the internship, participants were randomly assigned to either the experimental or the control condition using SPSS. At the beginning of the school year, all respondents were informed about the research via a Blackboard announcement. The experimental condition received an extra explanatory e-mail in which they were asked to use the online tool for the formulation of their final learning goals. The e-mail contained a section in which they received instruction to copy-paste their learning goals into a new document to prevent the internship coaches from being able to tell which students were part of the experimental condition. Respondents of both the experimental and the control condition were expected to hand in their final learning goals after three weeks. Within these

[2] Tinder is an application for smartphones to meet people with the use of pictures (www.gotinder.com).

three weeks, the respondents made the assignment for final learning goals described in the internship manual. To do so, the experimental condition used the online tool.

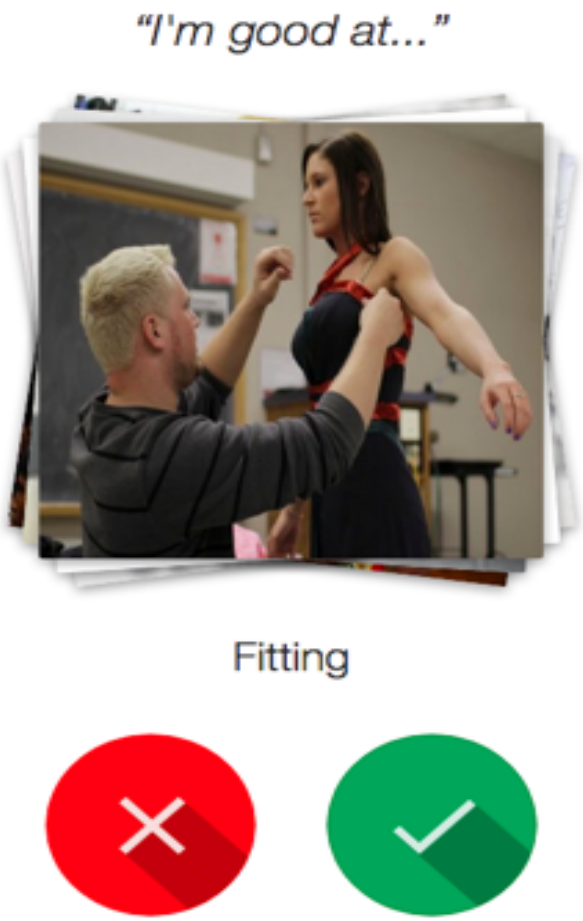

Figure 3. Picture in the online tool representing a quality important for TCT and TEM students

Grading procedure. The researcher graded the preliminary internship learning goals. All study counsellors with students currently on their internship were approached by e-mail with the question to send the preliminary learning goals of the aforementioned students. The learning goals for both conditions were handed in via Blackboard and were graded by the internship coaches using the grading rubric.

Data Analysis

One grade per student was computed by dividing the total of the final internship learning goals by the number of final internship learning goals a student had formulated (MeanFLG). First, the distribution of the complete sample and the experimental- and control condition separately were checked using kurtosis- and skewness values and the Kolmogorov-Smirov test of normality. Second, the mean for the final learning goals (MeanFLG) was calculated after which a comparison was made between the experimental- and the control condition using an independent samples t-test.

Results

Normality for the complete sample was confirmed by the kurtosis- and skewness values (.04 and -.49) and the Kolmogorov-Smirnov test of normality (0.097 (69), p = .176), which was non-significant. Normal distribution was also checked for the separate samples of the experimental- and the control condition. Kurtosis-/skewness values were -.706 / -.272 and .506 / .533 respectively. The Kolmogorov-Smirnov test of normality showed no significance for both samples (0.162 (17), p = .200

and 0.076 (52), p = .200). Therefore, the assumption for normal distribution was met for both samples. In Figure 4 the distribution for both samples is shown.

A Levene's test was used to test for equality of variances between the experimental- and the control condition (F = 1.75, p = .19) and was not significant, so equality of variances could be assumed. After this, a comparison was made between MeanFLG of the control condition (M = 7.07, SD = .75) and the experimental condition (M = 6.83, SD = .92). Results of the t-test showed that there was no significant difference between the grades of the two conditions, t (67) = 1.004, p = 0.150, α = 0.05.

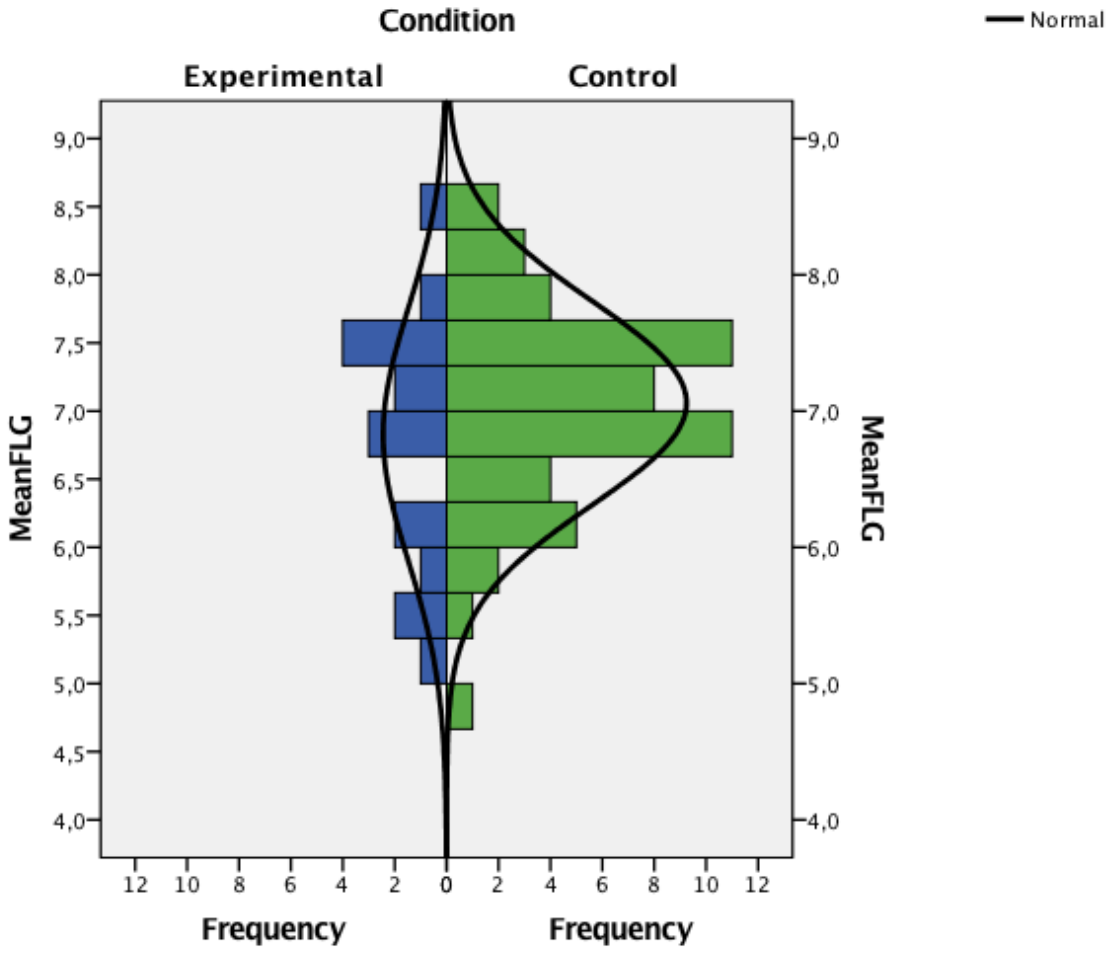

Figure 4. Histogram of the distribution of MeanFLG for the experimental condition (N = 17) and the control condition (N = 52)

Conclusions

It was hypothesized that students in the experimental condition would have significantly higher grades for the internship learning goals in comparison to the students in the control condition. However, according to this data, no significant evidence was found to confirm this hypothesis.

Study 2: Internship Motivation Scale

In the second study, multiple facets of motivation were measured with the use of a questionnaire, called the 'Internship Motivation Scale' (IMS). The goal of this study was to examine to what extent students were motivated to achieve well during their internship and what kind of motivation drove them. Since the IMS is an adaptation of the AMS (Vallerand et al. 1993a), construct validity was determined before the results of the questionnaire were used to test the hypothesis whether there was a correlation between the outcomes of the IMS and MeanFLG.

