

Developing Masters' Degree Thesis Supervision Industrial Management Degree Programme

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INTRODUCTION

The Industrial Management Master of Science degree programme at Tampere University of Applied Sciences has existed since 2009. During this time 75 Bachelor of Science engineers have continued their studies to the higher degree. The student intake has been 150 students and the graduation rate 50%. The major obstacle for graduation have been various problems with the thesis work. This paper reviews how the thesis supervision has been improved in order to improve student graduation rate. In doing that we have also acquired a deeper understanding of students' challenges, what competences mean and how learning of advanced topics takes place.

1 GENERAL

The thesis is a combination of development and research assignments that must be done in and for an organisation. Most often the organization is a private technology company but there have been some vocational schools, military materiel command and communities. The thesis is not accepted if it is done as a theoretical paper study

without a connection to the practise. This ensures that the legal requirement regarding Master of Science Degree graduates being able to develop work and organisations is fulfilled. The thesis size is 30 credit units and makes up half of the 60 credit unit programme size. The total credit units needed for the Master of Science Degree is 300 c.u. which is made up of 240 c.u. from the Bachelors' degree and 60 c.u. from the Masters' Degree studies.

Students to the programme have been accepted based on their abstract of the thesis subject, average grade of their Bachelor of Science diploma and the amount of work experience. The abstract of their thesis subject gives 50% of the total score and is the major, often the only factor in student admission, since many students have equal grades and work experience. Now it looks that the students have excellent topics for their thesis and all should be well. The classes are organised on Fridays and Saturdays with the intent that students keep their day jobs with minimised absentness. The average age of students is 34 years. Many of them are already in management positions.

Taking a closer look at the students, their main motivation for continued education is career advancement. This becomes often a reality since approximately half of the students who never graduate are promoted during their studies. This group of students is the most problematic regarding graduation. Systematically the thesis work comes to a halt since the job related to their thesis is left behind and students have little time for studies as they are learning their new jobs. Also the study motivation is lower because they reached their goal without graduation. The remaining half of the students who don't graduate have multiple reasons for their problems with their thesis work. The most common reason is that the organization cancels their thesis work because of changes in the organisation. This may mean layoffs but also other changes without losing the job. Other reasons include lack of time for studies, lowering motivation, lack of family support and personal reasons.

2 STEPS TO IMPROVE GRADUATION RATE

Since 2011 we have conducted a series of changes and trials in how to best guide the thesis work. The idea is to help the students advance as quickly as possible in the practical aspects of their thesis whether it is development or research. This is thought to help the students when their job or the organisation changes. They have at least the material ready for their use in writing the thesis.

2.1 Academic Year 2011-2012

In 2010 the graduation rate was only 8 out of 25 students. The thesis supervision was conducted in a process that we considered to be a "normal" academic process. Supervisors role was to listen, support, encourage and guide the student regarding decisions and reflection (Isokorpi, 2003). Supervisor guides the student to present the right questions and in finding answers (Ojanen, 2000). During the thesis process students must feel that it is their own thesis and not made under orders from the supervisor (De Kleijn, Mainhard, Meijer, Pilot & Brekelmans, 2012). The supervisor is seen as a guide and a coach. With the low graduation rate it is clear that something must be changed.

For improving the thesis process, students are heavily involved. The formal feedback process (using forms) gives feedback on what is, but is poor in capturing new ideas and therefore creating something new. It is felt that a discussion is a far better way to get feedback. The discussions are held informally in the cafeteria and students are asked to come up with ideas how to improve their studies and thesis work. These

discussions produce one new idea. The thesis seminars take place quite late during the academic year. Students have got new ideas out of the seminars but the ideas come sometimes too late for the thesis work. The seminars should be earlier and their nature directed towards presenting the thesis process and any ideas the students have tried in their research or development work.

2.2 Academic year 2012-2013

Based on the students' idea the curriculum now has four seminars and they are earlier in the program. The nature of the seminars is changed as described earlier. After completing the academic year it turns out the improvement is only marginal. The graduation rate is 12 students out of 25. The discussion the year earlier did not provide sufficient improvements ideas. Now the feedback discussion is directed towards the students who graduate to find out what was different in their case. It turns out that the graduating students have got detailed advice, teaching, and ideas for suitable literature. Also they have got suggestions for various solutions from their thesis supervisor. They had got more than is traditionally expected from the thesis supervisor. The key in the supervisors' work had been that the supervisor had personal experience in precisely the same topic the student was working on. With that personal know how and enthusiasm the supervisor was able to provide high quality coaching and guidance during the thesis work. Also the detailed suggestions and teaching had played a large role.

