



LAHDEN AMMATTIKORKEAKOULU
Lahti University of Applied Sciences

Guiding web-based self-study in accounting basics

Case: Lahti University of Applied Sciences

LAHTI UNIVERSITY OF APPLIED
SCIENCES

Master's Degree programme in
International Business Management

Master's thesis

Spring 2017

Johanna Rohrweck

Lahti University of Applied Sciences
Master's Degree Programme in International Business Management

ROHRWECK, JOHANNA: Guiding web-based self-study in
accounting basics

Master's Thesis in International
Business Management 62 pages, 12 pages of appendices

Spring 2017

ABSTRACT

Accounting, and work life in general, is going through rapid changes. The political and financial environment forces the educational system to adapt to the new circumstances. How can Lahti University of Applied Sciences (LUAS) meet these challenges in the field of accounting? E-learning has been one answer to the new requirements in education, and developing web-based solutions is one of the institutions' aims.

This study begins with the intention of finding out the present situation of the local accounting field, and what managers expect from future employees. It also takes a look at the future in accounting, since adapting to the upcoming changes is crucial in order to stay competitive. This is executed as a qualitative study, by interviewing local professionals in the field. The results show, that the Finnish educational system is seen as effective and that desired employee attributes are often more personal traits, than learned concepts. Some issues, though, came up more often. The most important thing a new accounting professional needs is a solid knowledge in accounting basics.

The rest of the project combines the theory in e-learning with the accounting basics, resulting in a self-study package for students that are starting a Master's accounting course. Since all of the graduate business students do not have a history in studying accounting, they are asked to take a recap test in accounting basics. In addition, the concepts are gone through in short videos that are available for all the accounting course students.

Key words: flipped classroom, self study, blended learning, accounting

CONTENTS

LIST OF APPENDICES	1
1 INTRODUCTION	2
1.1 Research objectives	3
1.2 Scope and limitations	4
1.3 Structure of the thesis	4
2 ACCOUNTING BASICS	6
2.1 LUAS undergraduate accounting basics	6
3 PEDAGOGY	8
3.1 Teaching accounting and finance	8
3.2 E-learning	9
3.3 Traditional versus online	15
3.4 Blended courses	16
3.5 Flipped classroom	17
3.6 Future work life skills	18
3.7 Sustainability	21
4 RESEARCH APPROACH AND METHODS	25
4.1 Qualitative research	25
4.2 Interviews	26
4.2.1 Interviewed companies	26
4.2.2 Financial managers	27
4.2.3 Interview structure	28
4.2.4 Execution and analysis	29
4.2.5 Post-interview questions	29
5 INTERVIEW RESULTS	30
5.1 Finnish education in accounting and finance	30
5.2 Future work life	32
5.3 Employee skills	34
5.4 Accounting basics, questions sent by email	40
6 ACCOUNTING BASICS RECAP – LUAS ACCOUNTING COURSE	43
6.1 Determining the quiz content	43
6.2 Platform and choices	44
6.3 Questions	45

6.4	Instruction videos	47
6.5	Validity and reliability	47
7	CONCLUSIONS AND RECOMMENDATIONS	49
7.1	Future of accounting	50
7.2	Teaching methods	51
	REFERENCES	54
	APPENDIX 1	63
	APPENDIX 2	71

LIST OF APPENDICES

Appendix 1 – Quiz questions in detail

Appendix 2 – Accounting basics recap – instruction videos

1 INTRODUCTION

The Master's programme in Business Administration attracts students from various backgrounds. Therefore, students have huge differences in their knowledge base of accounting. Even though most of the students should have at least one completed accounting course from the undergraduate level, they might have a long working history after the completion of the degree. As a result, the accounting basics might not be mastered, when attending to Master's level courses. As a part of this study, a pre-course quiz is made, that measures the knowledge base of students attending the Master's level accounting course. The quiz will guide students to appropriate learning material of the chosen topics.

The accounting course that this study is made for, will be implemented as a blended learning course, having some of the tasks online in addition to some contact lessons. Therefore, this thesis tries to determine how it would be best to implement a course with e-learning aspects in it, in order to maintain good quality and student satisfaction. The theory goes through some e-learning history and study findings, which will be the base for some suggestions for better quality e-learning.

The future of the working life in general, and specifically the future of accounting is discussed in the theory-section and the interviews. Having some kind of view of the future is important, in order to stay at least in touch with the ever evolving necessities of work life. This is especially important in education, since there is a hugely growing possibility that the taught information is already outdated, when students reach work life. The theory reveals, that accounting teaching has been pretty static for many years, but there is discussion of the changes educational institutes should undergo in order to prepare students to the changing accounting environment. Learning the theories isn't enough anymore, since accounting is changing from mostly preparing data to controlling and analysing it. Regardless, the importance of understanding the basics is more important than ever, since controlling and analysing big data isn't possible without understanding the mechanics behind the numbers.

Therefore, the focus of this thesis is to determine the proper basics for the Master's accounting course, and helping the students get the best out of their accounting studies.

1.1 Research objectives

In order to determine the needed knowledge base, this study includes interviews with accounting professionals. These interviews consist of a few topics; the future of accounting, the needed skill set of an accounting employee and the quality of accounting education in Finland. Since work life and education are undergoing continuous changes, it is important to look into the future to determine how to focus on the correct issues. Asking the possible future employers what kind of skills they need from their employees, brings an outside-in kind of approach to this project. Asking them about their perceptions about the current quality of education might bring valuable information about issues, which need to change in teaching.

The information of the interviews is then reflected on the accounting knowledge base taught on the undergraduate level, and information from theoretical sources. Since the Master's courses will be partly web-based, the theory consists of pedagogical issues regarding e-learning. All these combined, will help to create a knowledge level quiz, which will enable students to determine their knowledge level and get acquainted with the concepts they aren't familiar with. After familiarization, they will be able to reach a higher learning level on the Master's accounting course.

The research questions are:

What kind of skills do accounting professionals need in the future?

What are the basic accounting concepts everyone working with accounting should know?

How can students be guided to learn these concepts using blended learning techniques?

1.2 Scope and limitations

The theory consist mostly of electronic articles found through Google Scholar and LUAS's library access. The aim was to find most recent publications, but some date back to the 1990's. A lot of accounting theory discussion seems to date back to the last century, therefore it was considered in this thesis.

Future work life skills were also considered in this thesis, because the writer considered important to take a futuristic view in this rapidly changing environment. As the interviews show, accounting, among other disciplines, is undergoing structural changes as computers are doing more and more of the work of traditional accountants. Therefore, thinking solely based on the present situation wouldn't result in lasting results.

In addition to accounting basics, the theory introduces some modern ways that use accounting beyond its use as an information tool. For example the environmental angle can help companies combine environmental and financial goals, which hopefully is the newest movement that will spread to common use. The environmental angle is a great example of the evolving of accounting and why it should be considered beyond the narrow view of financial reporting.

Besides pros and cons of e-learning, the theory views it through an angle of quality. Even though e-learning has been present for many years, there is still a lot of debate and unclarity of the optimal way to use it. The theory of this thesis goes through some problems and tries to find solutions for them.

1.3 Structure of the thesis

After the introduction of the first chapter, the second chapter goes through the content of the undergraduate accounting courses at LUAS.

The third chapter focuses on theory of e-learning, accounting education and future work life skills.

Chapter four, research approach and methods, documents the qualitative research. The next two chapters go through the findings of the research and the implementation of the research results.

The last chapter tries to incorporate the theory into all that was learned during this thesis process. The results are reflected on the present situation, and some suggestions are made regarding possible changes and the future of teaching accounting.

2 ACCOUNTING BASICS

As the quiz that will be made as a part of this thesis, will measure the knowledge level of Master's students, one angle for the needed knowledge base is the knowledge taught in the undergraduate programme. Since the graduate programme doesn't focus on accounting, and there are many alternatives for majors on the undergraduate level, the knowledge of the accounting major cannot be the basic requirement. Therefore, two undergraduate programmes were included. LUAS's Finnish general Bachelor of Business Administration, without the extra courses on accounting and finance. And the international equivalent in English.

2.1 LUAS undergraduate accounting basics

The general BBA studies include one basic course of financial accounting and one that focuses on business and finance mathematics. The learning outcomes of the financial accounting course are:

The student

- understands the role of accounting as part of company's operations
- learns how to prepare financial statements in a small company by using accounting software
- gets to know the principles of value-added taxation system
- is able to assess company's financial performance based on financial statements (LUAS 2014)

The content of the business and finance mathematics course is:

Percentage and interest calculations with their applications, index numbers, foreign currencies, compound interest, periodic payments, credits and loans, pricing and securities. (LUAS 2014)

The Finnish programme includes the same two courses. The financial accounting course is said to contain:

Accounting, accounting obligation in business, stages of the accounting cycle, account groups and entry rules, acquisition cost depreciation, value added tax determination and entries, financial statements. (LUAS 2014)

The business and finance mathematics course content is described as follows:

Adapting percentage calculations for taxing, pricing and valuation of domestic and foreign currency, the significance of indexes when analysing the economy, interest rate and compound interest when determining the amount of capital, profit and profitability, controlling repetitive deposits and payments, funding options. Calculations with Excel. (LUAS 2014)

Even though, there is a slight difference in both programmes course descriptions, you could argue that both language versions of the courses are almost identical. Through this angle, the next functions can be demanded as basic knowledge (Table 1):

TABLE 1. Accounting basics according to LUAS undergraduate mandatory accounting courses.

Financial accounting	Role and legislation Cycle, accounts and entries Depreciation
Financial statements	Preparing and analysing
VAT	Principles
Cost accounting	

Even though the mathematics courses are listed above, and the content helps to understand the topics in financial accounting better, they are left out of the requirements for the management accounting courses.

3 PEDAGOGY

This section begins with a brief look at theory on the pedagogy of accounting and finance. The next step is to go through some history of e-learning, since it is seen to be the future of education. There are, though, numerous issues with purely e-learning strategies, therefore the next chapters focus on the modified versions of e-learning; blended learning, and the newer version flipped classroom.

The last two sections take a look to the skills seen necessary in the future work life, and how accounting can contribute in sustainability. Sustainability is an awfully important topic, when considering future actions. Both the social and environmental angles of sustainability help to contribute in building a sustainable future to the upcoming generations.

3.1 Teaching accounting and finance

According to Gordon (1999), delivering content alone in online accounting courses is misusing technology. Giving the students only “linear-style textbook content” for practise may give them the idea that accounting is objective and precise. This undermines the learning of thinking outside the box, in order to address complex situations. An empirical study by Weil, Sidney et al. (2001) tested, if using case studies could help students learn decision making and solving real-world problems, as theory suggested. They found, that their study mostly confirmed the presumptions. Dickfos, Cameron, and Hodgson (2014) tested a blended strategy, where they incorporated tasks to enhance students’ communication skills. They argue, that accounting students need to learn generic skills to help them in the future business environment. Therefore, they add video presentations in the course curriculum, and found out that grading videos gives positive outcomes compared to grading live-held presentations. The grading was seen to be more consistent and fair this way.

In the international context, different kind of learning perspectives need to be taken into account. Auyeung and Sands (1996) noticed, that the learning style of the student is affected by the cultural background of the student.

They stated, that the difference in thinking through the concept of “I” or “we” affects the activity of the student. Students from collectivist cultures tended to rather observe the teaching, whereas students from individualistic cultures tend to be active participants. As they state themselves, there surely are more dimensions between these extremes, but with international groups this needs to be taken into account, when planning the courses.

Accounting and finance have been traditionally taught as separate disciplines. Peter F. Pope from Lancaster University Management School (2005) believes that this might result in problems in the developing of both disciplines. Bruce Leaby argues, that the changing roles of accountant and finance professionals demand a broader inter-disciplinary knowledge. He states, that in order to collaborate, professionals need to understand the nuances and language of each other’s fields (2012). Some schools have tried to solve this problem by combining their introductory courses in accounting and finance. (Leaby 2012, McWilliams & Peters 2012) The combination of both courses restricts the amount of data that can be given during the course, but gives the students a deeper understanding in both issues (McWilliams & Peters 2012).

3.2 E-learning

E-learning has been becoming increasingly popular in the last decades. The possibilities of asynchronous online education are huge, offering courses to remote places and in various times, as long as the participant has an internet connection. Online courses offer students new possibilities, making it easier to combine studies with family and work. Educational institutes might be able to offer various courses with minimum resources, making E-learning a possible solution for economic difficulties.

Online courses, however, demand a new kind of expertise from educational institutes, as well as from their students. E-courses need to be thoroughly pre-planned, since they are running with less supervision than traditional face-to-face taught courses. Students need to be able to manage themselves, in order to get the needed work done without supervision. E-learning can therefore offer possibilities to teach students various life skills.

In the beginning of e-learning programmes, many failed because of the lack of quality content and an effective interactive experience. Some e-learning models attempt to address these known issues of the learners and educational institutions. Recent models help to combine technology and pedagogy, in order to address issues beyond providing content and access to it. (Engelbrecht 2003, 39, 41)

Although virtual learning environments (VLE) are widely spread among higher education institutes, they are used more as complementary tools. Many of the VLE features aren't being used, and in many cases using the platform is optional for students. The lack of a sophisticated use of the e-learning tools might lead to the stop of the development of virtual learning. (Sharpe 2006, 135-136)

Even though institutes have tackled the electronic issues and are able to offer a wide range of actions online, the students aren't necessarily participating as expected. This has pushed the focus into pedagogical issues. (Engelbrecht 2003, 44)

Rhona Sharpe from Oxford Brookes University (2006, 146-147) emphasises the importance of an e-learning strategy. She points out some of the most important issues in making the strategy; it is important, that the school staff is included in the planning and implementing. The development of the project is ensured by appointing someone to ownership of the process, and linking e-learning based employee development into the strategy.

The implementation of a successful web course is dependent on a strategy that takes in account both students and the institution's needs. The first step of the planning process should be to identify the current situation. Then a vision should be set; how would the institution like the results to reflect on them? According to the vision statement, a mission statement is made to identify the necessary steps towards the vision. After these are done, the strategy will be clarified by making internal and external analyses, and models to identify the threats and possibilities of the outcome. Taking the results into account, strategic recommendations are made and the plan is implemented to reach the vision. (Engelbrecht 2003, 38-39)

Thompson and MacDonald argued that building an e-course is a trade-off between structure and flexibility.