Respondents

Respondents of the IMS (*Stage Motivatie Schaal* in Dutch) were 84 students of the bachelor courses TCT (N = 63, 75.0%) and TEM (N = 21, 25.0%). They were informed of the study using the online learning environment Blackboard, for which they had to enrol at the beginning of their internship. Of the respondents, 94.0% was female (N = 79) and 6.0% was male (N = 5). Their age range was 18 - 30 year (M_{age} = 21.82). Of the respondents 62 took the survey in Dutch (73.8%) and 22 respondents took the survey in English (26.2%). 54 respondents also participated in experiment 1. Of these respondents, 15.5% (N = 13) used the tool, 41.7% (N = 35) did not use the tool and for 6 respondents the data for the tool was not valid (7.2%). 35.7% of the respondents did not participate in the first experiment. This might be due to the fact that some respondents pre-emptively enrolled for the internship course in Blackboard. Since these respondents could also give a valuable insight into motivation despite the fact that they were not yet on their internship, it was decided to also include their responses in the results.

Method and Procedure

After finishing data collection for experiment 1, respondents were contacted through Blackboard to fill in the Internship Motivation Scale (IMS). There were two versions of IMS, an English version and a Dutch version. All responses were recorded by use of an electronic, online version of the questionnaire. The students of TCT were given an URL to the Dutch version and students of TEM were given an URL to the English version. By random assignment using SPSS, two respondents were rewarded with an H&M gift card of 20 euros. This was announced 4 weeks after opening the survey to increase the number of responses. The questionnaire was closed after 5 weeks, when the researcher felt the sample size was sufficient. In total, a number of 120 responses were recorded. After exclusion of partially filled in questionnaires and double responses, 84 responses were deemed adequate for further analysis.

Internship motivation scale (IMS). To measure different types of motivation, a digital questionnaire of 32 items was developed. The questionnaire was subdivided into 3 sections. The first sections contained 4 questions about personal characteristics (name, student number, age and gender). The name of the participants was only used to link them to the results of experiment 1. The second and third section contained 15 and 13 items respectively. They contained items regarding motivation towards college-internships. These 28 items were based on the Academic Motivation Scale (Vallerand et al., 1993a).

Respondents were asked the following question: 'What are your personal reasons to go on this internship'? The statements that followed could be rated on a 1 (does not correspond at all) to 7 (corresponds exactly) Likert scale. Principal component analyses extracted 7 components, which explained for a total of >70% of the variance. All components had an Eigenvalue > 1.00. After Varimax-rotation with Kaiser Normalization, the 7 components were interpreted and scaled back to 4 components. These 4 components were *Intrinsic motivation* (IM), *Extrinsic motivation – personal* (EMP), *Extrinsic motivation – external regulation* (EMER) and *Amotivation* (AM). Cronbach's alpha values for all components can be found in Table 3.

Intrinsic motivation (IM). This component consisted of 12 items (e.g., 'For the pleasure I experience when I discover new things never seen before') and had a Cronbach's alpha of .914. The subscale was intended to measure the pleasure respondents experience while learning, accomplishing things and feeling stimulated, and is compiled of the three components *to know*, *to accomplish things* and *to experience stimulation* of the Academic Motivation Scale (Vallerand et al., 1993a).

Extrinsic motivation – personal (EMP). This component consisted of 8 items (e.g., 'Because I think an internship will help me better prepare for the career I have chosen') and had a Cronbach's alpha of .828. The component was compiled of two of the three types of extrinsic motivation described by Vallerand et al. (1993a): *introjected regulation* and *identified regulation*. Identified regulation occurs when, even though the task does not bring any joy, someone does something simply because they decided to do so. When a person is pressuring him/herself to do something, it is called introjected regulation.

Extrinsic motivation – external regulation (EMER). This component consisted of 4 items (e.g., 'In order to obtain a more prestigious job later on') and had a Cronbach's alpha of .823. It is defined as the kind of motivation the respondent experiences has because they feel pressured by another

person (Vallerand et al., 1993a).

Amotivation (AM). This component consisted of 4 items (e.g. 'I can't see why I go on this internship and frankly, I couldn't care less') and had a Cronbach's alpha of .728. When a person does not experience any kind of motivation, it is described as amotivation (Vallerand et al., 1993a). The complete questionnaire with all 28 items can be found in Appendix D.

Data Analyses

Since the questionnaire was conducted in two languages, it was first analysed whether there was a significant difference between the outcomes of the IMS in English and Dutch. First, the assumption of normal distribution was checked for the separate subscales, after which the correct methods for comparing means of the English and Dutch subscales were chosen. After this, the correlation between the four components of IMS was calculated. These correlations, together with the values of Cronbach's alpha were used to assess construct validity.

Results

Before means for the different subscales could be compared, tests for normality for the four subscales were executed (Table 1). For the IM and EMP subscales, the Kolmogorov-Smirnov test of normality was non-significant, so the assumption for normal distribution was met. For the EMER subscale, the Kolmogorov-Smirov test of normality was significant. However, both the skewness- and kurtosis values were between -1 and 1, so normality was still assumed. For these subscales parametric test for analysis were used. For the AM subscale none of the conditions for normal distribution were met, so a non-parametric test was used for the analysis of this subscale.

Table 1. *Normality tests for the four subscales of IMS.*

			Kolmogorov-Smirnov[a]	
Subscale	Skewness	Kurtosis	Statistic	Sig.
Intrinsic motivation	-.469	.023	.078	.200
Extrinsic motivation – Personal	-.690	1.237	.069	.200
Extrinsic motivation – External Regulation	-.312	-.707	.099	.040
Amotivation	1.924	2.781	.363	.000

a. Lilliefors Significance Correction

Table 2. *Descriptive statistics for IMS with samples for both languages.*

Subscale*	IMS in Dutch (N = 62)	IMS in English (N = 22)
Intrinsic motivation (12)		
M	4.82	5.12
SD	1.09	.82
Extrinsic motivation - Personal (8)		
M	5.33	5.47
SD	.98	.81
Extrinsic motivation – External Regulation (4)		
M	4.90	4.89
SD	1.38	1.10
Amotivation (4)		
M	1.29	.58
SD	1.67	.97

* Numbers between parentheses are the number of items used to measure the component

To determine if there was a significant difference between the IMS in English and in Dutch, an independent samples t-test was conducted for the IM, EMP and EMER subscales. In Table 2 the descriptive statistics are given for both languages. The outcomes of the t-test, as well as the Levene's test for equality of variances are shown. These results depict that, with $\alpha = 0.05$, equality of variance can be assumed for the all three subscales. The IM, EMP and EMER subscales have a t-value of -1.175 (p = .243), -.588 (p = .558) and .052 (p = .959) respectively (Table 5). For analysis of the AM subscale, a Mann-Whitney test was conducted ($W = 2478$, $Z = -1.884$, $p = .060$). Correlations were calculated between the four subscales and can be found in Table 3, together with the values for Cronbach's alpha.

Table 3. *Correlations among the four subscales of IMS.*

	IM	EMP	EMER	AM
IM	(.914)	.765*	.504*	-.122
EMP		(.828)	.627*	-.015
EMER			(.823)	-.029
AM				(.728)

Note. IM = Intrinsic Motivation; EMP = Extrinsic Motivation - Personal; EMER = Extrinsic Motivation – External - Regulation; AM = Amotivation. The scores between parentheses are Cronbach's alpha values.
* Correlation is significant at the 0,01 level (2-tailed).

Since there were significant correlations between the IM and EMP, IM and EMER and EMP and EMER subscales (Table 3), paired samples t-tests were used to determine if there were significant differences between the means of those three subscales. First, the mean for IM, EMP and EMER were calculated on basis of the complete sample, combining the English and Dutch IMS (Table 4). The paired samples t-test showed that there were significant differences between the IM and EMP subscales (t (83) = -6.256, $p < 0.001$, $\alpha = 0.05$) and EMP and EMER subscales (t (83) = 4.157, $p < 0.001$, $\alpha = 0.05$). No significant difference was found between the IM and EMER subscales (t (83) = -.008, $p = .994$, $\alpha = 0.05$).