It is decided that the seminars would continue as they now are, since they received positive feedback but the thesis supervisor selection is done, from now on differently. The supervisor must have personal experience precisely in the same topic the student is working on. This is a major shift in our thinking, before we felt that the students must find their own way with their thesis. Thesis supervisor must guide but doesn't need to know the details of the topic. Now the thesis supervisor is expected know every detail and have walked the same path the student is walking on.

2.3 Academic Year 2013-2014

This year the supervisor selection is done as explained earlier. It turns out the university professors don't have the all the experience now required and for the first time some of them must come from outside the university. It is explained to the thesis supervisors why they are selected and what their new expected role is. At the end of year it turns out that thesis supervisors who are not professors actually got all of their students to graduate. The graduation rate is now 14 students out of 25. The graduation rate improvement is very marginal.

The feedback discussion is organized the same way as before. Students report that supervisors who are not professors gave them very detailed practical advice which helped them greatly. The university professors gave more general guidance and expected the students solve the details in which they struggled greatly. It is felt that professors having less practical experience may not have such detailed practical knowledge and are unable to provide detailed advice. However, students are now getting more help and ideas from their thesis supervisors and are no longer relying on seminars for this. It is decided that instead of seminars the students would be grouped into thesis groups of similar topics and the group would meet every two to three weeks. Each thesis group would include at least two thesis supervisors. This in turn may combine the practical experience of two or more thesis supervisors and may help in improving quality of advice the students are receiving. It is also decided the thesis

supervisors must visit the organization where the student is working on the thesis. This also may help in improving the quality of advice.

2.4 Academic Year 2014-2015

The thesis supervision and thesis groups are organized as explained earlier. There is still one seminar at the end of the academic year where graduating students present their thesis share their advice with the students who still continue to struggle with their thesis. The graduation rate is still 14 students out of 25. The results from the academic year 2015-2016 are not complete at the time of writing this paper. The estimate is that we remain at the level of 14 students out 25. One might estimate that we have reached the maximum attainable graduation rate with the changes we now have made.

3 DISCUSSION

The Masters' Degree education as evening and weekend education started in Finland in 2005. At Tampere University of Applied Sciences this program started in 2009. We have only a short experience with such type of adult education. The whole process described here, while it may seem trivial, has been a learning process with new type of students and thesis topics. The process has not solved the problem of reduced student motivation when the organization changes or the students are promoted. The goal has been to expedite the thesis process, so that the practical part would be complete before the motivation is too low or students lose the thesis topic. The better quality thesis supervision has clearly helped some students. Both the feedback and graduation rate testify about that.

The thesis topics are different than they are with the younger full time students. Systematically the topics deal with higher level concepts and middle and upper management concerns. Typical examples are: constructing a project management model for the organization, analyze long term project management success and identify key success factors, building, measuring and analyzing cost indicators in order to improve production and analyze the effects of various purchasing models in order to develop purchasing strategy. Slowly we have realized that what we considered "traditional" coaching and guiding is not adequate when the topics are so complex. The thesis supervisors need to immerse themselves into to thesis and work sometimes together with the student to solve the problems.

The students are often beginners when it comes to complex management topics and developing an organization. Most of them have no experience in developing anything. The whole concept of developing an organisation may be alien and students have a multitude of practical problems with concept of development or research. With such students the thesis supervisor must have his or her own practical experience with the thesis subject and development or research. The supervisor must create his or her own idea of the results and how to get there. Also from this perspective the supervisor's role is far more important than with younger full time students. Our process now in certain ways resembles the way organisations train new employees.

The thesis supervisors with the most practical experience with the thesis topic produce the most graduates. In selecting supervisors we now have turned to the companies and other universities for the best possible thesis supervisors.

It seems that the current work which has concentrated in helping thesis work has produced positive results but has reached its limits. Our future changes will concentrate on student motivation. It is a far more difficult challenge since the root causes for decreasing student motivation are not in the University's control. Therefore we cannot

change what is, we can only offer some additional motivators. In addition at least half of the cases are in fact positive since students have been promoted. There is a chance that this form of education where students earn Masters' Degree with evening and weekend classes can never reach high graduation rate. However if we count graduates and promoted together we end up at least with 19 students out of 25 positive net.

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