Structure and planning is needed in order to plan the flow of the course, but flexibility answers to changing needs during the course. Their study showed that careful planning combined with an extensive support group was the key for a positive first impression. A well-structured course helped the students to feel more confident, and continuing the planning throughout the course helped to respond to the changing needs of the group. (2005)

“Ensuring that collaborative platforms include typical gaming features such as immediate feedback, clear objectives and a staged series of challenges can significantly drive participation and motivation.” (Davies, Fidler, Gorbis 2011)

Even though e-learning is still strongly developing, and there is no perfect solution available, there are huge possibilities in the development of educational technology. Gordon (1999) writes, that computer-assisted learning has the possibility to reform accounting education by offering ways to teach students multiple soft skills in addition to theory. As examples he names; interpersonal and collaborative skills, interaction and critical thinking skills.

Online education seems to be getting more popular among higher education students. As overall enrolments have been declining in the United States, online enrolments have been increasing. (Gray 2013) There lays a huge potential for institutes that are willing to invest into developing their e-learning supply. Gray (2013) predicts, that in the future learning concepts and techniques will become more important, than the institute that offers the courses. This shifts the focus from reputation to innovation.

Online quizzes

Online lessons and quizzes tend to get higher participation, when the results are graded. (See, Conry 2014) Non-graded activities will get lower participation. Student's motivation for making extra work without sufficient and clearly defined rewards might be low. Regardless, encouragement from the lecturer might benefit in engaging students to independent study, even though the actions remain ungraded. (Weil, De Silva, Ward 2014)

Online community and communication

Karen Swan (2002) argued, that research findings on asynchronous online learning are consistent. She found three factors that affect online course success. These were the course structure, instructor interaction and dynamic discussion. These affect the aspects, that are needed for effective learning and student satisfaction; interaction with content, instructor and classmates.

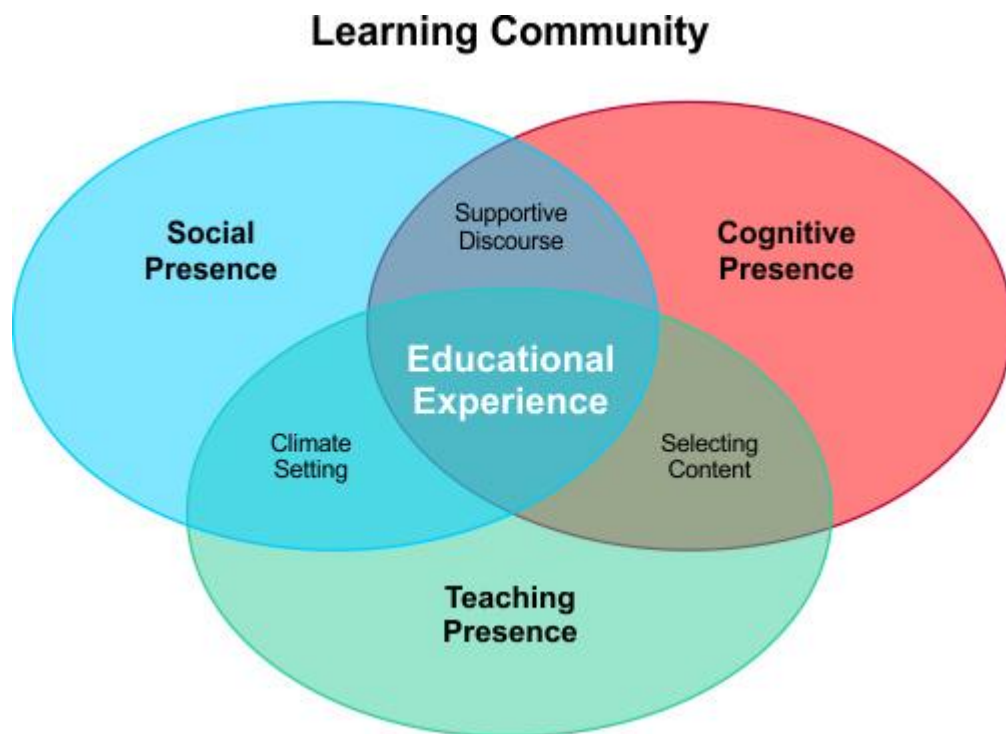


FIGURE 1. The elements of a learning community. (Garrison 2007)

Supporting the community requires students to be able to act in a secure environment and reach for a common goal. Students need to be present, but also focused on the purpose. This focus might need the establishment of the social relationships first, leaving the social aspect to the sidelines after a sense of community is established. Above Garrison's learning community elements (FIGURE 1). (Garrison 2007)

Alfred Rovai argues that a sense of community is the key to reduce the retention rates in online education. But, his study showed a big difference in the sense of community between individuals studying the same course. (2002)

Mortagy and Boghikian-Whitby (2010) wondered if the differences could be based on the internet habits of different generations. Younger people are already used to communicate online through social media, therefore they might feel online communication in education as more concrete than their older classmates.

Thompson and MacDonald found out that although the sense of community and the participation varies, a spirit of community is essential for a quality e-learning experience, and it can be fostered. Their case course had different kind of student groups, which helped students to choose their level of participation. As a result, every student felt that they gained from the discussion. (2005) David Hansen (2015) made a study, which implied that online teams help students with cohesion and therefore result in higher satisfaction. He noticed, that in online teams students were more polite to each other's, and they had higher participation, than the traditional face-to-face teams.

But, even a careful planning for enabling learning communities in the course structure might not bring results; students have a variety of factors to consider, when deciding how much they participate in the community. Teachers need to consider the mechanics behind building relationships, what kind of community is promoted and what is expected out of it. (Thompson, MacDonald 2005)

Online platforms

The 21st century brings its own challenges to learning and online platforms as well. As knowledge and work requirements are constantly evolving, a static way of transferring knowledge (as book are), isn't meeting the demands anymore. When jobs change, we cannot expect people to be sent back to school to be re-trained. Therefore, blogs and wikis held by learning communities, offer a more flexible and demand-based way of keeping skills up-to-date. (Enache 2012)

MOOC (Massive Open Online Course) is a term that origins in 2007. The idea is an open online course with a lot of participants that are geographically scattered. Typically the courses do not offer credits for students, but participation can be proved with a certificate.

Even though MOOCs have had huge attrition rates, leading to completion rates of 10% or less, the courses have made it possible to get thousands of students per course. (Daniel 2012) The biggest MOOC providers are Coursera, edX and Udacity.

In VLE's (Virtual Learning Environments), which are closely related to MOOCs, Moodle is becoming the standard platform for educational institutes. (Daniel 2012)

In order to get more insight into e-learning, the author participated in one course through edX. EdX is an online education provider that was founded by Harvard University and MIT in 2012 (edX 2016).

The course specifics:

Course	University/Instructor
Finance for Everyone: Smart Tools for Decision-Making	MichiganX Gautam Kaul

The course was "Finance for Everyone", an introductory course with no prerequisites. It was a six week course that was divided into four major topics; time value of money, bonds, decision criteria and stocks. The structure of the course was pretty simple; every week there were a number of relatively short videos. The basic formulas and calculation instructions were given first, then some calculations were done, lead by the instructor. The same issue was calculated in more difficult applications, and at the end of each section there were two homework assignments. One with basic applications, and one with difficult ones. The assignments were graded electronically, the questions were either true/false, multiple choices, or then there was a box for the numerical answer. Each test you could submit three times.

The length of each weeks videos combined was between 100-160 minutes, and the course instruction said it would take approximately 5-6 hours per week to finish that week's module.

3.3 Traditional versus online

There are many aspects of this topic that have been studied. One angle is the difference in dropout rates between online and traditional courses. Stevens and Zhu (2015) argue, that students fail more often in online courses, than in traditionally face-to-face taught courses.

The quality of online courses has been a popular research topic since the beginning of e-learning. Many have studied the difference of student satisfaction and performance between the two different ways of implementing courses. Cao and Sakchutchawan (2011) found out, that there is no significant difference in performance between online and traditional implementations of a MBA program. They noted however, that online students might be less satisfied, than their traditionally studying counterparts.

The result of their study showed, that online courses were chosen by students with restrictions in their personal lives, for example children or work. Therefore the difference in satisfaction might come from the difference in the overall workload the students are carrying. Students with family obligations and full-time work might be more exhausted than younger full-time students.

There has been some notion, that dividing subjects into quantitative and qualitative might explain differences in online course performance. Stevens and Zhu (2015) argue, that quantitative courses are better suited for traditional teaching. In their study, online versions of the courses had worse results, than their traditional counterparts. Johnson et al. (2010) got a similar result; business administration seemed to get better results through distance learning, but accounting got the opposite result.

Kini (2011) came to the conclusion that online students perform worse throughout in online courses.

DiRienzo and Lilly (2014) tested, if there is a difference in performance between the online and classroom delivery of simple and complex problems. They concluded, that in all categories there were measured equal performance.

3.4 Blended courses

Blended courses combine the traditional in-class education with e-learning. The aim is to get the students to take responsibility and learn some of the easier concepts themselves before class, so class time can be used for more complex issues. (Du 2011) In general, students have variable preferences for their study methods and activities. Blended courses can therefore help to give the flexibility needed for students to study in a way best for their personal preferences. (Weil, De Silva, Ward 2014) (Delaney, McManus, Ng 2010) Studies show, that blended courses give often higher satisfaction among students, than traditionally held courses. (Delaney, McManus, Ng 2010) An early study in blended accounting courses found, that the change from traditional face-to-face teaching to more independent study might cause students to struggle with their responsibilities.

The study showed, that changing the course from fully face-to-face to a blended adoption resulted in lower mid-term grades. At the end, the independent study paid off and the final examination gave higher results. However, the study wasn't able to determine, whether the better results came from the flexible delivery of the course, or the fact that the class-sizes were smaller due to the new delivery method. (Dowling, Godfrey, Gyles 2003)

The benefits of different kind of online tools in accounting courses has been the topic of many studies. Chan Du (2011) studied, if learning lower-level accounting online, before the actual face-to-face classes, can enhance students learning outcomes. The study showed, that doing the task beforehand doesn't directly affect the learning outcome. Regardless, enhanced learning came from the fact that in-class learning was able to reach a deeper level, than without the ordered pre-tasks. Basioudis and de Lange (2009) gathered student perceptions of various WBLE tools. Their sample consists of undergraduate students taking the Introduction to Financial Accounting module.

They found out, that studying in a different way appealed to students. They also concluded, that student learning is enhanced, when independent study is promoted.

Some studies have found, that there is no difference in academic performance between different delivery methods. Keller et al. (2009) concluded, that the previous performance of the students is the only reliable way to predict the future performance.

3.5 Flipped classroom

A newer version of blended learning, called flipped classroom, is getting more and more popular. It combines the methodology used for ages, asking students to read materials before class, to e-learning. In this version, class time is used for interaction between the students and the instructor, and the actual knowledge transfer happens online with the help of multimedia tools and discussions. (FIGURE 2) (Hall, DuFrene 2016) Studies suggest, that using the flipped classroom method gives higher student performance compared to traditional teaching. (Cotta et al. 2016) (Bishop, Verleger 2013)

In addition, students seem to prefer this method over the traditional one. (Cotta et al. 2016) (Sohrabi, Iraj 2016) (Phillips, Trainor 2014) Especially the millennials seem to respond to this technique, since they tend to appreciate active learning, and instant access to information. (See, Conry 2014) (Cotta et al. 2016) (Phillips, Trainor 2014) Kong (2014) found, that the method of flipping classrooms enhances student growth in information literacy and critical thinking skills. Therefore, it contributes in teaching students twenty-first century skills.

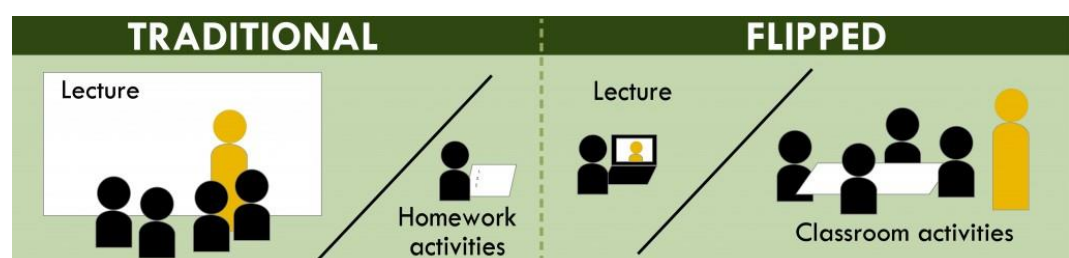


FIGURE 2. Flipped classroom focus (University of Washington 2016)

Hall and DuFrene (2016) comment, that business and professional communication are especially suited for this kind of approach, because of the “*theoretical and applied aspects*”. Both are also present in accounting, therefore this approach could be the answer to the concern that Gordon (1999) vocalized. E-learning shouldn’t be just about content transfer, but help the students to apply the learned theories to more complex situations. Phillips and Trainor (2014) stated, that accounting students are mostly exposed to traditional teaching methods, and they seem to be ready for a more active learning styles and more practical applications. Du and Taylor (2013) considered, this approach to potentially change the perception of accounting, from the technical and boring lecture-type learning to something more engaging and exiting.

This methodology doesn’t solve the problem of students that do not do the work assigned before classes. This was mentioned as one of the biggest disadvantages of the method, since the students end up ill-prepared for the group discussions and problem-solving activities. (Hall, DuFrene 2016) In addition to increased responsibility in the students own learning, this type of class delivery also needs more content planning. (See, Conry 2014) (Hall, DuFrene 2016)

This is especially important, since students need to have the necessary knowledge for the in-depth learning activities in class. (Hall, DuFrene 2016) Enhancing student participation in pre-class actions can be obtained by assessing the results. This can be done by in-class quizzes or grading the homework itself. (See, Conry 2014) The method is more suitable for smaller class sizes, since getting big masses to participate in group work might be difficult. (Hall, DuFrene 2016)

The main question for the teacher to consider in this method is “What is the best use of face-to-face class time?” (Bergman, Sams 2014)

3.6 Future work life skills

At the end of the 90’s, Bryce Gordon (1999) recognized that accounting professionals need skills beyond gathering and analysing financial data.

He listed the following soft skills as the ones that future accountants need;

- Great communication skills
- Critical thinking
- Complex problem solving
- Leadership skills
- Personal attributes for ethical and effective performance
- Broad understanding of the internal and external stakeholders
- Versatility and flexibility
- IT-skills

These skills are somewhat universal, and broader accounting education could benefit a number of professionals beyond accountants. (Gordon 1999)

Finnish experts state a few trends that are going on in the work life currently. Work is done in communities that cross company borders, which underlines the importance of interpersonal skills. The mobility of work means that workers often need to manage themselves, since their bosses aren't supervising their work as closely as in the office. (Ala-Kivimäki 2016)



FIGURE 3. Future work life skills 2020 (Davies, Fidler, Gorbis 2011)

According to the Institute for the Future (IFF), future work lives need to be redesigned because of the people living longer in the future. Most of the people will have multiple careers during their lifetime, and the rapidly changing environment will force to lifelong learning.