Table 4. *Descriptive statistics for IM, EMP and EMER (N = 84).*

	M	SD
IM	4.900	1.031
EMP	5.365	.937
EMER	4.899	1.310

Note. IM = Intrinsic Motivation; EMP = Extrinsic Motivation - Personal; EMER = Extrinsic Motivation – External - Regulation.

Table 5. *Independent samples t-test for three subscales of IMS in Dutch and English.*

		F	Sig.	t	Sig. (2-tailed)
IM	Equal variances assumed	1.822	1.81	-1.175	.243
	Equal variances not assumed			-1.348	.184
EMP	Equal variances	.733	.382	-.588	.558

	assumed				
	Equal variances not assumed			-.646	.522
EMER	Equal variances assumed	.613	.436	.052	.959
	Equal variances not assumed			.057	.954

Note. IM = Intrinsic Motivation; EMP = Extrinsic Motivation - Personal; EMER = Extrinsic Motivation – External - Regulation.

In Table 6, the descriptive statistics for the four subscales of IMS and MeanFLG are shown. Since no significant difference was found between the grades of the internship learning goals for the students in the control- and the experimental conditions, no differentiation was made between those two conditions. All students for which the MeanFLG was known and who had filled in the IMS were included in this sample. As can be seen in Table 7, there was no significant correlation between MeanFLG and any of the four subscales of IMS ($\alpha = .05$).

Table 6. *Descriptive statistics for the four subscales of IMS and MeanFLG.*

	N	Min	Max	M	SD
IM	54	2.33	7.00	4.975	.984
EMP	54	3.38	7.00	5.391	.880
EMER	54	2.25	7.00	4.949	1.279
AM	54	1.00	4.00	1.421	.758
MeanFLG	54	5.25	8.50	6.980	.778

Note. IM = Intrinsic Motivation; EMP = Extrinsic Motivation - Personal; EMER = Extrinsic Motivation - External Regulation; AM = Amotivation; MeanFLG = Average grade of internship learning goals per student.

Table 7. *Correlations among the four subscales of IMS and MeanFLG.*

		IM	EMP	EMER	AM
MeanFLG	Pearson Correlation	-.046	-.108	-.069	-.090
	Sig. (1-tailed)	.370	.218	.310	.260

Note. IM = Intrinsic Motivation; EMP = Extrinsic Motivation - Personal; EMER = Extrinsic Motivation - External Regulation; AM = Amotivation; MeanFLG = Average grade of internship learning goals per student.

Conclusions

Differences in the language of IMS. In Table 5 can be seen that $p > \alpha$ for three subscales, corresponding with the outcomes of Levene's test for equality of variances. The Mann-Whitney test for the AM subscale also found $p > \alpha$. From these results, it could be concluded that for this sample no significant or statistical difference was found between the means for all subscales of the Dutch and English version of IMS. For this reason it was decided that for further analysis both versions of the questionnaire would be treated as one sample, with $N = 84$.

Construct validity. Construct validity of the complete sample was determined by correlation analysis. It was expected that the 'extrinsic motivation' subscales (EMP and EMER) would have a high correlation, since these both measured components of extrinsic motivation. Additionally, high correlations were also found between the extrinsic motivation subscales in the research of Vallerand et al. (1993). It was also expected that the IM and EMP subscale would have some correlation and that AM would have a negative correlation with all other subscales, since amotivation measures the

opposite of motivation to do the internship (Vallerand et al., 1993). Looking at the data, all these predictions were upholded (Table 3). Therefore, construct validity was deemed sufficient and the outcomes of IMS were used in this research to draw further conclusions about the correlation between motivation and the quality of the internship learning goals and the graded outcomes of the internship reflection report.

Differences between subscales. There was significant statistical evidence that respondents were mostly motivated by extrinsically personal factors to perform well during their internship.

Correlation with MeanFLG. It was hypothesized that there would be a positive correlation between intrinsic motivation and the quality of the internship learning goals. However, no significant correlation was found. Therefore, it can be concluded that motivation – neither intrinsic-, extrinsic- nor amotivation – had any influence on MeanFLG for this sample.

Study 3: Interviews

After measuring the quality of the internship learning goals and the motivation of individual students, interviews were used to gain deeper understanding on how students perceived their own motivation and the formulation of learning goals. This part of the study also aimed to answer the question to what extent students were aware of the competencies they were developing during their internship. It was hypothesized that students in the experimental condition of the first study would have a better understanding of the competencies they were developing in comparison to the students in the control condition.

Respondents and Procedure

Respondents for the interviews were selected with *criterion based sampling* and *maximum variation sampling* (Ritchie, Lewis, & Elam, Designing and selecting samples, 2003).

In order to select a representative sample of respondents for the interviews, *criterion based sampling* was used (Ritchie et al., 2003). From both the experimental- and the control condition of the first study, 5 students were selected on basis of age, gender and type of education (TCT or TEM) to ensure that the sample was representative for the whole population of students. *Maximum variation sampling* (Ritchie et al., 2003) was used for the selection of respondents based on age, to examine the effect of age on motivation. According to DiCicco-Bloom and Crabtree (2006) "the sample of interviewees should be fairly homogenous and share critical similarities related to the research question" (p. 317). Since the respondents for this part of the research are selected from the group of respondents from experiment 1, these critical similarities (such as education, interests, etc.) are inherently present.

After selection of the respondents, they were contacted by e-mail to ask for their cooperation. Since students were often short in time and spread out over the Netherlands and other countries, they were given the option to do the interview with the use of *Skype*[3]. Due to low response, the final sample of interviewees consisted out of 4 students (57.1%) of the control condition and 3 students (42.9%) of the experimental condition with $M_{age} = 23.00$. All respondents were female. Out of this sample 28.6% ($N = 2$) were of TEM and 71.4% ($N = 5$) were of TCT. However, the distribution of age, study (TCT or TEM) and gender sufficiently matches the distribution of the general population to be able to make inferences.

It was chosen to use a neopositivist approach to collect factual information from the interviewee (Alevesson, 2003). However, there was some overlap to a romanticist approach, since the perception of the respondents was very important for studying motivation. The interviews were semi-structured, since semi-structured interviews use open-ended questions, which leave room for other questions that might emerge during the interview (DiCicco-Bloom & Crabtree, 2006). The structure was used to prevent too much researcher bias, since Qu and Dumbay (2011) state: "Since researchers take a very active role in question design, there is a possibility that they inadvertently or overtly bias data collected" (p. 244).

Interview questions. The interviews were guided by a set of concepts that were important for answering the research questions. The open-ended questions were designed to explore these concepts

[3] Skype is an application that enables free videocalls over the internet on a PC, tablet or smartphone (www.skype.com).

systematically and to evoke elaborate answers from the interviewees (Qu & Dumay, 2011). The different concepts that could be identified will be shortly discussed. With exception of the first concept, the concepts did not necessarily occur in this order. Since it was a semi-structured interview, this was determined by the flow of the interview.

Internship. After an introduction in which the interviewee was given a short description of the research and was asked permission to record the interview, interviewees were asked about their internship, the company they were interning and the tasks they had to perform (e.g., 'Can you tell me something about your internship'? and 'What have you learned so far'?).

Internship learning goals (ILG). After getting acquainted with the tasks, questions were asked about the formulation of the preliminary- and final internship learning goals (e.g., 'What were the steps that helped you determine and formulate your learning goals'?). Internship learning goals were a re-occurring theme throughout the entirety of all the interviews.

Motivation. Questions about motivation were asked in regards to the internship (e.g., 'What motivates you to do well during this internship'?) and the internship learning goals (e.g., 'To what extent do the internship learning goals help you with your motivation'?) and were also a re-occurring theme throughout the interviews.

Competencies. Some questions were asked about the extent that the interviewees were guided by competencies during their internship and their studies (e.g. 'To what extent are you aware of the competencies as described in your study guide'?). These questions were linked to the interviewees' internship learning goals (e.g., 'To what extent did these competencies help you in formulating your internship learning goals'?) and their motivation (e.g., Do you feel that the competencies help you with your motivation'?).

Online tool. Interviewees that had used the online tool for the formulation of their final internship learning goals were asked how they had experienced the use of the online tool (e.g., 'In what way did you feel that the online tool helped you with the formulation of your internship learning goals'?).

Study organization. Throughout the interview, questions were asked about how the interviewees perceived and valued the assignments and coaching that the school provided (e.g., How have you experienced the help you received from your internship coach'?).

The interviews were transcribed and send to the interviewees for *member validation*, to assure correctness of the interpretations and meaning making that might have occurred during transcription (Lewis & Ritchie, 2003).

Data Analysis

All interviews were labelled and analysed on basis of content analysis. From this labelling, themes occurred. Some of the themes were predetermined by formulation of the interview questions (i.e., internship learning goals, motivation, competencies) and some themes occurred during analysis (i.e., study organization, future). After that, relational analysis was used to identify similarities and differences between interviewees.

Results

Analysis of the documents resulted in 45 labels, which could be subdivided into 6 themes. The themes contained labels that dealt with all facets of the theme and were not limited to physical- (e.g., *External supervisor*), mental- (e.g., *Intrinsic motivation*) or personal properties (e.g., *Beliefs*). The theme *Internship* contained 11 labels, which were given to quotes that were specific for the current internship the interviewees were on. The theme *Internship learning goals* was made up out of 7 labels, specifically dealing with the formulation of (preliminary) learning goals for this internship and the procedures that had to be followed. *Motivation* contained 8 labels and dealt with motivation itself and factors that might have an influence on motivation. *Study organization* had 7 labels concerning the organization at the university. The themes *Personal* and *Future* had 10 and 2 labels respectively, with *Personal* containing labels saying something about how the interviewees dealt with different circumstances and *Future* having to do with life after the internship and graduation. In Table 8 all labels are shown under the corresponding themes, together with their relative percentage of occurrence and how often the labels occurred per document.

Table 8. *Occurrence of labels following data analysis, per interviewee.*

	Interviewees								
Theme/label	1	2	3	4	5	6	7	Total	Rel.*
Internship									
Team work	-	3	2	-	-	1	-	6	.42
Time management	3	6	-	2	1	1	-	13	.90
Tasks	7	5	3	3	3	1	7	32	2.22
ES (External supervisor)	4	4	6	7	2	2	6	31	2.15
Communication	3	10	3	-	-	-	-	16	1.11
Difficulties	1	7	6	1	-	3	1	19	1.32
Dissatisfaction	2	5	3	1	2	1	1	15	1.04
Interpersonal expectations	1	-	6	-	-	3	2	12	.83
Personal expectations	14	6	7	2	2	3	1	37	2.57
Feedback	-	-	-	-	4	1	-	5	.35
Change	3	2	-	2	1	1	1	10	.69
Internship learning goals (ILG)									
ILG	12	17	21	20	18	11	31	130	9.02
ILG pre (preliminary)	3	1	3	2	2	1	4	16	1.11
Online tool	11	-	-	-	5	-	10	26	1.80
Self-knowledge	5	13	8	4	9	5	11	55	3.82
Strengths/Weaknesses	6	7	5	5	4	5	4	36	2.50
Self-reflection	-	13	12	1	7	3	14	50	3.47
Development	-	12	12	3	5	6	14	52	3.61
Motivation									
Achievement	-	4	7	2	1	2	4	20	1.39
Long term achievement	-	3	-	-	-	-	1	4	.28
Motivation	19	9	9	6	4	6	10	63	4.37
Extrinsic motivation	2	3	12	4	7	6	6	40	2.78
Intrinsic motivation	5	6	15	9	4	3	7	49	3.40
Focus	11	12	7	20	2	2	3	57	3.96
External factors	5	5	3	2	4	6	5	30	2.15
Feeling useful	1	4	-	-	-	-	1	6	.42
Study organization									
Assignment	4	5	16	6	6	4	13	53	3.68
Study organization	4	8	16	12	12	9	12	73	5.07
Planning	1	9	-	4	1	2	-	17	1.18
Competencies	6	8	14	4	3	4	5	44	3.05
Coaching	6	9	13	7	6	3	9	53	3.68
FS (Feedback from Student)	4	-	5	-	4	-	11	24	1.67
Process	-	5	7	4	3	5	7	31	2.15
Personal									
Acceptance	-	2	5	-	-	1	-	8	.56
Adapting	2	3	5	2	1	1	-	14	.97
Attitude	13	5	11	8	7	9	8	61	4.23
Beliefs	21	5	10	3	1	2	8	50	3.47
Knowledge	3	6	9	4	-	-	3	25	1.73
Confidence	-	-	4	-	1	2	-	7	.49
Dealing with setback	-	3	4	-	-	3	1	11	.76
Independent	-	-	4	-	-	1	3	8	.56
Preferences	-	4	6	10	5	4	3	32	2.22
Learning behaviour	4	4	7	5	2	2	3	28	1.94
Future									
Career	7	4	1	3	2	4	8	29	2.01
Future	6	7	4	8	4	7	7	43	2.98
Total	94	87	107	69	54	60	85		

* Relative occurrence of the label in percentages

Conclusions

The students were generally positive about their internships. Three students indicated that the assignment they were given by the internship company was not what they had expected. However,

they were able to see the added value of the internship and realized that even though they were disappointed by the tasks they had to perform, they were learning a lot. One student stated:

"…during the last weeks I just really trained myself not to be to disappointed about this and then do the other thing that you cán influence…"

In general, students saw the value of formulating internship learning goals. However, they had some problems with deeply reflecting on their own strengths and weaknesses. The three students who had used the online tool were all positive about how the pictures and the stepwise formulating of the goals helped them with this self-reflection. The following quote (translated out of Dutch) gives some insight in how this student had experienced the use of the tool:

"Yes, I thought that was nice. It also told you to give a timeline and things like that. It also lets you think more about how to formulate it properly. Because that is often the hard part; in my head I know what I want, but to get it on paper properly, that's another story..."

Some critical notes were made with respect to the organization of the internship. The formulating of preliminary internship learning goals was viewed as a formality that had no added value and to which very little attention was given by the study coaches. Students expressed that they felt that no attention was given to what they wrote on the Blackboard forms and that the study coaches approved those without reviewing them critically.

Of all the interviewees, none of them were familiar with the competencies that were described by their course. Of the 7 interviewees, 3 indicated to have read them in their first year and that some focus was given in their first-year study coaching lessons. However, afterwards they had never been reminded of them again.

With regards to motivation, some differences could be observed between the ages of the interviewees and their motivation. Younger students stated more often that they wanted to proof themselves towards others – one student explained she was motivated because she wanted to show to her colleagues that she could do this internship well - where the older students were more driven by personal goals:

"No. I want more really, I want to possibly change something maybe. Also, I think that we need to support the producing countries because we are profiting from them and therefore we need the right knowledge to improve things."

It was hypothesized that students in the experimental condition of study 1 would have better understanding of the competencies they were developing in comparison to the students in the control condition. Since all interviewees acknowledged they were unaware of the predetermined competencies as formulated by their training, there is no precedent to conclude that the students who have used the online tool have a better understanding of the competencies.

Study 4: Internship Outcome

At the end of the internship, students had to hand in a short research report and a reflection report. In the reflection report students had to reflect on their progress in relation to their internship learning goals. The valued outcome (grade) of this report was used for this study.

Respondents

For this part the researcher received grades from the reflection report of $N = 71$ students, from the bachelor courses TCT ($N = 54$, 76.1%) and TEM ($N = 17$, 19.7%). Of these students 95.8% was female ($N = 68$) and 4.2% was male ($N = 3$), with an age range of 19-33 year and $M_{age} = 21{,}71$. Two students were on their second internship and 69 students were on their first internship.

Method and Procedure

A draft of the reflection report was handed in on Blackboard. The deadline was in the first week of January 2016. The internship coaches gave feedback on the concept version and after 10 days, the

final version was handed in on Blackboard. Students could find a description and a checklist for both the draft as the final version in their internship manual. The checklist can be found in Appendix E. The reflection report was divided into an 'activities component', in which the student had to describe the context in which the internship took place and what kind of tasks they had to perform, and a 'reflection component', in which the student had to reflect on its internship learning goals. The assigned internship coaches graded the reflection reports.

Data Analysis

The distribution of the valued outcome for the internship reflection report (GradeRR) was checked using the Kolmogorov-Smirnov test of normality. This was important to determine which assumptions could be made during regression analysis. Simple linear regression analysis was used to determine if there was a correlation between MeanFLG and GradeRR. Multiple linear regression analysis was used to determine a possible correlation between the different components of motivation and GradeRR.