The future leap of technology development, data collection and social media will require a new kind of understanding from users. Technology helps organizations to solve problems in complete different scales, since it is possible to have numerous people working on the same issues through the internet. Globalization continues to bring cultural challenges. Integrating people with different kind of cultural backgrounds into organizations will be even more important for the survival of them. (Davies, Fidler, Gorbis 2011)

Since technology advances rapidly, computers will take over most of the mundane, routine work. Higher thinking that cannot be taught to machines will be of value. IFTF names sense-making and social intelligence as future skills. Only humans can understand the deeper meaning in something expressed, or analyse the variety of emotions and actions of our colleagues. Analysing and handling big amounts of data, critically assessing the sources, and presenting the results in new visual ways will be skills that the future employee needs. (Davies, Fidler, Gorbis 2011)

Even though last centuries have been about specialization, the future worker will need to specialize in multiple fields, or at least understand the language of other disciplines.

Future workers will need to build a so called T-shaped knowledge base, where they are experts at least in one field, and are able to convert the knowledge into the language of other fields. (Davies, Fidler, Gorbis 2011)

At last, virtual teams and cross-cultural competencies will be necessary in the future, in order to seamlessly work in different kind of networks. Managing virtual teams, and trying to avoid isolation from team members, will be a new challenge for managers. (Davies, Fidler, Gorbis 2011) Designing environments where collaboration ensures a proper team spirit, while also enabling workers to focus on their task within the social environment, will be necessary for both education and business. These skills are portrayed in FIGURE 3.

3.7 Sustainability

Accounting and finance can be executed socially and environmentally sustainable, or not. Especially when we go from financial accounting to management accounting.

The impact of the perspective that is chosen, when analysing the numbers and making decisions based on them, is huge on both internal and external stakeholders. Often there is contradiction between short-term financial goals and healthy, morally acceptable ones. One example from this comes from Gautam Kaul, professor from Michigan University. On a course record, he wonders why managements use payback period calculations when determining the profitability of an investment. He argues, that the method doesn't take time value of money into account. Therefore, some other option might be a lot more profitable, and bring back profit for a long period of time. Why would someone use it then? Because management often doesn't own the business, and their interest is rather short-term. This is in conflict with the owners' interest; they might want to choose the option which brings most profit in the long run.

Short-termism

According to the Financial Times Lexicon, short-termism is defined as follows:

“Short-termism refers to an excessive focus on short-term results at the expense of long-term interests.” (Financial Times' lexicon, 2016)

According to the explanation of the definition, corporate leaders and other upfront business influencer's tend to focus too much on quarterly results. This might undermine long-term value creation. It is explained, that these short-term strategies often lean on accounting information, for example earning per share (EPS).

Steve Denning (2014) summarizes the problem to be deeper than long-term versus short-term. He argues, that the issue is in the company's sole purpose of maximizing shareholder value. Should companies make their management and shareholders rich, or should they contribute in helping the society?

Steve Denning sums up, that focusing on the future, and contributing in socially and morally sound choices, everybody wins. Since the market searches for healthy companies to invest to, this new perspective gives it just what it needs.

This is how Roger L. Martin (2014) explains it:

“If [corporations] make it their purpose to maximize shareholder value, shareholders are likely to suffer because that cravenness turns off customers, employees, and the world in general. If they make it their purpose to serve customers brilliantly, be a fabulous place to work, and contribute meaningfully to the communities in which they operate, chances are their shareholders will be very happy.” (Martin 2014)

Corporate social responsibility

Corporate social responsibility (CSR) is the core of the debate about the purpose of modern corporations. If the sole purpose of companies isn't maximising shareholders wealth, then what is it, and how should the new purpose be transferred into action?

People are more and more expecting corporations to act ethically, in a way that serves the environment and its inhabitants.

This means, that companies are increasingly expected to communicate what they do, how and why they do it. At the moment, many confuse this communication with public relations, which cuts credibility of the CSR-movement. (Tench, Jones, Sun 2014) Since the collapse of several big companies in the last years, attention has been drawn to the fact that corporate policies have somewhat failed. They haven't prevented the misuse of companies, resulting in very public scandals. (Cheney, May, Roper 2007 pg. 268) Even though these issues are under microscope any way, adopting some form of CSR can communicate to the various stakeholders that the issues are considered, and action is taken in order to find new, sound practises.

In many situations, it is believed that environmentally and socially sound choices aren't economically good choices. Van de Velde, Vermeir and Corten (2005) tested, if socially responsible firms could bring investors as good profits, as other companies.

They used a relatively short time-span during their test, but found out, that sustainable companies performed somewhat better, than their normal counterparts. The study didn't show statistically significant differences, but it shows that shifting the focus from solely maximizing shareholder value, didn't affect the performance of the company. Another study (Jaggi, Freedman 2014 pg. 18-19), however, got the opposite results.

Contrary to the previous studies, this one examined Chinese government owned companies. The results showed, that some of the CSR actions correlated positive with financial performance, while others correlated negatively. The positive actions were responsibility management and market responsibility, while social responsibility and environmental responsibility had such a huge negative impact, that it outweighed the positive impacts of the first mentioned actions. Governmental companies, however, have also other functions than profit making. Therefore these results cannot be taken literally.

Environmental management accounting

Environmental Management Accounting (EMA) has been under research in the recent years. It is thought to be a tool to help companies take environmental issues into account, beside financial performance.

“EMA incorporates a number of techniques and tools designed to assist organisations in recognising and managing their environmental impacts.”(EMA 2016)

These tools are, though, being used on completely different levels. Some incorporate environmental issues fully into their processes, whereas others feel that environmental issues are rather immaterial. Therefore, they use EMA as an isolated tool without wider implementation. Even though studies show clear benefits in implementing EMA, it is not yet seen that companies would widely adopt the system. (Christ, Burrit 2013) Inconsistency has been the case already since the 90's (Bennet, James 1998).

Conventional accounting consists of the following functions:

- Financial accounting (bookkeeping, balancing, consolidation, auditing of the financial statement and reporting)
- Cost accounting (also called management accounting)
- Corporate statistics and indicators (past oriented)
- Budgeting (future oriented)
- Investment appraisal (future oriented)

(United Nations Division for Sustainable Development 2001)

EMA however, considers also aspects of the material flow that conventional procedures usually do not. It calculates the monetary value for wasted raw-material, energy and labour hours. It also calculates environmental issues like wastewater, noise, vibration and biodiversity. By breaking these issues down into numbers, managements have more fact-oriented calculations for their decision-making.

4 RESEARCH APPROACH AND METHODS

4.1 Qualitative research

Some questions lend themselves to numerical answers; some don't. (Patton, 2001)

Choosing a qualitative approach to the research was in this case pretty obvious, since the aim of the interviews was to find out the personal experience of the professionals interviewed. What is going on in their field? How does the future look like? How is the Finnish educational system performing for them, and how could LUAS meet their expectations better? Qualitative research gives more in-depth information, than quantitative.

“...boiling down answers into numbers strips away the context, losing much of the richness and complexity that make research realistic. You could measure poverty by counting the dollar income people earn, before taxes. But you would learn little about how people survive on their income, whether they share apartments with boarders, whether they fix the plumber's car in exchange for plumbing services, or whether they eat relatives' houses at the end of the month when they run out of money.” (Rubin, Rubin, 2005)

The design strategy is purposeful sampling (Patton, 2001), where the interviewed persons are chosen because they have meaningful insights into the topic. The purpose is not to generalize the sample, but to understand the researched topic. In this case, the sample is pretty homogenous and typical to the issue. Therefore, the results should portray what is averagely going on in the field.

In cultural studies, the starting point for the interviews is less determined than it might be in other kind of studies. Therefore, it is important to analyse the first interviews and specify the research topic and questions. Anticipating what might be needed for the final analysis and adapting the research accordingly is an example of a flexible research design. (Rubin, Rubin, 2005) Most qualitative interviews are either semi- or unstructured. Semi-structured interviews have a list of questions or topics, but they aren't necessarily gone through in the same order every time, and there is flexibility to adapt the interview structure according to the interviewees lead. (Bloomsbury Academic, 2012)

When interviewing, empathy can encourage the interviewee to talk more freely, but the interviewer needs to be aware of his/her own biases and attitudes, in order to not lead the interviewee into answering questions according to the interviewer's expectations. (Rubin, Rubin, 2005)

Because of the pragmatic topic of this thesis, no theoretical perspective was chosen for the theoretical framework. The approach aims to understand the interviewees' answers through their own viewpoint, therefore the questions include some background information of the interviewee.

4.2 Interviews

The first part of this section describes the interviews that were made for this study. The first step was to contact people responsible for accounting and finance in local enterprises. Five interviews were conducted during the early summer 2016. The first interview was a group interview with two interviewees, the four other companies had one representative per interview. The aim was to find out what kind of needs the possible future employers had from their possible future employees. The interviews focused on the accounting field in general, finding out how the future looks like, and how LUAS as an educational institute could help these companies meet their needs. The interviews gave valuable insight into the field of accounting, and underlined the importance of the teaching of accounting basics. What the interviewees saw included into those accounting basic concepts, could have been determined more throughoutly. Therefore, the interviewees were sent an email afterwards and asked to specify the accounting basics. This is described in the last section concerning the interviews.

4.2.1 Interviewed companies

The five companies, of which representatives were interviewed, all came from different kind of industries. Company A represents the banking industry, and the interviewees were from the local bank office.

The interview angle was therefore mainly from the selling point of financial services.

The second interview was at Company B, which is a Finnish family-owned energy and environmental technology company. Therefore, it represents the manufacturing industry. The third company, Company C, is a manufacturer in packaging, biomaterials, wooden constructions and paper. The interviewee was representing the company's packaging division. The next interview was at Company D, an automobile importer from Vantaa. And the last one was in Lahti at Company E, which operates in the retail and service sectors.

4.2.2 Financial managers

The representatives of the above described companies were all from either accounting or finance, some operating in both areas. None of the interviewees was working mainly in finance, and all in all, finance was only scratched at the surface. The interviewees were divided between financial accounting and management accounting, some working in both. All the interviewees were Finnish, so the interviews were all done in Finnish.

TABLE 2. Interviewed professionals

Name	Company	Title
Person A	Company A / banking sector	Development Manager
Person B	Company A / banking sector	Sales Manager
Person C	Company B / environmental technology	Administrative Director
Person D	Company C / packaging	Controller
Person E	Company D / automobile industry	Accounting Manager

Person F	Company E / retail and service	Accounting Manager
----------	--------------------------------	--------------------

4.2.3 Interview structure

The interviews were made as theme interviews, in order to get the interviewee to talk freely about the issues they find important.

After the first two interviews, however, it was clear that the original approach wasn't giving the results needed for the research. Therefore, some sub-questions were added, in order to get some comparable answers.

The final questions can be seen in TABLE 3 (added questions in italics).

TABLE 3. Frame for the theme interviews

BACKGROUND -the interviewee's own educational and work history
ROLE OF ACCOUNTING AND FINANCE IN THE COMPANY -are both disciplines separate? -how related are the functions with other business functions?
SKILLS SET NEEDED IN THE INDUSTRY <i>-3 most important concepts?</i> <i>-3 most important skills?</i> -what kind of problems do the employees need to solve?
QUALITY OF THE EDUCATION IN FINLAND -are the students prepared for the work life? -differences between universities and UAS?
FUTURE OF THE INDUSTRY

By “the industry” is meant accounting and finance, not the company’s own industry, even though it might be touched in the discussion.

4.2.4 Execution and analysis

The interviews were conducted at the interviewees’ offices, which are situated in Southern Finland. The interview questions were changed after the first two interviews. The headline structure remained the same, but some more specified questions were added, in order to get a deeper insight into the skills needed by employers.

The interviews were taped, and transcribed. The transcriptions were then divided into mind maps per company, and per topic. The analysis was made in Finnish, only the direct quotes were translated into English.

4.2.5 Post-interview questions

After analyzing the interview transcriptions, it came clear that it was necessary to open up the accounting basics that came up during the interviews. Therefore, the interviewees were sent an email, and asked to explain in detail, what they mean by basics in this context. Since the interview with the company in the banking sector focused mainly on the future work life, and not so much accounting specifics, and both interviewees weren’t working directly with accounting, the interviewees were left out of this second round. The four remaining were sent an email asking;

Which accounting basics do you consider to be the most important ones?

Which parts of accounting do you think help to understand the company’s big picture?

Which ones are important in management accounting?

The emails were sent during September 2016, and by October, there was one answer. Reminders were sent in November, with a deadline of end of November. This resulted in two additional answers, which makes a total of three answers.

5 INTERVIEW RESULTS

The interview transcriptions were analysed and split into discussed topics. As planned, the most popular topic was the skills set that is needed in the business. The other topics weren't necessary discussed in every interview. Below the findings per topic.

5.1 Finnish education in accounting and finance

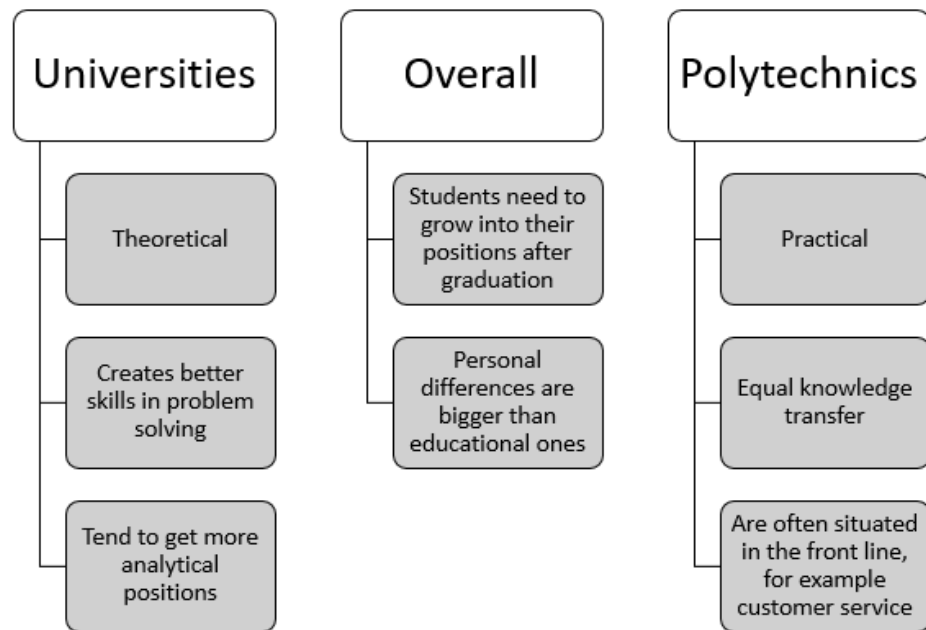


FIGURE 4. Perceptions of Finnish education

There was consensus, that newly graduated employees are quite ready for the work life in Finland. Education was seen to have good quality, in both polytechnics and universities. Many thought, that learning to work happened after graduation, and they saw the students ready for the process. Accounting basics were mentioned to be pretty well learned, although some interns hadn't been up to date in the field. Young students were seen as hungry, ambitious and willing to learn. They were mentioned to have good language and computer skills. One negative aspect, that was mentioned a few times, was that young people might have unrealistic expectations of their first job, or they might be in a hurry to climb the corporate ladder.