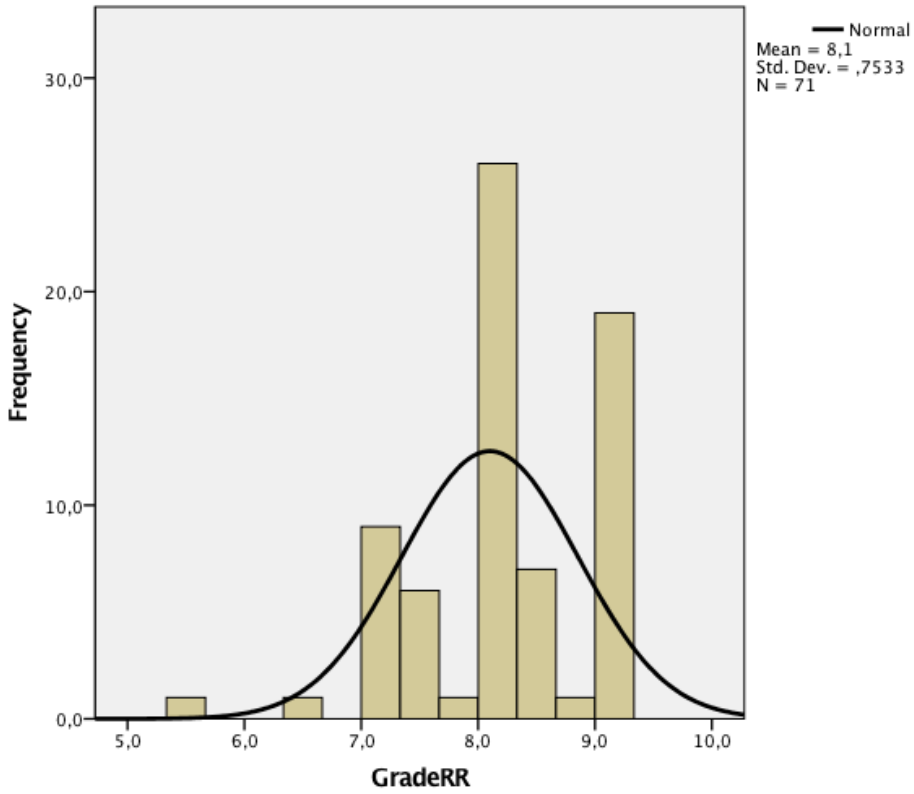

Figure 5. Histogram of the distribution of the valued outcome for the internship reflection report.

Results

In Figure 5 the distribution of the valued outcome for the internship reflection report is shown. The Kolmogorov-Smirnov test of normality gave a test statistic of .194 ($p < .001$). From these results, it could be concluded that there was no normal distribution. However, since the sample was small ($N = 52$) and the population of students on their internship did follow a normal distribution, normal distribution was still assumed. For this reason a parametric test was used for the analysis for mean comparison between the experimental- and the control condition.

Experimental- vs. Control Condition. To determine whether there was a difference in GradeRR between the experimental- and the control condition, an independent samples t-test was conducted. This test showed that there was no significant difference in the GradeRR between both conditions ($t(56) = .523$, $p = .603$, $\alpha = 0.05$).

Table 9. *Descriptive statistics for the four subscales of IMS and GradeRR.*

	N	Min	Max	M	SD
IM	52	2.33	7.00	4.967	.973
EMP	52	3.38	7.00	5.317	.855
EMER	52	2.25	7.00	4.798	1.334
AM	52	1.00	4.00	1.385	.720
GradeRR	52	5.50	9.00	8.079	.781

Note. IM = Intrinsic Motivation; EMP = Extrinsic Motivation - Personal; EMER = Extrinsic Motivation - External Regulation; AM = Amotivation; GradeRR = Grade of internship reflection report.

Valued outcome of the internship learning goals. To determine if there was a correlation between GradeRR and MeanFLG, simple linear regression analysis was conducted. This analysis showed that the overall model was not significant. With R^2 = .017 (F (63) = 1.085, p = .302), less than 2% of the variance could be explained by the model. These values showed that the valued outcome of the internship learning goals were not a good predictor for the valued outcome of the internship.

Motivation. In the 2nd study, multiple components of motivation were measured. In Table 9 the descriptive statistics for the four subscales of IMS and GradeRR are given. Multiple linear regression analysis was used to examine possible correlations between GradeRR and the four subscales of IMS. In Table 10, the correlations between GradeRR and the four subscales of IMS are shown. Analysis showed that there was a small significant correlation between the AM subscale and GradeRR. However, with R^2 = .057 (F (51) = 3.001, p = .089) the overall model was not significant, since it explained less than 6% of the variance.

Table 10. *Correlations among the four subscales of IMS and GradeRR.*

		IM	EMP	EMER	AM
GradeRR	Pearson Correlation	-.091	-.003	-.075	.238*
	Sig. (1-tailed)	.260	.493	.298	.045

Note. IM = Intrinsic Motivation; EMP = Extrinsic Motivation - Personal; EMER = Extrinsic Motivation - External Regulation; AM = Amotivation; GradeRR = Grade of internship reflection report.
* Correlation is significant at the .05 level (1-tailed)

Conclusions

According to the hypothesis, a higher valued outcome for the internship learning goals would lead to a higher valued outcome for the internship in terms of the reflection report students had to write. However, no proof has been found to endorse this statement. Additionally, no difference was found in the grades for the internship reflection reports between users and non-users of the online tool.

Furthermore, it was expected that higher intrinsic motivation would lead to a better grade for the reflection report. The three subscales intrinsic motivation, extrinsic motivation – personal and extrinsic motivation – external regulation were not related to the grade of the reflection report. A small relation was found between the grade of the reflection report and amotivation, however, this relation was not significant enough to be able to predict the grade in the future by the use of a statistical model.

Discussion

In this paper it was researched what motivated 3rd year students of TCT and TEM at Saxion to do well on their internship and to what degree internship learning goals and the understanding of competencies influenced their motivation. To examine whether the quality of the internship learning

goals could be improved, an online tool was developed by the IT training course at Saxion. Students in the experimental condition formulated their internship learning goals with the SMART-method, which was integrated in the online tool. By doing so, the difference in the quality of internship learning goals between the experimental condition and the control condition was examined, which was expected to be significantly higher for students in the experimental condition. However, based on the results it can be concluded that use of the online tool did not have a positive effect on the grades of the internship learning goals. Although standardization of the goal-grading procedure was attempted by the use of a grading rubric, it might have been that the grading of the internship learning goals was not unambiguous enough. Therefore it is recommended that, in future research, interrater agreement is determined by letting multiple internship coaches grade the internship learning goals. By doing so, differences in grading might be detected and resolved. Furthermore, the assignment for the formulation of the internship learning goals given in the internship manual did not match the SMART-method as used in the online tool. This might have caused some confusion for the students in the experimental condition, which in turn could explain the absence of a significant difference in the results. Therefore, it might also be advised that students themselves have access to the grading rubric – including the examples – as seen in Appendix B, so they know what is expected when they formulate their learning goals. In addition, the original research was designed with a pre/post test quasi-experiment for the first study. However, preliminary learning goals were formulated very differently depending on the study coach. For most students only a short version, which had to be filled in on the Blackboard form, was available. This resulted in preliminary learning goals that could not be compared to the final learning goals. Performing a pre/post test would therefore not have been valid and reliable. It is advised that the curriculum of TCT and TEM is adapted in such a way that comparison between the preliminary- and final learning goals is possible, to be able to measure a student's progress in goal formulation.

In this paper, the IMS was used as an adaptation on the AMS (Vallerand et al., 1993a). Data analysis showed that construct validity was sufficient to make inferences on the motivation of students on their internship. According to Mayer (2008) a combination between performance goals and mastery goals would have the most positive influence on student achievement. Although TCT and TEM did not make a distinction between these two types of achievement goals (they are all called learning goals in the internship manual), the results showed a significant difference in the motivation for students between the IM and EMP, and EMER and EMP subscales. Apparently, students employed the highest mean for personal extrinsic motivation. According to the literature (Vallerand et al., 1993b), the EMP subscale would be most in line with an adaptation of a combination of performance- and mastery goals. This might be an explanation to why students performed so well on their internship while also experiencing pleasure. This could be deducted from the grades of the reflection report and the answers interviewees gave during the third study.

In line with the theory on achievement goals and motivation, it was expected to find a positive correlation between the grade of the internship learning goals and the grade for the internship reflection report. However, no such correlation was found. All reflection reports were, like the internship learning goals, graded by the internship coaches. During the interviews and data collection, it became very clear that there was no internal coordination between internship coaches on the manner of grading. Although a rubric is present for both the internship learning goals as the reflection report, the distribution of the grades was not unambiguous. This became very clear when one of the internship coaches send an e-mail in which the following was said:

> "*The following students have received a 9 for their reflection report (this means for me that the reporting is good, that they've properly described the company, that they've properly mentioned their learning goals and reflected on them in a proper manner. The used language is also good and they have attached their old learning goals)".*

This resulted in all students graded by this internship coach receiving a 9 for their reflection reports. Different internship coaches explained on different moments their struggles with grading reflection, since they felt that, for a student, there was no wrong way to reflect on development or feelings. Without clear examples of good or bad reflection reports by students, the internship coaches were

inclined to generally give high grades, which might account for the absence of a correlation between the grades for the internship learning goals and the reflection report.

The next sub question that was researched was to what extent students were aware of the competencies they were developing during their internship. It was found that the students did properly reflect on their internship learning goals. The students that were interviewed stated that during the internship itself, they regularly reflected on the progress they were making regarding their learning goals, both individually and together with their external supervisor. However, all interviewed students stated that they were unaware of the competencies that were connected to their study programme. Some remembered to have read them during classes in the 1st year, but none of them remembered what they were or even where they could find what the competencies were. This research was conducted from the viewpoint of the student. However, it is unclear to what extent teachers are aware of, and trying to incorporate the competencies into their courses. It is advised to do more research to what extent all stakeholders are driven by competencies in the development of education. By doing so it can be determined where a gap occurs and how it should be closed. Some feedback given from a student was that the competencies they have to develop during a course should be contextualized. This could be achieved by mentioning them at the beginning and end of a course. This gives students the opportunity to reflect and create awareness to the extent to which they have developed these competencies during the course.

Thus, what does this teach us about how the relationship between the quality of the internship learning goals and intrinsic motivation can be improved? First, in order to really be able to quantify this relationship, clearer guidelines for the grading of internship learning goals and reflection reports should be adopted. However, the warning given by Biemans et al. (2004) should be taken into consideration. Over-structuring assessment might push education back into a behaviourist corner, while during an internship a more holistic approach should be taken, in which the student in a professional environment should be the focal point. For students to be motivated, they should be working towards a challenging but attainable goal (Conley & French, 2013). Properly formulated learning goals might help to achieve this. Students who had used to tool, stated during the interviews that they saw an added value to the tool. It had helped them organize and structure their strengths and weaknesses, which in turn made it easier to formulate the learning goals. Students revealed that self-reflection was one of the harder parts of formulating learning goals, and the tool had helped them with that aspect. The step-by-step formulation of the learning goals was also perceived as pleasant and gave the right amount of structure that students needed during the formulation of the learning goals.

So even though no significant difference was found between the experimental- and the control condition on the formulation of the learning goals or in the reflection report, a clearer structure and consensus in the organization and grading of internship related assignments might help with students' motivation. Relying on student statements in the interviews, the online tool might play a big role in providing this structure. When assignments, and the manner in which they are assessed are clear to the student, they might feel inclined to formulate learning goals that have the qualities needed to influence motivation in a student and therefore improve achievement.

References

Alevesson, M. (2003). Beyond neopositivisits, romantics and localists: a reflective approach to interviews in organizational research. *Academy of Management Review , 28* (1), 13-33.

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: students' learning strategies and motivation processes. *Journal of Educational Psychology , 80* (3), 260-267.

Archer, J. (1994). Achievement goals as a measure of motivation in university students. *Contemporary Educational Psychology , 19*, 430-446.

Biemans, H., Nieuwenhuis, L., Poell, R., Mulder, M., & Wesselink, R. (2004). Competence-based VET in the Netherlands: background and pitfalls. *Journal of Vocational Education and Training , 56*, 523-538.

Boahin, P., & Hofman, A. W. (2012). Implementation of innovations in higher education: the case of competency-based training in Ghana. *Innovations in Education and Teaching International , 49*, 283-293.

Conley, D. T., & French, E. M. (2013). Student ownership of learning as a key component of college readiness. *American Behavioral Scientist , 58*, 1018-1034.

Conzemius, A., & O'Neill, J. (2006). *The power of SMART goals: Using goals to improve student learning.* Bloomington: Solution Tree Press.

Covington, M. (2000). Goal theory, motivation and school achievement: An integrative review. *Annual Review of Psychology , 51*, 171-200.

Dall'Abla, G., & Sandberg, J. (1996). Educating for competence in professional practice. *Instructional Science , 24*, 411-437.

DiCicco-Bloom, B., & Crabtree, B. F. (2006). Making sense of qualitative research. The qualitative research interview. *Mediacal Education , 40*, 314-321.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist , 41* (10), 1040-1048.

Grant, G., Elbow, P., Ewens, T., Gamson, Z., Kohli, W., Neumann, W., Olesen, V., Riesman, D. (1979). *On Competence: a critical analysis of competence-based reforms in higher education.* San Francisco: Jossey-Bass.

Grit, R., Guit, R., & van der Sijde, N. (2012). *Managing your competencies: personal development plan.* Groningen: Noorhoff Uitgevers.

Hamilton, M. (2009). Putting words in their mouths: the alignment of identities with system goals through the use of Individual Learning Plans. *British Educational Research Journal , 35* (2), 221-242.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research , 77* (1), 81-112.

Internship and Graduation office ACT. (2015). *Internship manual Textile Engineering and Management 2015-2016* . Saxion, Academy of Creative Technology, Enschede.

Leech, N. L., & Onwuegbuzie, A. J. (2007). A typology of mixed methods research designs. *Quality & Quantity Qual Quant , 43* (2), 265-275.

Lewis, J., & Ritchie, J. (2003). Generalising from qualitative research. In J. Ritchie, & J. Lewis, *Qualitative Research Practice. A Guide for Social Science Students and Researchers* (pp. 263-286). London: SAGE Publications.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation. A 35-year odyssey. *American Psychologist , 57* (9), 705-717.

Locke, E. A., & Latham, G. P. (2006). New Directions in Goal-Setting Theory. *Current Directions in Psychological Science , 15* (5), 265-268.

Mayer, R. E. (2008). *Learning and Instruction.* Upper Saddle River, New Jersey: Pearson Education.

Meece, J. L., Blumenfeld, P. C., & Hoyle, R. H. (1988). Students' goal orientations and cognitive engagement in classroom activities. *Journal of Educational Psychology , 80* (4), 514-523.

Mulder, M. (2004). *Education, competence and performance. On training and development in the agri-food complex.* From (Doctoral thesis, Wageningen University, Wageningen, The Netherlands): www.mmulder.nl/PDF%20files/2004%20Inaugural%20%20address.pdf

Nederlands- Vlaamse Accreditatieorganisatie. (2013). *Accreditatiestelsel Nederland 2011-2013.* From NVAO: http://www.nvao.net/page/downloads/NVAO_Evaluatie_Accreditatiestelsel_ Nederland_2011-2013_DEF.pdf

Onwuegbuzie, A. J., & Leech, N. L. (2006). Linking research questions to mixed methods data analysis procedures. *The Qualitative Report , 11* (3), 474-498.

Pintrich, P. R., & de Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology , 82*, 33-40.

Qu, S. Q., & Dumay, J. (2011). The qualitative research interview. *Qualitative Research in Accounting & Management , 8* (3), 238-264.

Raemdonck, I., Leeden, R. V., Valcke, M., Segers, M., & Thijssen, J. (2012). Predictors of self-directed learning for low-qualified employees: A multi-level analysis. *European Journal of Training and Development , 36*, 572-591.

Ritchie, J., Lewis, J., & Elam, G. (2003). Designing and selecting samples. In J. Ritchie, & J. Lewis, *Qualitative research practice. A guide for social science students and reseachers.* London: SAGE Publications.

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist , 55* (1), 68-78.