All in all, the interviewees saw that personal differences were bigger, than the ones between educational programmes.

"In this field, it is very important that you are interested in the topic." (Person F 2016)

When asked differences between polytechnics and universities, some answered that polytechnics have a slightly more pragmatic approach to teaching, whereas universities focus on theoretical things. Person E mentioned, that graduates from universities have noticeably better problem solving skills.

"The information you need, I mean the one you can read from books, there might be no difference. But how you apply the information, and predict, and how you solve problems, there's the difference, and it is big." (Person E 2016)

Many mentioned, that university and polytechnic students were recruited into different positions. For example, in the banking sector, university students were mostly in headquarters doing financial analyses and predictions. Whereas, the employees that were working near the customers, in sales and back office functions, they were mostly from a polytechnic background.

5.2 Future work life

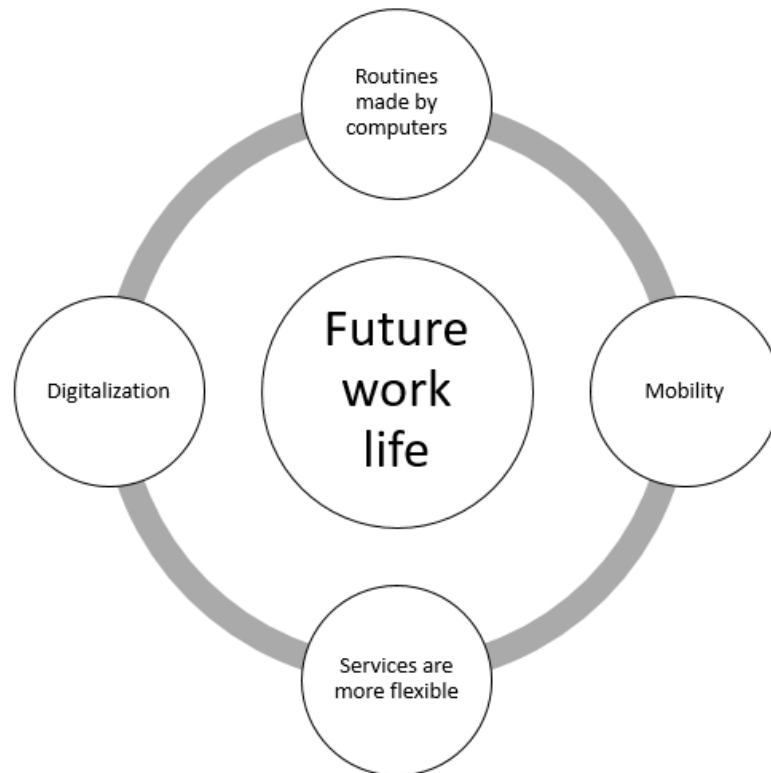


FIGURE 5. Future work life in general

The discussions had some notions of the future work life in general (FIGURE 5), but mainly the future of accounting was discussed (FIGURE 6). One trend that came up was the continuation of digitalization. Many saw, that more and more of the routine work will be transferred from people to computers. Therefore, the focus of accounting was seen to shift from producing information to controlling and analysing it. Every interviewee was positive that the functions that need brainwork, such as analysing large amounts of data, collecting data from various sources or communicating the information in a simplified manner, would be needed in the future. One risk was seen in accounting and finance in Finland; the trend to outsource positions to lower wage countries, like Poland or India. Person C, who talked about this issue, commented, though, that this concerns only bigger companies like UPM or Värtsilä.

Besides digitalisation, it was mentioned that future work will be more hectic and services more flexible. The role of the expertise of the employees will grow. In quality customer service, solution sales and vision will be of value.

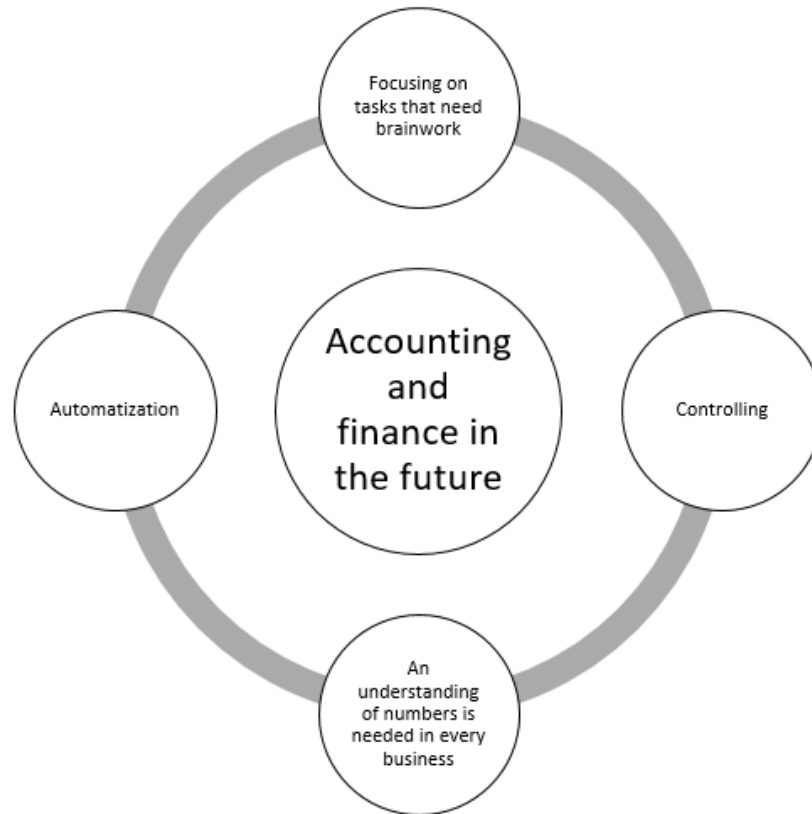


FIGURE 6. Future work life in accounting

The role of accounting and finance was seen bright in the future. The role of basic financial accounting seems to be getting smaller, but the need to understand it will not diminish. It is still important to know the basic rules of accounting, when supervising the automated work. Otherwise it would be impossible to notice, when something isn't functioning as it should. Some interviewees mentioned, that the skill of information technology would benefit an employee in accounting and finance. Developing software would be a valuable skill beside the numerical knowledge.

All in all, old school financial accounting seems to be undergoing major changes because of digitalization. At the same time, new jobs are arising that need higher reasoning. As Person D brought up, controlling is universal. A controller is able to change from one business sector to another, because the basics are the same. He mentioned, that also non-traditional sectors are beginning to use controllers, for example the public sector.

He commented the future of controlling as follows:

*I'd see that a controller is one of the last persons shutting the lights. Whatever is done, where there is financial activity, there is always someone needed that understands the numbers.
(Person D, 2016)*

5.3 Employee skills

The employee skills were divided into three categories. The first category, personal traits (FIGURE 7), is seen to consist of traits that are usually dependent on the person's personality. The second category, skills (FIGURE 8), consists of traits that develop while working or studying. Some of these are affected by the personal traits in category one, for example sociality affects networking. Some traits (problem solving, criticality and analyticity) could be placed into both categories: one or two. They were chosen into the second one, because of the link between education and these traits, which came up during the interviews. So the idea behind the placement is that these traits develop during studies. The third category is technical skills (FIGURE 9), which consist of skills needed when working in accounting and finance. These are, for example; computer and business skills and mathematics. At the end of this section, a picture is presented, that shows the popularity of these traits and skills. The bigger the text, the more often the skill or trait was mentioned during the interviews.

Personal traits were discussed a lot during the interviews. As all the interviewees agreed that the basic concepts of accounting were mostly well-learned among new employees, many talked about the preferable personal traits of the recruits. The interview at Company A was interesting, because we talked about the perception people have of the job, and how there is a push for change going on. Apparently, most people still perceive the work at a bank to require the stereotypical type of an accountant. I see the stereotype to be a person that is good with numbers and facts, and not that great with people. But the bank needs extrovert types that are open, socially talented and can put themselves into the customers' shoes in order to give them the best service.



FIGURE 7. Important personal traits

All these traits came from a customer service and sales point of view, since they were mostly discussed in the first interview. The change of business and digitalisation drive for the need for flexible employees. Employees in the banking industry need more of an extrovert personality, since the job is mostly being at the customer front-line. All in all, the banking industry is at search for people that are less number-oriented, and more people-oriented.

“In a way we could even more break the line that we need brisk, lively and sales-oriented people here.” (Person B 2016)

Another type of job-description under the loop was the task of a controller. Person D (2016), a controller himself, also emphasized the importance of sociality. Where the job at a bank was mainly people-oriented, a controller needs to be the link between the facts and the people.

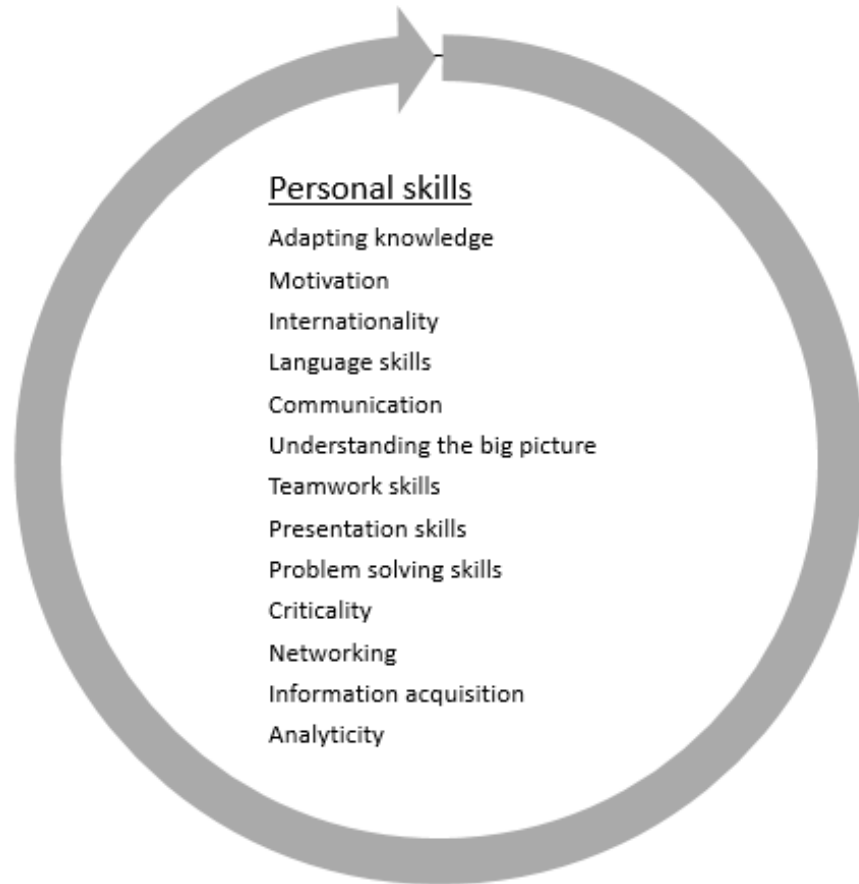


FIGURE 8. Important personal skills

Person D (2016) emphasized the importance of a broad knowledge base.

“...when talking of the job of a controller, it’s always the better the broader the knowledge base is. When you know a bit about everything. ... The better you understand what happens in the (business) environment, the better. These things are interrelated.” (Person D 2016)

Some of the most important skills of a controller that were named, were networking skills, presentations skills and communication skills.

A controller needs to be able to simplify the numerical information, present it to the management in a few slides, and sell the idea in a way that the management is able to make decisions based on the information.

“It’s often the Achilles’ heel, how can you let go of all the lovely details and summarize it in a way that the management understands it when making decisions. (Person D 2016)”

But in order to understand the numbers, a person needs analyticity, mathematical understanding and the already mentioned broad knowledge.

The other interviews focused rather on a general view of accounting.

Understanding the big picture came up in several interviews. This can be applied in several ways, depending on the actual customers of the actor. Whereas Person A and B talked about understanding the customers’ business and situation, in order to give custom-made services, Person D saw the need to understand the internal businesses, and everything connected to it. Person F, from Company E, had a similar view. To her, understanding the big picture was the requisite for problem solving; you need to know how the processes should work, in order to determine when it doesn’t. Person C (2016) mentioned:

“Accounting cannot be a separate theoretical team in the company, you need to be closely in touch and use the theories with common sense. ... the issue is understanding the company’s big picture and adapting things into it.”(Person C 2016)”

He talked about the necessity of communicating information to members of other teams, specialists of other disciplines.

Communication is a topic I anticipated to come up after reading theories. I asked interviewees if they are working closely with other functions, which would mean that they have the need to communicate their work in a way that also non-financial experts could understand it. For example Person C mentioned, that you also need to be able to find consensus with an engineer.

Person E said;

"...not everyone feels the financial system as their own, they think that they are sales people and their job is just to sell, someone else should take care of the numbers. But the truth is, also the sales person needs to understand if he/she is doing good or bad business. If the sale is good short-term, is it bad long-term? Of course they need to have the information, but you shouldn't push them any accounting concepts. You need to change it into a form they can understand." (Person E 2016)

In a way, everyone mentioned that there is a bigger network involved in their job descriptions. One view was from Company A, they mentioned that it is important to be able to manage the relationship with the customers remotely, using the available channels for communication. I'd say, that this brings a whole new dimension in the concept of communication. It is one thing to be able to present something complicated clearly to a small group, and another to maintain a close and open relationship without seeing the other one in person.

Person F emphasized the need for motivation in this industry. She mentioned, that accounting wasn't something you could just memorize, you need to be able to understand the concepts and how the big picture works. Person C also touched this topic, by mentioning that you need to be able to adapt the theoretical knowledge into the existing situation. Person E said:

"...that you read about something, doesn't make you good, but the ability to adapt the knowledge." (Person E, 2016)

All in all, motivation was seen as an important aspect. Many thought, that the job was truly only learned by doing it, and the employees drive to develop was the key to success.