Saxion. (2015a). *Fashion & Textile Technologies*. Retrieved November 11, 2015 from Saxion: https://www.saxion.nl/act/site/menu-3/contentpagina/Textielmanagement/

Saxion. (2015b). *Over Saxion*. Retrieved November 11, 2015 from Saxion: https://www.saxion.nl/over/organisatie/over-saxion/

Treasure, D. C., & Roberts, G. C. (1995). Applications of achievement goal theory to physical education: implications for enhancing motivation. *National Association for Physical Education in Higher Education , 47*, 475-489.

Vallerand, R. J., Blais, M. R., Brière, N. M., & Pelletier, L. G. (1989). Construction et validation de l'Échelle de Motivation en Éducation (EME). *Revue canadienne des sciences du comportement , 21*, 323-349.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., & Vallières, E. F. (1992). The academic motivation scale: A measure of intrinsic, extrinsic, and amotivation ineducation. *Educational and Psychological Measurement , 52*, 1003-1017.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C. B., & Vallières, E. F. (1993a). Academic motivation Scale (AMS-C 28). *Educational and Psychological Measurements , 52-53* .

Vallerand, R. J., Pelletier, L. G., Blais, M. R., Brière, N. M., Senécal, C., & Vallières, E. F. (1993b). On the assessment of intrinsic, extrinsic, and amotivation in education: evidence on the concurrent and construct validity of the academic motivation scale. *Educational and Psychological Measurement , 53*, 159-172.

Velde, C. (1999). An alternative conception of competence: implications for vocational education. *Journal of Vocational Education and Training , 51* (3), 437-446.

Wesselink, R., & Lans, T. (2003). Competentiegericht groen onderwijs. In H. Biemans, M. Mulder, R. Wesselink, T. Lans, & P. Schlooz, *Onderwijsvernieuwing & Groen Onderwijs: Naar Actief en Constructief Leren* (pp. 123-136). 's Gravenhage: Reed Business Information.

Wesselink, R., Lans, T., Mulder, M., & Biemans, H. (2004). *Evaluating design principles for competence based education. Insights from a participatory action research in Dutch higher professional education.* Wageningen: Wageningen University, Education and Competence Studies.

Appendix A
The 12 Competencies for TCT and TEM with Keywords Used for the Online Tool.

I. Technical competencies

1. Technical knowledge and analysis	
The beginning professional has at his disposal a thorough knowledge of the latest technologies in the field of raw materials, fabrics, production (knitting, weaving, non-wovens and clothing technology), finishing and printing, and of the supply chain within the international textile and fashion industry. The professional is capable of carrying out and applying technical research and analysis.	Textile raw materials Refining Supply chain Knitting Weaving Non-wovens Confectioning Threads (spinning) International industries
2. Designing and prototyping	
The beginning professional is able to realize creational value at a technological level. He has an innovative, creative attitude when defining, designing and finalizing a design or prototype on the basis of a programme of demands for design.	Designing Innovating Technical drawing Trend spotting Fashion history Confectioning Collection building Conceptualizing Woven fabrics Knitted fabrics Finishing Printing Marketing Specifications (requirements)
3. Testing and implementing	
The beginning professional is capable of assessing the results following from the design, development and production process and then comparing them regularly against the set criteria (material and fit). The beginning professional creates the prototype and is able to realize the final product based on the prototype with his knowledge of international production and testsupply chain.	Fitting Test protocols Test result analysis ISO/NEN Global sourcing End-user requirements

II. Design competencies

4. Research and analysis	
The beginning professional can distinguish and analyse complex problems and is able to provide innovative and strategic solutions. Inspired by behaviour and experience, he is capable of making a sound decision with regard to concept, material and design. The beginning professional proves by his investigative skills to master a range of relevant skills and is able to select the right method pertaining to the circumstances of the research.	Research techniques Research methods Reporting Target acquisition Market- and product oriented Justification of choices

5. Conceptualizing	
The beginning professional is able to define a final concept. He can formulate conceptual criteria and weighs social, economical, intercultural, ethical and aesthetic aspects when doing so.	Concept development Brainstroming Societal justification Cultural choices Ethical considerations Product innovation Vision and intellectual property
6. Product design	
The beginning professional is able to translate a concept into a final product, such as 2D and 3D collections, communication products and advisory reports.	Canvas (computer software) CAD (computer software) Product manufacturing Pattern drawing Lectra (computer software) Illustrator/Photoshop

III. Organising competencies

7. An enterprising attitude	
The beginning professional sees chances and opportunities and knows how to exploit them from an international market-oriented point of view. He must be open, flexible, take appropriate risks and think with the solution in mind.	Strategical thinking Market oriented Solution oriented Leadership Marketing Selling/reselling Change management
8. Commercial skills	
The beginning professional is able to translate commercial skills into innovative collections, products or services, bearing the commercial feasibility in mind. He possesses enterprising skills.	Selling/reselling Intercultural Professional jargon (Cost)price calculation Laws and legislation Logistics Thinking in target audiences
9. Project work	
Working on projects: The beginning professional shows he is able to work together productively in a multidisciplinary team. He is also able to coordinate processes and work with tight deadlines.	Project management Multidisciplinary Teamwork Calander management Process coordination
10. Communication	
The beginning professional is able to express himself on paper, visually and verbally, in English and in Dutch, in person and in his work in a professional and well-kept manner, keeping the target group in mind.	Communication Intercultural communication Professional jargon Reporting skills Presenting English/Dutch

IV. Professional competencies

11. Ability to learn and to reflect	
The beginning professional can analyse and adjust its own actions, based on results and feedback from others. He is open to relevant developments in his international domain.	Reflection of own actions Critical thinking Giving and receiving feedback Recognizing/making use of
12. Responsibility	
The beginning professional is able to answer for choices made from different perspectives. He keeps in mind among other things ethical (social/multicultural), sustainable, business and international issues.	Explanation of choices Professional ethics Laws and legislation People/planet/profit Code of conduct Durability

Note. The left column shows the competencies as described in the study guides for TCT and TEM. The right column shows the keywords used for the online tool.

Appendix B
Grading Rubric for Final Learning Goals.

Rubric stageleerdoelen

Deze rubric is te gebruiken om de stageleerdoelen voor de 3e-jaars stage van de opleidingen TCT en TEM te bedoordelen.

	< 5	5	5,5	6	7	8	9	< 9
Onderdeel ter evaluatie	**Onvoldoende**		**Voldoende**		**Goed**		**Excellent**	
Specifiek - *Is er duidelijk omschreven waarom het leerdoel voor de student belangrijk is?* - *Is het doel niet te breed omschreven/slecht beschreven?*	Ontbreken van een motivatie waarom dit leerdoel gekozen is. Het doel is veel te breed geformuleerd (bijvoorbeeld*: "Ik wil mijn Engels verbeteren")		De motivatie is niet gestoeld op ervaringen of voorbeelden, maar op een algemene reden. Het doel is te breed geformuleerd. (bijvoorbeeld: "Ik wil beter leren organiseren, omdat dat handig is om te kunnen")		Het doel is duidelijk gespecificeerd, inclusief een reden. Echter, een voorbeeld ontbreekt/is heel summier/het voorbeeld heeft geen reflectie op eigen handelen. (bijvoorbeeld: "Ik wil mijn Engelse spreekvaardigheid verbeteren, zodat ik beter kan onderhandelen.)	De student legt aan de hand van ervaringen of voorbeelden uit waarom dit doel belangrijk is en van toepassing zou kunnen. De student reflecteert hierbij op eigen handelen van nu of in de toekomst.	
Meetbaar - *Heeft de student aangegeven/hoe ze er nu voorstaan?* - *Drukt de student zijn/haar ontwikkeling uit in een maat/ eenheid?*	Geen omschrijving van huidige staat van kunnen van de student en geen omschrijving van de niveau dat de student wil behalen. (bijvoorbeeld: "Ik wil mijn Engels verbeteren")		Student maakt doel 'meetbaar' door aan te geven dat ze iets nu niet kunnen (slecht kunnen), maar dat na de stage goed willen kunnen. (bijvoorbeeld: "Op het moment is mijn Engelse spreekvaardigheid slecht, ik wil dit gedurende mijn stage verbeteren")		De students geeft een schaal aan de te verwachten ontwikkeling (bijvoorbeeld: onvoldoende/voldoende/goed/ excellent)		De student geeft zichzelf een cijfer (bijvoorbeeld met betrekking tot taalvaardigheden) en geeft aan tot welk cijfer ze zich willen ontwikkelen. Tevens wordt er beargumenteerd waarom ze deze maat willen behalen.	
Haalbaar (Attainable) - *Is er duidelijk beschreven hoe de student dit doel denkt te bereiken?*	Het leerdoel is niet haalbaar binnen de gegeven stageperiode. De student omschrijft niet hoe het doel behaald zou moeten worden. (bijvoorbeeld: "Ik wil de beste X worden van het bedrijf")		Het leerdoel is haalbaar binnen de gegeven stageperiode, maar er wordt geen motivatie gegeven om de haalbaarheid te beoordelen. (bijvoorbeeld: "Ik wil zorgen dat ik proactiever wordt in mijn handelen")		Het doel is goed haalbaar binnen de stageperiode. Er is een korte uitleg gegeven om de haalbaarheid te beoordelen.		Het doel is goed haalbaar binnen de stageperiode en er is een duidelijke uitleg gegeven om de haalbaarheid aantoonbaar te maken en om de motivatie om het doel te behalen hoog te houden.	