One aspect that came up during the interviews, was that critical employees were valued.

"It's not always (the most important thing) that you are a so called ready case, with experience and all. It's not necessary better in the sense that these young (graduates) are ambitious, they want to show off, they are eager to do and to learn. When things are questioned, new things are born." (Person D 2016)

Since the job descriptions are leaning towards analysing and managing information, the employee needs to have the understanding of the processes in order to determine when everything is running smoothly, and when there might be some problem. Person F said:

”...(important is) that you don’t just do blindly what is asked, but understand why it is done.” (Person F 2016)

Besides criticality, also understanding the processes was mentioned. Person D mentioned it in touch with the need to understand the big picture. But Person E took it a bit more technical.

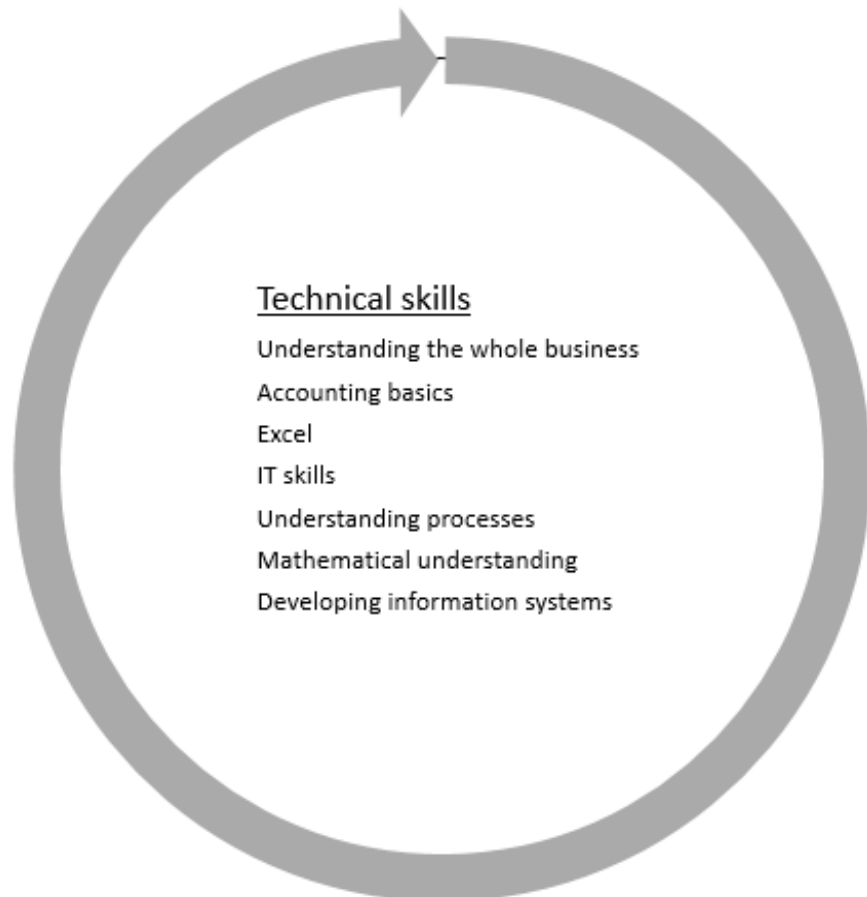


FIGURE 9. Important technical skills

She talked how she saw process knowledge important. That drawing up a flow chart of your own job would help in understanding the process, and also developing it. According to her, this can be applied into anything, and could be something that would benefit, if adopted into accounting classes.

She saw problem solving also as a process that needs to be learned. People tend to jump from the problem straight to the conclusion, without thoroughly examining the true causes of the problem. As a result, only the symptom might be fixed, not the cause.

Person D mentioned, that understanding mathematics is important because after all, it develops logical thinking. In addition, many talked about the importance of understanding the language of IT. Since the basic accounting jobs are diminishing and the focus is slowly shifting towards managing the information flow, IT skills were seen as a critical tool besides the basic accounting knowledge. Some positions demand that the employee is capable of developing the information systems they are working with. If not developing IT skills to that level, managing different systems is a necessity for an employee in accounting or finance.

The next picture (FIGURE 10) shows the most popular employee skills of all the interviews. The bigger the text, the more often the skill was mentioned during the interviews. The most popular skill was knowing the accounting basics. It was mentioned ten times. The second was understanding the big picture, it got six points. Problem solving skills got mentioned four times and the smaller ones three times.

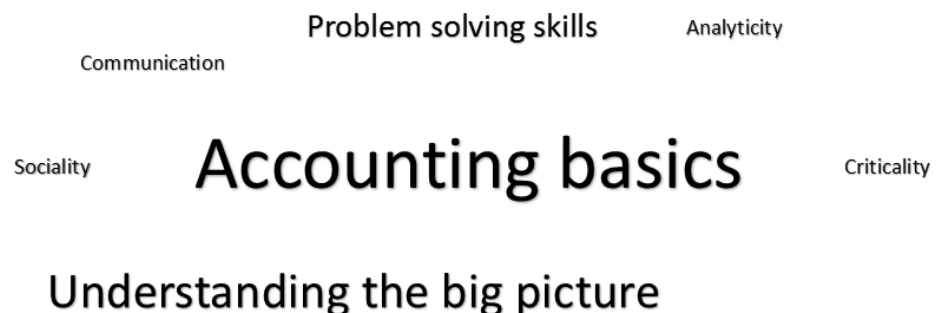


FIGURE 10. Most popular skills

5.4 Accounting basics, questions sent by email

Since accounting basics came up as often as it did, most interviewees were sent an email afterwards, asked to define their perspective of the basics.

Company A was left out of the recipients, since both interviewees didn't work directly with accounting. Answer number one came from Company C. The main points of the email were:

- the balance sheet and income statement
- financial accounting basics
- cost accounting
- budgeting and forecasting

Understanding the structure of the balance sheet and income statement, the differences between them, and how they affect each other is important for both general understanding and understanding management accounting. The management is especially interested in the income statement, and the financial department needs to be able to explain the changes in it. Understanding the basics of financial accounting is important, in order to understand how and why the financial statements are built. In order to explain internal processes, and present them in figures, cost accounting tools are needed. Budgeting and forecasting are central in planning, so the tools for these should be mastered. (Person D, 2016b)

The second answer came from Company D. According to it, the most important thing is to teach the basics from all the angles in accounting. The rest comes from the person's suitability for the job, the will to educate him/herself further and the understanding reached through experience. A wide business understanding comes from the person's own interest in the topic and perceptiveness.

From the angle of management accounting, important issues are:

- investment calculations
- profitability indicator ratios
- understanding and mapping internal processes
- budgeting and forecasting
- Excel – the basics aren't enough
- fluent English
- meeting practices and the ability to prepare and have presentations
- documentation (Person E, 2016)

Third answer was from Company E. The basics in this answer were:

- accounting vocabulary
- ledgers and debits and credits
- accounts payable and receivable plus their entries
- the entry sides of purchases and sales

For the big picture, important issues are:

- the content of the balance sheet and income statement
- basics of salary calculation, for example understanding holiday pay debt
- what happens, when closing accounts?
- some understanding of the link between bookkeeping and taxation
- where do sales come from? How are sales entries made?
- understanding that profit and the bank account balance aren't the same thing (cash flow –thinking)

Management accounting basics are:

- management accounting isn't separate from financial accounting, it consist of the same issues, which are cut into smaller entities and allocated more precisely timewise.

(Person F, 2016)

6 ACCOUNTING BASICS RECAP – LUAS ACCOUNTING COURSE

As the interviews showed, knowing the basics is essential if you want to work in the field. As students come from various backgrounds, a quiz to test the basic knowledge level and accordingly chosen learning materials will help everyone to prepare for the management accounting course. According to Weil, De Silva and Ward (2014) students often fail to meet the prerequisites of an accounting course. Keller et al (2009) found, that the previous knowledge level of the students affected the performance more, than the delivery of the advanced course or other student demographics. In a way, this is in line with the studies that have noted blended learning to be efficient, when used to encourage students to independently study the prerequisites before the course. Especially in the case of this thesis project, many students aren't in touch with the basic accounting theory, which is definitely needed to make an effective management accounting course. The importance of the previous knowledge level is especially highlighted, when studying blended courses with minimum contact lessons. Accounting is in nature cumulative, which means that many accounting concepts build on each other. Therefore, if a person hasn't understood the concept of double-entry bookkeeping, s/he might have problems in understanding the more advanced concepts. (Jajjairam 2012)

Leaning on the theory and the interviews, the thesis project ends in the preparation of the quiz that will help students to repeat the needed accounting concepts. In addition to the quiz, short videos will be prepared that go through the concepts. These videos will be added in the same chapter in Moodle, and students can view them before or after the test. The test and the videos will be available for the students before the actual beginning of the course, and they will prepare them for the first contact lessons, which is planned to be a recap for everything that was learned during the self-study part. After this, the next contact lessons will go into modifying the basic knowledge through cases and discussions.

6.1 Determining the quiz content

The interviews showed validation for the importance of the basic accounting knowledge.

The extra questions went more into detail, of how the interviewed persons saw the content of the most important accounting principles and theories. This, combined with the research of the LUAS undergraduate basic course contents, was sketched into a draft of the important accounting aspects. The draft was then compared to the future course content with the accounting teacher, and all overlapping topics were deleted. The remaining topics were modified to serve the course content. The result was two broader topics, the first one financial accounting and the second management accounting. The focus is clearly on management accounting, and the financial accounting topics are more of a preparation for the management accounting concepts.

The questions of financial accounting should make sure, the student understands the principles of double entry bookkeeping. In addition, understanding financial statements, how they are drawn up and what they can tell of the business. Especially the income statement, balance sheet and the cash flow statement. Students should understand the mechanics that enable a company to have a profitable income statement and a negative cash flow.

The management accounting questionnaire should focus on simple profit calculations, simple terminology in cost accounting and profitability calculations.

6.2 Platform and choices

The accounting course and the quiz, are executed through LUAS's Moodle – platform. Since Moodle was familiar to the author only through student's eyes before this project, learning how to edit the course was learned through Moodle's youtube channel and its video tutorials. Out of all the Moodle activities, for this project, the Quiz was chosen as the way to conduct the knowledge level test. The benefit of the Quiz is that all the questions are stored in a question bank, and they can be re-used in other courses.

The Quiz activity module allows the teacher to design and build quizzes consisting of a large variety of Question types, including multiple choice, true-false, short answer and drag and drop images and text. These questions are kept in the Question bank and can be re-used in different quizzes. (Moodle 2016)

Since the quiz will not be graded, no grade limits were set and the number of times the test can be done is not limited. Some students might want to re-do the test until they are satisfied with their score, which brings repetition and helps learning the issues at hand. In this case, this will just support the wanted outcome. The highest grade of all the tries will be saved, which hopefully motivates the students to the task at hand.

All the questions of one topic will be on the same page, so the student can get a big picture of the topic at hand. While doing the finance web course tests, the author noticed that some aspects of this kind of quiz can help the student pass the test without focusing on the content of the questions, but rather guessing the answers and remembering the order of the questions. The idea was, to shuffle the questions and not to show the correct answer in this quiz. This, however, didn't serve the purpose, since the questions were finally set per topic, which will help to target the correct questions in the videos.

6.3 Questions

In order to get help in formulating the questions, some Finnish accounting literature was used for guidance. The books are listed in the references at the end of this thesis. In addition, some questions come from an earlier course.

The idea was to combine easy questions with some that are more difficult. The quiz section has a forum for the students, where they can ask each other's about the questions they need help with. This helps the teacher to get some feedback from the quiz, and might help with the social aspect of the course, as suggested in the theory.

Financial accounting

It was agreed, that entries weren't included in this quiz, but the principles of double-entry bookkeeping should be one topic. Therefore, the first two questions are about double-entry bookkeeping entries. The questions are simple, and are against the agreed theme.

They are, though, added because thinking about the way the entries are made, will force the students to remind themselves about the way double-entry bookkeeping works. In that way, going against the agreed theme helps in achieving the wanted result.

The third question was supposed to test, if the student understands the difference of the different sides of the balance sheet. What the company owns, and what it owes. This issue came up during the interviews, apparently students often aren't able to construct the balance sheet sides correctly (Person E, 2016). The idea was, that the student could move the assets and liabilities under the correct headlines. Moodle, though, doesn't seem to give a suitable question type for this kind of issue. Matching gives the option to combine word pairs, but not the option to combine multiple words to one. Drag and drop could give the possibility, to make headlines and drop –boxes under them, but then the dragged words would need to be in a correct order, which cannot be given in this case. Therefore, the choice was to make a set of five random questions that have only one word pair to combine – one to assets and one to liabilities. One minor setback was that Moodle demands a third, an incorrect, word to be added to the mix. Even though this doesn't suit the idea of the questions, the third word was added. Since it was hard to figure out incorrect accounting terms that wouldn't accidentally be correct under the balance sheet, this opportunity was used to familiarize the students with some management accounting terms.

The fourth questions tests the understanding of the balance sheet. In a way, this is a trick question, since both equity and liabilities are on the liabilities side of the balance sheet. The student needs to realise, that both sides of the balance sheet need to be equal, as in “assets = capital + liabilities”, as the accounting equation states. Therefore, the amount of the assets equals the amount of the liabilities.

The fifth question is to choose the correct words from the options, in order to get correct sentences. For all, that have some knowledge of accounting, this questions is really easy. But for those, that have no prior experience in the topic, this question guides to find information of the given topics. Hopefully, this will give some idea of the basics terminology used.

Management accounting

In this section, it was agreed that there would be questions with simple profit calculations and simple terminology in cost accounting. Since some students might not be familiar with the basic terms “financial accounting” and “management accounting”, the first question helps the student to go search for the descriptions of these terms.

After the first question, the remaining ones are taken from the teacher’s earlier course, which focused on profit margin calculations.