	< 5 5	5,5 6	7 8	9 < 9
Onderdeel ter evaluatie	**Onvoldoende**	**Voldoende**	**Goed**	**Excellent**
Relevant - *Is het leerdoel geschikt voor deze ontwikkeling?* - *Past het leerdoel binnen de stage?*	Het leerdoel is totaal niet relevant voor de stage. (bijvoorbeeld: “Ik wil chocoladepasta leren maken”)	Het leerdoel is enigszins relevant met betrekking tot de omgeving, maar niet voor het doel van de stage. (bijvoorbeeld: “Ik wil me profileren binnen het bedrijf”)	Het leerdoel is relevant met trekking tot het doel van de stage.	Het leerdoel is relevant met betrekking tot het doel van de stage. Het is het juiste doel, op de juiste afdeling en met de juiste motivatie.
Time-bound - *Heeft het doel een tijdsspanne?*	Er is geen tijdsspanne gegeven in het leerdoel. (bijvoorbeeld: “Ik wil mijn Engels verbeteren”)	Er is een tijdsspanne gegeven, maar deze is niet gepast voor deze stage of voor de professionele ontwikkeling van de student. (bijvoorbeeld: “In wil in de komende 5 jaar mijn Engelse schrijfvaardigheid verbeteren”)	Er is een duidelijke tijdsspanne gegeven, met eventueel een (begin- en) einddatum.	Er is een duidelijke tijdsspanne gegeven, met een (begin- en) einddatum. Het leerdoel is opgedeeld in stappen en is duidelijke gemotiveerd.

*De voorbeelden in deze rubric hebben alleen betrekking op de beschreven categorie. Een goed leerdoel bevat alle elementen.

Appendix C
Form for the Request of Approval for the Internship.

KOM VERDER SAXION

Internship Office Creative Technology
Course Textile Engineering & Management

Address: van Galenstraat 19 Room G4-22
Postal address: Post Box 70.000 7500 KB Enschede
Telephone No.: 053-5376202 Email: sab.act@saxion.nl

Request Approval Internship (Deliver 3 weeks before start of the internship!) **Only fill out in Word!!**		
Internship from: **until** (dd-mm-yy)	**Date of request:** (dd-mm-yyyy)	
Personal Information Student		
Surname:	First name :	
Initials:	Student number:	
Address:	Postal Code: Town:	
Mobile number:	e-mail*:	
Internship Company Information		
Company name:	Company size: Employees	
Address:	Postal Code:	
Town:	Country:	
Telephone:	URL website:	
Company Supervisor Information		
Surname:	Initials:	M/V: M
First name :	Function/position:	
Telephone:	e-mail:	
Please motivate why you want to do your internship in this company and shortly list your internship goals:		
This part is to be filled in by Jan Chris Hullegie:		

Approval Coordinator	**Internship Coach**	**Credit Check**	.....
.....	----------	**Check PDP**	.....

* *If you don't use Inotes mail, take care that you forward mail to your preferred e-mail address. Initially Saxion will send e-mail to your Inotes mail!!*

MCRL/26-11-2012

Appendix D
28 Items of the Internship Motivation Scale (IMS)

What are your personal reasons to go on this internship?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Because I want to graduate so I can find a high-paying job later on. (1)	❍	❍	❍	❍	❍	❍	❍
Because I experience pleasure and satisfaction while learning new things. (2)	❍	❍	❍	❍	❍	❍	❍
Because I think an internship will help me better prepare for the career I have chosen. (3)	❍	❍	❍	❍	❍	❍	❍
For the intense feelings I experience when I am communicating my own ideas to others. (4)	❍	❍	❍	❍	❍	❍	❍
Honestly, I don't know: I really feel that I am wasting my time at this internship. (5)	❍	❍	❍	❍	❍	❍	❍
For the pleasure I experience while surpassing myself in a professional surrounding. (6)	❍	❍	❍	❍	❍	❍	❍
To prove to myself that I am capable of completing my internship successfully. (7)	❍	❍	❍	❍	❍	❍	❍
In order to obtain a more prestigious job later on. (8)	❍	❍	❍	❍	❍	❍	❍
For the pleasure I experience when I discover new things never seen before. (9)	❍	❍	❍	❍	❍	❍	❍
Because eventually it will enable me to enter the job market in a field that I like. (10)	❍	❍	❍	❍	❍	❍	❍
For the pleasure that I experience when I meet interesting people. (11)	❍	❍	❍	❍	❍	❍	❍
I once had good reasons for going on this internship; however, now I wonder whether I should continue. (12)	❍	❍	❍	❍	❍	❍	❍
For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments. (13)	❍	❍	❍	❍	❍	❍	❍
Because of the fact that when I succeed during this internship I feel important. (14)	❍	❍	❍	❍	❍	❍	❍
Because I want to have "the good life" later on and this internship will help me accomplish that. (15)	❍	❍	❍	❍	❍	❍	❍

What are your personal reasons to go on this internship?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
For the pleasure that I experience in broadening my knowledge about subjects which appeal to me. (1)	❍	❍	❍	❍	❍	❍	❍
Because this will help me make a better choice regarding my career orientation. (2)	❍	❍	❍	❍	❍	❍	❍
For the pleasure that I experience when I feel completely absorbed by what certain people have created. (3)	❍	❍	❍	❍	❍	❍	❍
I can't see why I go on this internship and frankly, I couldn't care less. (4)	❍	❍	❍	❍	❍	❍	❍
For the satisfaction I feel when I am in the process of accomplishing difficult academic activities. (5)	❍	❍	❍	❍	❍	❍	❍
To show myself that I am an intelligent person. (6)	❍	❍	❍	❍	❍	❍	❍
In order to have a better salary later on. (7)	❍	❍	❍	❍	❍	❍	❍
Because this internship allows me to continue to learn about many things that interest me. (8)	❍	❍	❍	❍	❍	❍	❍
Because I believe that this internship will improve my competence as a worker. (9)	❍	❍	❍	❍	❍	❍	❍
For the 'high' feeling that I experience while working on various interesting processes. (10)	❍	❍	❍	❍	❍	❍	❍
I don't know; I can't understand what I am doing at this company. (11)	❍	❍	❍	❍	❍	❍	❍
Because an internship allows me to experience a personal satisfaction in my quest for excellence in my studies. (12)	❍	❍	❍	❍	❍	❍	❍
Because I want to show myself that I can succeed in this business. (13)	❍	❍	❍	❍	❍	❍	❍

Appendix E
Checklist for the Internship Reflection Report

Reporting Checklist				
	Internship reflection report		Internship research report	
	Draft	Final version	Draft	Final version
Front page	x	x		x
Title page	x	x		x
Table of contents	x	x	x	x
Preface	x	x		x
Summary	x	x		x
Introduction	x	x	x	x
Activities component				
Company outline	x	x	x	x
Internship department	x	x		
Internship activities	x	x		
Reflective component	x	x		
Selection of internship company	x	x		
Reflection on internship learning goals	x	x		
Applied knowledge/skills	x	x		
Conclusion on choice of profession		x		
Research component				
Introduction to the research			x	x
Purpose			x	x
Main question / Sub questions			x	x
Research method			x	x
Literature review			x	x
Data collection			x	x
Results			x	x
(Preliminary) Conclusions and Recommendations			x	x
Bibliography			x	x
Annexes			x	x
Acknowledgement of sources according to APA	x	x	x	x
Size	Max. 15 pages		Max. 20 pages	