6.4 Instruction videos

The instruction video manuscript will be made in Finnish, and is therefore added into the appendices. The topics are;

- Double-entry bookkeeping (Questions 1-2)
- Income statement and balance sheet (Questions 3-5)
- Cost accounting concepts (Questions 2-6)
- Contribution margin calculations (Questions 7-11)
- EBIT + EBITDA (Question 12)

6.5 Validity and reliability

In qualitative research, validity depends a lot on the researcher and his/her skills. The chosen methods and implementation need to be built in a way that the results are truly giving correct answers to the questions at hand. Therefore, not only planning the study, but the execution and the way the researcher handles the situation can lead to quality issues. (Patton, 2001)

Traditional Scientific Research Criteria:

- *Objectivity of the inquirer (attempts to minimize bias)*
- *Validity of the data*
- *Systematic rigor of fieldwork procedures*
- *Triangulation (consistency of findings across methods and data sources)*
- *Reliability of codings and pattern analyses*
- *Correspondence of findings to reality*
- *Generalizability (external validity)*

- *Strength of evidence supporting causal hypotheses*
 - *Contributions to theory*
- (Patton, 2001)

Some argue, that the traditional terms cannot be applied to qualitative research analysis. The meaning of the different terms is in some cases interpreted through the concept of qualitative research, adapted to it, or some have invented completely new criteria for the evaluation of qualitative works. All in all, the most important factor of the reliability of qualitative research is the researcher him/herself. (Ruusuvaori, Nikander, Hyvärinen, 2010) This angle has, though, also gotten criticism. Dey (2003) argues, that qualitative analyst tend to lean on the hope that evaluation relies on the integrity of the researcher. In order to give a more concrete base for evaluation, the decision-making process needs to be documented clearly.

All of the interviews were made with persons from the middle- or top management. In order to get a broader view, it would have been beneficial to interview also people in other kind of positions, for example accountants. One angle could also have come from students, both undergraduate and graduate, but it was left out of this study. A more balanced perspective could have come from a more versatile set of interviewees. Regardless, this sample supports the aim of the thesis, since all the interviewed professionals have in-depth knowledge of the topic and they all have experience in recruiting and working with new employees in the field.

7 CONCLUSIONS AND RECOMMENDATIONS

E-learning and its adaptations seem to be a quite complex and controversial topic, even after years of study. The economic situation, at least in Finland, forces universities to find solutions with less resources, while trying to meet the demands of the changing environment. As the theory shows, even in this short amount of time that e-learning has been around, the current ideal solution for the implementation of web-based learning has changed many times. The same changes are going on in the business world also, which makes it challenging to offer the customers (as in employers) products (as in students) that have the necessary knowledge and skills. Therefore, the focus in educations seems and should be to teach students the necessary skills they need in order to stay competitive in the job market. Students need to be able to find the right information and right forums, where they are able to stay ahead of their field. They need the proper basis to understand continually changing concepts and to be able to create new. Without the basis, it is really difficult to understand bigger entities of information, learn new things really understanding them and adapt the existing knowledge in different circumstances. But how can universities meet these requirements with continually lessening resources? The requirement of focusing on developing those so called soft skills forces the pedagogy to shift towards demanding students to do more and more of the basic groundwork themselves. This is something, that should be considered from the earlier educational stages and that students should be gradually prepared for since their childhood.

All in all, the interviews showed that the situation in accounting education in Finland is pretty good. No-one had any big complaints, and the only critique came from the basic knowledge of some individuals and the unrealistic expectations that some new employees have. Noteworthy was, how young employees were seen in a complete different light, than older employees. More hungry, motivated and more capable, at least in language and computer skills.

7.1 Future of accounting

As the sustainability section in the theory shows, socially and environmentally there are huge leaps to be taken in accounting and business in general. The focus on short-sighted decisions in the benefit on quarterly performance and shareholder wealth should be gradually shifted towards making socially and environmentally solid long-term decisions. Though it's controversial (Ellis 2013), this should be taken into account in education, and at least LUAS is already making a good job in incorporating ethics into business education. In accounting this could mean being actively aware in the changes in business sustainability, and possibly incorporating some new, rising methods into teaching. This way graduates could have new tools to take into their future work life. Apostolou, Dull and Schleifer (2013) write about incorporating ethics into accounting classes. They state, that mixing ethics and accounting is becoming increasingly popular. Therefore, they build a pedagogical framework for the incorporation, which could help when considering changes.

The interviews brought up the changing role of accounting employees. Some thought that studying purely accounting isn't beneficial anymore, since more and more of the basic accounting work is automated. For accounting education this is interesting, since there definitely is a need for change, but teaching the basic concepts cannot be left out. There still seems to be a need for a more solid knowledge base in newly graduated professionals, and doing accounting supervising cannot be done with any less understanding than doing the actual manual accounting information. That means, that future graduates need something additional to the earlier mix. Besides understanding their own field, understanding businesses as an entity and how information systems can be managed and developed, could be a natural addition to the basic knowledge. Being overall business savvy also helps in some of the problems seen in the accounting profession. As the theory explained, in the future it is important to not only know your own field, but to communicate your knowledge to people with other kind of backgrounds. This doesn't come with purely good communication skills, it also requires a basic understanding of the others field of expertise.

7.2 Teaching methods

Since the future of accounting is going into a more complex direction, changing the traditional teaching methods to match the new demands is important. The chosen method, flipped classroom, seems a good match. As Gordon (1999) hinted, giving only “linear text-book style material” to students doesn’t teach them to apply the theories into more complex situations. Therefore, using the course online content for the text-book material and precious class time for more complex applications could give the possibility for a higher learning outcome. This requires, though, that students have the necessary groundwork done before the contact lessons.

As Jaijairam (2012) suggests, accounting courses might be hard to grasp for some students. Especially in mixed classes, where some or most students are not accounting majors, there might be difficulties in adapting to the numerical and theoretical nature of accounting.

According to Jaijairam (2012), the problem is not in the content itself, but in the way the content is presented to the class. To avoid confusion from the beginning, focus should be on understanding the logic behind concepts instead of memorizing each principle.

Studied advantages of the flipped classroom method are that students have the necessary basic knowledge for problem-solving and more complex issues at contact lessons. It contributes in teaching students some future work life skills also, since the flipped classroom has been studied to enhance student’s skills in information literacy and critical thinking. (Kong 2014) Instructors do not need to repeat the same information over and over again, and the discussion is more interesting and motivating for both parties. (Hall, DuFrene 2016) The need for students to assume responsibility for their own studies helps them in their future work life, as well as life in general. According to the theory, the flipped classroom approach also tends to give higher academic results and satisfaction amongst students. This kind of method responds especially to the needs of the millennials, offering a more active approach to learning.

There were also some implications that using more dynamic ways in teaching accounting could help in getting students more engaged and therefore help rid the discipline of the reputation of being technical and boring.

Besides the needed knowledge base, theory showed what aspects affect student's study motivation. One important aspect was the sense of community, which often lacks in completely online-based courses. Blended learning helps to address these issues, by giving the instructor more tools for promoting student interaction with the course content, the instructor and amongst students themselves. Since this kind of teaching method has a restricted amount of contact lessons, it would be beneficial to start building community already in the pre-course online part. Therefore, some of the quiz questions are intentionally a bit more difficult, and there is the option for student-to-student asynchronous communication through the quiz forum. Hopefully, this will promote conversation amongst students, without raising frustration towards the topic. These kind of solutions should be monitored, and modified accordingly, when not meeting their goals.

Since digitalization is also stated in the schools 2020 strategy (LUAS 2016), a comprehensive approach to the development of e-learning could be beneficial. As theory stated, incorporating teachers in planning the e-learning strategy might help in getting them to commit to the development process. There seems to be a lot of variation in the use of Moodle, and there might be a lot of possibilities that aren't utilised at the moment. Since there is a big gap in the use of internet services between generations, a big leap to fully online services might be a bit drastic. Blended courses are at the moment the most versatile option in education, offering something for all kind of student types. But utilising the online tools in a more versatile manner throughout might give more flexibility for teachers and help in the future transition, wherever it may lead.

The most important aspects in a flipped classroom are careful planning and if used, short and interesting videos. Getting students to commit to the workload offers challenges, as in any course. Continuous development applies here as well, student feedback, performance and for example forum supervision will guide towards a better course model.

Since the action rarely follows plans without any surprises and problems, it is important to follow the process and consider changes, when problems occur (FIGURE 15).

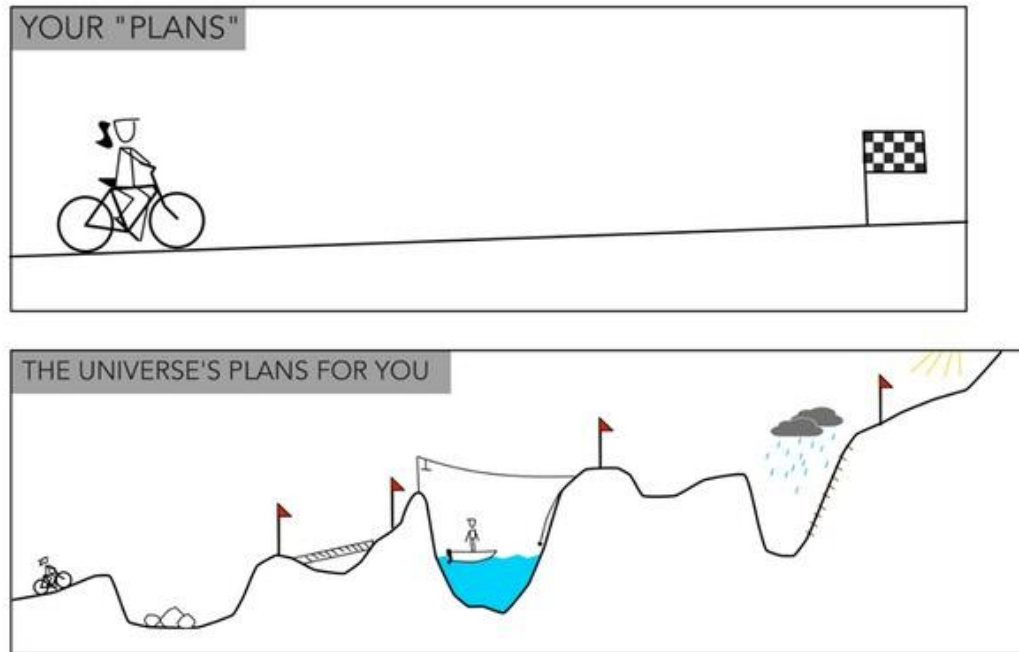


FIGURE 15. Your plans (Habeeb 2016)

REFERENCES

Written references

- Adewara, J., Adeleke, I., Ogundeji, R. & Ahani, E. 2010, "A Statistical Analysis Of The Performance Distance Learning Students And The Full-Time Students At The University Of Lagos", *American Journal of Business Education*, vol. 3, no. 9, pp. 17-21.
- Alhola, K. & Lauslahti, S. 2005, *Taloutta johtamista varten: esimiehille ja asiantuntijoille*, Edita, Helsinki.
- Alhola, K. & Lauslahti, S. 2002, *Laskentatoimi ja kannattavuuden hallinta*, 2.p edn, Sanoma Pro, Porvoo; Helsinki.
- Apostolou, B., Dull, R.B. & Schleifer, L.L. 2013, "A framework for the pedagogy of accounting ethics", *Accounting Education*, vol. 22, no. 1, pp. 1-17.
- Auyeung, P. & Sands, J. 1996, "A cross cultural study of the learning style of accounting students", *Accounting and Finance*, vol. 36, no. 2, pp. 261-274.
- Bansal, P. & Desjardine, M.R. 2014, "Business sustainability: It is about time", *Strategic Organization*, vol. 12, no. 1, pp. 70-78.
- Basioudis, I.G. & de Lange, P.A. 2009, "An assessment of the learning benefits of using a Web-based Learning Environment when teaching accounting", *Advances in Accounting, incorporating Advances in International Accounting*, vol. 25, no. 1, pp. 13-19.
- Bennett, M. & James, P. 1998, *The Green bottom line: environmental accounting for management: current practice and future trends*, Greenleaf Publishing.
- Bergmann, J. & Sams, A. 2014, "FLIPPED LEARNING: Maximizing Face Time", *T + D*, vol. 68, no. 2, pp. 28-31.
- Bishop, J.L. & Verleger, M.A. 2013, "The flipped classroom: A survey of the research", *ASEE National Conference Proceedings*, Atlanta, GA.

- Boyce, G. 1999, "*Computer-assisted teaching and learning in accounting: pedagogy or product?*", *Journal of Accounting Education*, vol. 17, no. 2, pp. 191-220.
- Cao, Y. & Sakchutchawan, S. 2011, "*Online vs. Traditional MBA: An Empirical Study of Students' Characteristics, Course Satisfaction, and Overall Success.*", *Journal of Human Resources & Adult Learning*, vol. 7, no. 2.
- Cheney, G., May, S.K. & Roper, J. 2007, *The Debate Over Corporate Social Responsibility*.
- Christ, K.L. & Burritt, R.L. 2013, "*Environmental management accounting: the significance of contingent variables for adoption*", *Journal of Cleaner Production*, vol. 41, pp. 163-173.
- Cotta, K.I., Shah, S., Almgren, M.M., Macías-Moriarity, L.Z. & Mody, V. 2016, "*Effectiveness of flipped classroom instructional model in teaching pharmaceutical calculations*", *Currents in Pharmacy Teaching and Learning*.
- Daniel, J. 2012, "*Making sense of MOOCs: Musings in a maze of myth, paradox and possibility*", *Journal of interactive Media in education*, vol. 2012, no. 3.
- Davies, A., Fidler, D. & Gorbis, M. 2011, "*Future work skills 2020*", *Institute for the Future for University of Phoenix Research Institute*, vol. 540.
- Delaney, D., McManus, L. & Ng, C. 2010, "*A blended learning approach to teaching first year accounting*", *Proc.ICERI 2010Conference*, , pp. 4019-4020.
- Dey, I. 2003, *Qualitative data analysis: A user friendly guide for social scientists*, Routledge.
- Dickfos, J., Cameron, C. & Hodgson, C. 2014, "*Blended learning: making an impact on assessment and self-reflection in accounting education*", *Education Training*, vol. 56, no. 2/3, pp. 190-207.
- Dirienzo, C. & Lilly, G. 2014, "*ONLINE VERSUS FACE-TO-FACE: DOES DELIVERY METHOD MATTER FOR UNDERGRADUATE BUSINESS SCHOOL LEARNING?*", *Business Education & Accreditation*, vol. 6, no. 1, pp. 1-11.

- Dowling, C., Godfrey, J. & Gyles, N. 2003, "*Do hybrid flexible delivery teaching methods improve accounting students' learning outcomes?*", *Accounting Education*, vol. 12, no. 4, pp. 373-391.
- Du, X. & Taylor, S. 2013, "*Flipped classroom in first year management accounting unit—a case study*", *Electric Dreams.Proceedings 30th ascilite*, , pp. 252-256.
- Du, C. 2011, "*A Comparison Of Traditional And Blended Learning In Introductory Principles Of Accounting Course*", *American Journal of Business Education*, vol. 4, no. 9, pp. 1-10.
- Ellis, J.L. 2013, "*Accounting Ethics Education: Proposed Pedagogy Applying Cognitive Moral Development*", *Journal of Business and Accounting*, vol. 6, no. 1, pp. 65.
- Enache, M. 2012, "*E-learning platforms*", *International Conference “Risk in Contemporary Economy*, pp. 157.
- Engelbrecht, E. 2003, "*A look at e-learning models: investigating their value for developing an e-learning strategy*".
- Garrison, D.R. 2007, "*Online Community of Inquiry Review: Social, Cognitive, and Teaching Presence Issues.*", *Journal of Asynchronous Learning Networks*, vol. 11, no. 1, pp. 61-72.
- Gray, D. 2013, "*Barriers to online postsecondary education crumble: Enrollment in traditional face-to-face courses declines as enrollment in online courses increases*", *Contemporary Issues in Education Research (Online)*, vol. 6, no. 3, pp. 345.
- Hall, A. & Dufrene, D. 2016, "*Best Practices for Launching a Flipped Classroom*", *Business and Professional Communication Quarterly*, vol. 79, no. 2, pp. 234-242.
- Hansen, D.E. 2015, "*Cohesion in Online Student Teams Versus Traditional Teams*", *Journal of Marketing Education*, , pp. 0273475315594463.

- Ihantola, E. & Leppänen, P. 2004, *Yrityksen kirjanpito : perusteet ja sovellusharjoitukset*, 12. p. edn, Gaudeamus, Helsinki.
- Jaggi, B. & Freedman, M. 2014, *Accounting for the Environment*, Emerald Group Publishing Limited.
- Jaijairam, P. 2012, "*Engaging accounting students: how to teach principles of accounting in creative and exciting ways*", *American Journal of Business Education (Online)*, vol. 5, no. 1, pp. 75.
- Jormakka, R., Jormakka, R., Koivusalo, K., Lappalainen, J. & Niskanen, M. 2015, *Laskentatoimi*, 4. uud. p. edn, Edita, Helsinki.
- Keller, J.H., Hassell, J.M., Webber, S.A. & Johnson, J.N. 2009, "*A comparison of academic performance in traditional and hybrid sections of introductory managerial accounting*", *Journal of Accounting Education*, vol. 27, no. 3, pp. 147-154.
- Kini, R. 2011, "*Internet Courses VS Classroom Courses*", *Yale Economic Review*, vol. 7, no. 1, pp. 5.
- Kong, S.C. 2014, "*Developing information literacy and critical thinking skills through domain knowledge learning in digital classrooms: An experience of practicing flipped classroom strategy*", *Computers & Education*, vol. 78, pp. 160-173.
- Kong, S.C. 2014, "*Developing information literacy and critical thinking skills through domain knowledge learning in digital classrooms: An experience of practicing flipped classroom strategy*", *Computers & Education*, vol. 78, pp. 160-173.
- Leauby, B. 2012, "*Linking Management Accounting and Finance: Assessing Student Perceptions*", *Management Accounting Quarterly*, vol. 13, no. 2, pp. 14-20.

- Lin, C.F., Hung, Y.H., Chang, R.I. & Hung, S.H. 2014, "*Developing a problem-solving learning system to assess the effects of different materials on learning performance and attitudes*", *Computers & Education*, vol. 77, pp. 50-66.
- Manner, J., Jormakka, R., Koivusalo, K., Lappalainen, J. & Niskanen, M. 2013, *Laskentatoimi*, Edita, Helsinki.
- McWilliams, V. 2012, "*An Integrated Approach to Beginning Financial Accounting and Finance Courses*", *Issues in Accounting Education*, vol. 27, no. 1, pp. 299-336.
- Mortagy, Y. & Boghikian-Whitby, S. 2010, "*A longitudinal comparative study of student perceptions in online education*", *Interdisciplinary Journal of E-Learning and Learning Objects*, vol. 6, no. 1, pp. 23-44.
- Nita, C.G. & Stefea, P. 2014, "*Cost Control for Business Sustainability*", *Procedia - Social and Behavioral Sciences*, vol. 124, pp. 307-311.
- Patton, M.Q. 2001, *Qualitative research and evaluation methods*, 3rd ed edn, Sage, Thousand Oaks.
- Phillips, C.R. & Trainor, J.E. 2014, "*Millennial students and the flipped classroom*", *Journal of Business and Educational Leadership*, vol. 5, no. 1, pp. 102.
- Pope, P.F. 2010, "*Bridging the gap between accounting and finance*", *The British Accounting Review*, vol. 42, no. 2, pp. 88-102.
- Proctor, T. 2003, *Essentials of marketing research*, 3. p. edn, Pearson Education, Harlow.
- Rovai, A.P. 2002, "*Development of an instrument to measure classroom community*", *The Internet and Higher Education*, vol. 5, no. 3, pp. 197-211.
- Rubin, H.J. & Rubin, I. 2005, *Qualitative interviewing: the art of hearing data*, 2nd ed edn, Sage, Thousand Oaks.

Ruusuvuori, J., Nikander, P. & Hyvärinen, M. 2010, *Haastattelun analyysi*, Vastapaino, Tampere.

See, S. & Conry, J.M. 2014, "*Flip My Class! A faculty development demonstration of a flipped-classroom*", *Currents in Pharmacy Teaching and Learning*, vol. 6, no. 4, pp. 585-588.

Sharpe, R., Benfield, G. & Francis, R. 2006, "*Implementing a university e-learning strategy: levers for change within academic schools*", *Research in Learning Technology*, vol. 14, no. 2.

Sohrabi, B. & Iraj, H. 2016, "*Implementing flipped classroom using digital media: A comparison of two demographically different groups perceptions*", *Computers in Human Behavior*, vol. 60, pp. 514-524.

Stevens, D. & Zhu, Z. 2015, "*DIFFERENCES IN STUDENT PERFORMANCE IN ONLINE VERSUS TRADITIONAL QUANTITATIVE COURSES*", *Business Education & Accreditation*, vol. 7, no. 2, pp. 31-39.

Suomala, P., Manninen, O. & Lyly-Yrjänäinen, J. 2014, *Laskentatoimi johtamisen tukena*, 1. p. edn, Edita, Helsinki.

Swan, K. 2002, "*Building learning communities in online courses: The importance of interaction*", *Education, Communication & Information*, vol. 2, no. 1, pp. 23-49.

Tench, R., Jones, B. & Sun, W. 2014, *Communicating Corporate Social Responsibility : Perspectives and Practice*, Emerald Group Publishing Limited.

Thompson, T.L. & MacDonald, C.J. 2005, "*Community building, emergent design and expecting the unexpected: Creating a quality eLearning experience*", *The Internet and Higher Education*, vol. 8, no. 3, pp. 233-249.

Tomperi, S. 2012, *Yrityksen taloushallinto. 1, Kirjanpidon ja tilinpäätöksen perusteet*, 9., uud. p. edn, Edita, Helsinki.

United Nations Division for Sustainable Development 2001, Environmental Management Accounting, Procedures and Principles, “*Improving the Role of Government in the Promotion of Environmental Management Accounting*”.

Van de Velde, E., Vermeir, W. & Corten, F. 2005, "*Finance and accounting: Corporate social responsibility and financial performance*", Corporate Governance, vol. 5, no. 3, pp. 129-138.

Weil, S., De Silva, T. & Ward, M. 2014, "*Blended learning in accounting: a New Zealand case*", Meditari Accountancy Research, vol. 22, no. 2, pp. 224-244.

Weil, S., Oyelere, P., Yeoh, J. & Firer, C. 2001, "*A study of students' perceptions of the usefulness of case studies for the development of finance and accounting-related skills and knowledge*", Accounting Education, vol. 10, no. 2, pp. 123-146.

What is Qualitative Research? 2012, Bloomsbury Academic.

Electronic sources

Ala-Kivimäki, P. 2016, "*Asiantuntijat kertovat työelämän viisi keskeisintä muutosta - näitä taitoja vastavalmistuvat tarvitsevat*", Helsingin Sanomat, Available from: <http://www.hs.fi/ura/a1463711606677> [23.05.2016].

Denning, S. 2014, "*Why Can't We End Short-Termism?*", Forbes, [Online], , pp. 28.06.2016. Available from: <http://www.forbes.com/sites/stevedenning/2014/07/22/why-cant-we-solve-the-problem-of-short-termism/#db185e89e9be>

edX Inc. Available: <https://www.edx.org/> [08.06.2016].

Financial Times, Financial Times Lexicon. Available: <http://lexicon.ft.com/Term?term=business-sustainability> [2016]

Financial Times, Financial Times Lexicon. Available: http://lexicon.ft.com/term?term=short_termism [2016]

Habeeb, K., Break-even point calculation. Available: <http://quickwhatis.com/wp-content/uploads/2015/12/break-even-point-calculation.png> [30.12.2016].

Habeeb, K., Your plans. Available: <http://quickwhatis.com/wp-content/uploads/2015/12/your-plans.png> [30.12.2016].

Kaul, G. 2016, Finance for Everyone: Smart Tools for Decision-Making, MichiganX, <https://courses.edx.org/courses/course-v1:MichiganX+FIN101x+1T2016/courseware/c41804e8beb4484d850677de8b04d523/a10a7fca932249628e2634e23379daf1/>

Lahti University of Applied Sciences 2014, Degree Programme in International Business Study Guide 2014-2015, <http://www.lamk.fi/opiskelijalle/opinto-opas/Sivut/default.aspx?r=academicyear%3D%222014%2D2015%22%20phkkfieIdorunit%3D%22Liiketalouden%20ala%22%20educationtype%3D%22Nuoret%22>

Lahti University of Applied Sciences 2014, "*Liiketalouden koulutus Opetussuunnitelma 2014-2015*", 23.9.2014, <http://www.lamk.fi/opiskelijalle/opinto-opas/Sivut/default.aspx?r=academicyear%3D%222014%2D2015%22%20phkkfieIdorunit%3D%22Liiketalouden%20ala%22%20educationtype%3D%22Nuoret%22>

Lahti University of Applied Sciences "*Lahti University of Applied Sciences Strategy 2020*", Available from: <http://www.lamk.fi/english/about/strategy/Sivut/default.aspx> [22.04.2016].

Martin, R.L. "*How to Win the Argument with Milton Friedman*", Harvard business Review, no. June 02, 2014, 28.06.2016. Available from: <https://hbr.org/2014/06/how-to-win-the-argument-with-milton-friedman/>

Moodle 22.10.2016-last update, Quiz Activity. Available: https://docs.moodle.org/31/en/Quiz_activity

Ord, T., Gross profit margin formula. Available: <http://www.mysmp.com/files/u1/gross-profit-margin.png> [30.12.2016].

Triple A Learning, Margin of safety. Available:

http://textbook.stpauls.br/Business_Textbook/Operations_management_student/images/pic126.gif [30.12.2016].

University of Washington, Flipping the classroom, picture. Available:

<http://www.washington.edu/teaching/files/2012/11/FlippedClassroomUWcolors-1-1024x242.jpg> [13.12.2016].

von Brocke, K., Break-even point. Available:

<https://vonbrocke.files.wordpress.com/2013/11/break-even-chart.png> [30.12.2016].

Personal communication / interviews

Person A 29.4.2016, Company A, thesis interview recording.

Person B 29.4.2016, Company A, thesis interview recording.

Person C 9.5.2016, Company B, thesis interview recording.

Person D 20.5.2016, Company C, thesis interview recording.

Person D Email 3.10.2016.

Person E 23.5.2016, Company D, thesis interview recording.

Person E Email 14.11.2016.

Person F 07.06.2016, Company E, thesis interview recording.

Person F Email 20.11.2016.

APPENDIX 1

Questions in detail

Financial accounting

Question 1.

Company A's bookkeeping has a debit entry in the bank account ledger and a credit entry in the cash register ledger. What happened in reality?

- Money was transferred from the cash register to the bank account
- Money was transferred from the bank account to the cash register
- Customer pays either with cash or transfers money to bank account
- The cash register ledger balance exceeds the bank account ledger.

The correct answer is the first option, as the debit side of both ledgers signals a rise of capital, and the credit side a decrease.

Question 2.

Company A buys raw materials from company B. The payment term is 30 days net. What kind of an entry comes from this transaction?

- Debit entry in the purchases ledger and credit entry in the accounts payable ledger
- Debit entry in the purchases ledger and credit entry in the bank account ledger
- Debit entry in the bank account ledger and credit entry in the purchases ledger
- Debit entry in the accounts payable ledger and credit entry in the purchases ledger

The correct answer is, again, the first one. The deal means, that purchases grow, but since the payment is done later, the transaction cannot yet reduce the amount of the bank account. Therefore, it is recorded in the accounts payable ledger, where it waits for the payment. When the payment is done, the sum will leave

from the bank account ledger and be registered on the debit side of accounts payable, where it will even the earlier entry.

Question 3.

The students are asked to pair the correct options with assets and liabilities. The word pairs are:

Assets – equipment

Liabilities – bonds payable

- contribution-margin ratio

Assets – accounts receivable

Liabilities – accounts payable

- break-even point

Assets – inventory

Liabilities – equity

- budget

Assets – tangible assets

Liabilities – accrued expenses

- equity turnover

Assets – cash and cash equivalents

Liabilities – profits

- personnel amount

Question 4.

Company A has 120 000€ capital and 100 000€ liabilities. How much assets does the company have?

- a. 220 000€
- b. 20 000€
- c. 120 000€
- d. 100 000€

Once again, the correct answer is arranged as option a.

Question 5.

The income statement shows the company's debts/financing/**revenue and expenses**

The income statement is always even/**shows the profit or loss**/transfers to the balance sheets assets –side

The income statement affects only equity/debt/**cash** on the balance sheet

Management accounting

Question 1.

Management accounting is a tool for the authorities/**management**/customers. It includes for example **profit calculations**/accounts payable/export declarations and accounts receivable/inventory/**budgeting**.

The correct answers are bolded.

Question 2.

Company X's capacity utilization rate was 90% in 20X1, and the next year 82%. The reduction in the production was 126 pieces. What was the capacity?

The answer is 1575, which comes from the following calculation;

$$0,9X - 0,82X = 126$$

$$X = 1575$$

The students will get to submit the answer only, and they are encouraged to use Excel, if needed.

Question 3.

Company X's fixed costs are 10 000 EUR per year. Its capacity is 1000 units per year. How much do the fixed unit costs rise, when the capacity utilization rate declines from 90% to 80%?

- a. 1,39 EUR
- b. 1,11 EUR
- c. 0 EUR
- d. 100 EUR

Since the fixed costs won't change, when the output changes, this is a simple calculation. First you have to calculate the current fixed unit costs by dividing 10 000 EUR by the actual output, which is 900 units at 90%. After the same calculation is done with the 80% output, the first fixed unit costs are subtracted from the latter answer. This brings option A.

Question 4.

Which of the following costs are labelled as variable costs? Choose one or multiple answers.

- a. fuel costs of a transport company
- b. shoe retail space rent
- c. a grocery store's product acquisition costs
- d. salary of an accounting company CEO

The space rent and fixed monthly salaries do not change, when sales change. Therefore they are fixed costs. Fuel- and acquisition costs, on the other hand, depend on the amount of sales. Therefore, they are both correct.

Question 5.

Which of the following are indirect costs?

- a. leather used in a shoe factory
- b. conference room cleaning costs of a furniture factory
- c. yoghurt packages at a dairy plant
- d. administration staff salaries at a wood manufacturing company

Direct costs can easily be linked to the final output/product. Therefore, direct costs are options a. and c, both are solely product-related. So the correct answers are both b. and d.

Question 6.

Direct costs:

- a. are formed for example of a company's administration costs
- b. are normally fixed
- c. do not affect the products total costs
- d. can be directly allocated on the product

As above mentioned, direct costs can be allocated directly on the product. They do affect the total costs of the product, and are mostly variable costs. Since administration costs are also fixed, answer d. is the only correct option.

Question 7.

You'll get the gross profit margin if you:

- a. add fixed costs to the gross profit
- b. subtract variable costs from revenue
- c. add variable costs to the gross profit
- d. subtract fixed costs from revenue

The gross profit margin is what is left, when variable costs are subtracted from revenue. Therefore, a. and b. are correct answers.

Question 8.

Break-even point means:

- a. sales with zero profit
- b. profitable sales
- c. sales with an equal amount of fixed and variable costs
- d. unprofitable sales

The break-even point is the point, where the company breaks even (FIGURE 11). The amount of sales it needs to achieve, in order to cover all the costs coming from running the business. Therefore, a. is the correct answer.

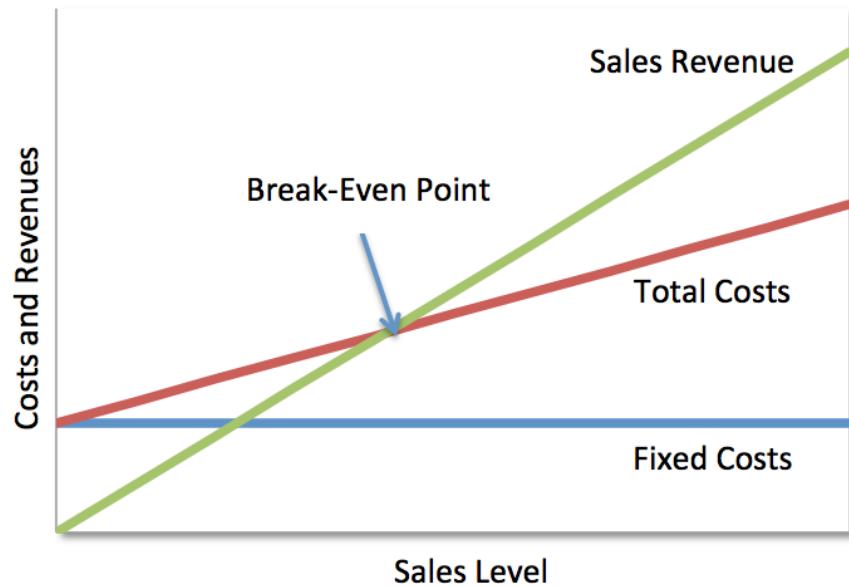


FIGURE 11. Break-even level (von Brocke 2016)

Question 9.

The gross profit margin of Company X was 40% and fixed costs 275 000 EUR. What was the break-even point?

- a. 687500
- b. 110000
- c. 165000
- d. 458333

Since the break-even point is the point, where gross profit covers all the fixed expenses, the easiest way to calculate this is to reason the gross profit margin to 100%. The simplest calculation would be $275\,000 / 40 * 100 = 687\,500$.

The more traditional way to calculate it would be through the formula, which is presented in the next figure (FIGURE 12). This would mean $275\,000 / 0,4 = 687\,500$. So the correct answer is a.

$$breakeven\ point = \frac{fixed\ costs}{selling\ price - unit\ variable\ costs}$$

FIGURE 12. Break-even point calculation (Habeeb 2016)

Question 10.

The following figures are known from year 20X1:

Revenue: 157 000

Variable costs: 96 870

Fixed costs: 57 520

What was the gross profit margin ratio?

- a. 38,3%
- b. 34,6%
- c. 14,1%
- d. 1,7%

Since the formula needs gross profit to be calculated first, this can be achieved by deducting variable costs from the revenue. This would result in $157\,000 - 96\,870 = 60\,130$. Divided with the revenue; $60\,130 / 157\,000 * 100 = 38,299\%$.

Therefore, the correct answer is option a.

<u>Gross Profit Margin</u>	
Gross Profit Margin =	$\frac{\text{Gross Profit}}{\text{Net Sales}}$

FIGURE 13. Gross profit margin formula (Ord 2016)

Question 11.

The margin of safety shows:

- a. the difference between fixed costs and the break-even point
- b. the difference between two subsequent financial years' profits
- c. the financial years profit
- d. the difference between revenue and the break-even point

As the figure shows, the margin of safety shows the difference between the break-even point and actual sales. Therefore, option d. is correct.

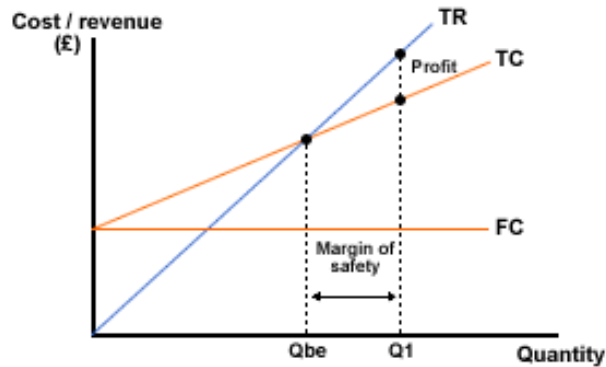


FIGURE 14. Margin of safety (Triple A Learning 2016)

Question 12.

Company A

Revenue: 11 000 000

Costs: 10 000 000

Profit: 1 000 000

Company A's EBIT-% is $9,00/9,09/10,0$

Company B

Revenue:

Costs:

Profit:

Company B's EBIT-% is $60,0/62,5/65,0$

Since the formula for EBIT-% is $\text{EBIT (revenue-operating expenses)} / \text{revenue} \times 100$, the correct answers are the options in the middle.

APPENDIX 2

Ulkoinen laskentatoimi:

Kahdenkertainen kirjanpito (Kysymykset 1-2)

Kirjanpitolaki määrittelee, mitä yrityksen on tallennettava kirjanpitoon. Liiketahtumat kirjataan tileille, jotka nimetään kyseisen laskentakohteen mukaan. Kun tiliä havainnollistetaan tiliristikolla, sen vasenta puolta kutsutaan nimellä debet ja oikeaa nimellä kredit. Debet kuvaa rahan käyttöä ja kredit rahan lähettä. Tilin vientejä voi ilmaista kirjoittamalla vientilausekkeita, jolloin debet-puolta vastaa ”per” ja kredit-puolta ”an”. Näin viennistä saa esimerkiksi lausekkeen ”per pankkitili an kassatili 100 euroa”. Tällöin pankkitilille tulee 100 euroa ja kassatililtä lähtee 100 euroa. Pääperiaatteena on, että kun jollekin tilille tulee rahaa, sen on myös lähde joltakin toiselta tililtä.

Tilinpäätöksessä jokaiselle tilille lasketaan saldo laskemalla debet- ja kreditpuolen erotus. Tiliristikossa loppusaldo merkitään pienemmälle puolelle, jolloin sekä debet että kredit ovat yhtä suuret. Tilinpäätöksen perusteella tehdään viralliset raportit; tuloslaskelma ja tase, jotka ovat seuraavan videon aiheena.

Tuloslaskelma ja tase (Kysymykset 3-5)

Tilinpäätöksen pohjalta tehtävä tuloslaskelma kertoo yrityksen tulot ja menot tilikauden aikana. Tuloslaskelmassa vähennetään tilikauden liikevaihdosta eri kululajeja, päätyen tilikauden voittoon tai tappioon.

Yrityksen tase kuvaa sen taloudellista tilannetta tilikauden päätteeksi. Tase jaetaan kahteen osioon, yrityksen varoihin ja yrityksen velkoihin. Nämä mukailevat taseyhtälöä, joka kuuluu:

Varat = Velat ja oma pääoma

Taseessa yrityksen varoista käytetään nimitystä vastaavaa ja toisesta puolesta nimeä vastattavaa. Taseen vastaavaa -puoli osoittaa rahan käyttökohteet ja vastattavaa -puoli rahan lähteet. Näin ollen, taseyhtälöön nojaten, vastaavaa-puolen on oltava yhtä suuren, kuin vastattavaa - puolen.

Yrityksen varat sisältävät kiinteän omistuksen ja mm. käteisvarat ja myyntisaamiset. Rahan käyttökohteina on siis ollut investointeja tai kassavarannot. Yrityksen velat ja oma pääoma sisältää lainat, siirtovelat, sijoitukset yritykseen ja tilikauden voiton. Rahan lähteinä on siis ollut esimerkiksi pankista otettu laina, sijoittajilta tulleet sijoitukset ja edellisen tilikauden voittorahat. (Manner et al. 2013)

Sisäinen laskentatoimi:

Kustannuskäsitteet (Kysymykset 2-6)

Yrityksen kustannukset jaotellaan kiinteisiin- ja muuttuviin kustannuksiin sen mukaan, miten riippuvainen kustannusten taso on toiminnan volyymista. Muuttuvat kustannukset nimensä mukaan ovat riippuvaisia toiminnan volyymista. Mitä enemmän tehdas tuottaa, sen suuremmat ovat esimerkiksi raaka-ainekustannukset ja tuotannon työntekijöiden palkkakustannukset. Kiinteät kustannukset sen sijaan eivät ole riippuvaisia siitä, miten paljon tuotetta tehdään tai myydään. Vaikka myyntiä ei olisi yhtään, niin esimerkiksi kuukausipalkkaisten työntekijöiden palkat ja tilavuokrat juoksevat silti. (Alhola, Lauslahti, 2002)

Kustannukset jaotellaan myös välillisiin ja välittömiin kustannuksiin. Välittömät kustannukset voidaan helposti kohdentaa aiheuttamisperiaatteen mukaan laskentakohteelle. Ne ovat yleensä muuttuvia kustannuksia, kuten raaka-aineet tai työntekijän palkkakustannukset ja ne voidaan kohdentaa suoraan esimerkiksi tuotteelle, jota on valmistettu. Välittömät kustannukset, jotka eivät suoranaisesti liity tuotteen tai palvelun tuottamiseen, kohdennetaan esimerkiksi kustannuspaikan mukaan. (Alhola, Lauslahti, 2002)

Kapasiteetti kuvaa yrityksen maksimaalista tuotantoa niillä resursseilla, jotka yrityksellä on käytössä. Yrityksissä harvoin päästään täyteen kapasiteettiin, ja todellista tuotantomäärää kutsutaan toiminta-asteeksi. Toimintasuhde kertoo toiminta-asteen suhteen kapasiteettiin, eli kuinka iso prosenttiosuus koko kapasiteetista on todellisuudessa käytössä. (Alhola, Lauslahti, 2002)

Katetuottolaskelmat (Kysymykset 7-11)

Katetuottolaskentaa käytetään apuna yrityksen kannattavuuden arviointiin.

Katetuotto tarkoittaa sitä summaa, joka jää yli kun myyntituotoista vähennetään muuttuvien kustannuksien määrä. Katetuoton pitäisi kattaa yrityksen kiinteät kustannukset ja lisäksi halutun määrän voittoa. Jos katetuotto ei riitä kattamaan kiinteiden kustannusten määrää, silloin yritys tekee tappiota. (Manner et al. 2013)

Katetuottoprosentti kertoo, kuinka iso prosenttiosuus jää jäljelle, kun myynnistä vähennetään siihen käytettyjen kustannusten osuus. Eli jos katetuottoprosentti on 50, se tarkoittaa että jokaista myytyä euroa kohti jää 50 senttiä kiinteiden kustannusten kattamiseen. Katetuottoprosentin kaava on:

$$\text{Katetuotto} / \text{myyntituotot} \times 100$$

Kriittinen piste kertoo millä myynnillä yritys tekee nollatuloksen, eli sen katetuotto on yhtä suuri, kuin kiinteät kustannukset. Kriittinen piste voidaan ilmaista esimerkiksi myynnin kappale- tai euromäärällä. Euromääräisen kriittisen pisteen kaava on:

$$\text{Kiinteät kustannukset} / \text{katetuotto} \times 100$$

Varmuusmarginaali kuvaa kuinka suuri ero on todellisen myynnin ja kriittisen pisteen välillä. Jos varmuusmarginaali on positiivinen, silloin myynti ylittää kriittisen pisteen ja yritys tekee voittoa. Jos varmuusmarginaali on negatiivinen, silloin yritys tekee tappiota. Varmuusmarginaali voidaan ilmaista euromääräisesti tai prosentuaalisesti.

EBIT + EBITDA (Kysymys 12)

Tyypillisimpiä tilinpäätöksestä laskettavia kannattavuuden tunnuslukuja ovat liikevoittoprosentti, koko pääoman tuottoprosentti, oman pääoman tuottoprosentti ja sijoitetun pääoman tuottoprosentti.

Liikevoittoprosentti katsoo kannattavuutta kustannustehokkuuden kautta. Se kertoo, mikä prosenttiosuus jää jäljelle, kun liikevaihdosta vähennetään siihen menneiden kustannusten osuus. Liikevoittoprosentin kaava on:

Liikevoitto / liikevaihto x 100

Tulokset vaihtelevat eri toimialoilla, joten yleisesti pätevää hyvää liikevoittoprosenttia ei voida sanoa. (Manner et al. 2013) Kuten ennakkotehtävän laskutehtävästä huomaa, voi saman tuloksen omaavat yritykset saada hyvin erilaisia liikevoittoprosentteja, riippuen siitä miten suuret kustannukset vaaditaan liikevaihdon aikaansaamiseksi. Esimerkiksi teollisuuden tuotantokustannukset ovat huomattavan paljon suuremmat, kuin palveluja myyvän yrityksen.