Abstract

Objective
Traditional lectures, problem-based learning and cases are all well-established methods for educating. Learning by cases are becoming a more used method for educating. Many professional and highly ranked American universities are already using the method and more well-known universities in other countries are adapting the method more. The case methodology is also used wider and more frequently over the different areas of education.

Method
The paper is built upon a literature collection from writers and researchers who has affected the area of importance. The information presented in the chapter literary review is collected from scientific articles from the Halmstad University's databases Scopus and Web of science, and academic literature.

Analysis
Neurological scientists indicate that experience-based education brings higher knowledge and better results. The case method is an active way of learning which make students more focused and motivated. The method higher the students abilities to be critical, analytical and open minded, which in the long run will higher the outcome of the education. Through case-based education students will get an insight of reality and they will be more prepared for their future field of proficiency.

Conclusion
Case studies as a method of learning is an attractive way of education. Students learning by cases develops and improves new skills and abilities. As an method for educating it may be more implementable in some studying directions and filed of work than others. It is a growing methodology which is constantly being more used worldwide and a more acceptable as a way to learn.

Keywords
Case methodology, case study, lecture learning, problem-based learning, creativity, active learning
Introduction

“Learning is built layer upon layer via experiences in a social cultural context” (McHarg, 2009 p.1). Standards with education should have the function to train students to that level which allows them to be able to independently practice within the field of work (Eckert, 1993). What is being educated in the classroom must in one way or another be linked to reality - how to decide, diagnose and act (Garvin, 2003). Learning can be active or passive, in which teaching focuses on different ways of educating (Guess, 2006).

To be given a ‘kick start’ traditional lectures can be a good way to create interest for the students. Lectures is based on information output (Eckert, 1993), and is normally not designed to learning by trying. Learning by working team-based to make students create a wider understanding is a more active way of learning. Through coming forward with solutions for the stated problems, is a more preferred education method by students (McHarg, 2009).

More professional schools in America is adapting their education toward case-based lessons. That is because the skills the methodology brings being more important in today’s world (Garvin, 2003). It is deeply rooted in law, political science and economics, and the method is growing within other areas as well (Tärnvik,2004). The definition of “case” is complex and used in many ways, as well as the case methodology (Bengtsson, 1999). Case studies are often used in education, field-based cases of a real situation or happening. Cases focus on a problem and how to solve it in the best possible way given by the company or organization (Kjellén, Lundberg & Myrman, 2008). Working with cases is a way to make the students active and interact with each other to result in advices and decision making (Bengtsson, 1999).

Method

The paper is built upon a literature collection from writers and researchers who has affected the area of importance. To identify methods and strategies within different methods for learning, academic literature studies have been done and scientific articles have been examined. This to find relevant and reliable information and to ensure facts before analysis and conclusion.

When academic literature and scientific articles constitutes the basis of the working method, then a similar study conducted would show the same result again. According to Jacobsen (2002) this shows that the study has high reliability. Since the sources used are secondary sources the authors of the articles already have interpreted the primary sources. If the data collected the first time aimed in another direction, the reliability may vary. This can have affected the interpretation (Jacobsen, 2002). Jacobsen (2002) are saying the validity in the study is reached when the presented articles in the study is relevant for the context. The validity in this study is obtained through seeking answers within the area of problem.

When collecting scientific articles presented in the chapter literary review the database databases Scopus and Web of science at Halmstad University is used. For further articles google scholar is used as a field for searching.

The formulation of the problem is used to define keywords, which has been the ground when searching within the databases to find relevant articles. Keywords: Case methodology, case study, lecture learning, problem-based learning, creativity, active learning

After collecting data, the articles and literature have been processed and put together in a literature review. With this information, an analysis of the different sources has been done and at last compiled a conclusion with an answer to the question.
Literary review

Directions for learning

There are hundreds of different ways for both teaching and learning, and each and every one of them are doing it differently. There are directions teachers should follow, and defined ways how students learn (Guess, 2006). The original idea of pedagogical learning includes methods that should help the learner to gain knowledge in the best possible way (Giertz, 2003). The pedagogical process, is important for education. It structured on that the teacher should be well prepared and start the lesson with something that is well known for the students. After that the teacher will present new material, which is associated to the previous known material. At last the new material will be applicable on a known area for problem (Herbart, 1806/1994). This way of educate is well suitable with the process for the case method (Bron & Wilhelmsson, 2004). The teacher should be inspirational for the students, which is supposed to give examples, implement reality and bring forward a good analysis together with the students. the teacher should help the student to build up structures, and try to bring forth an active participation from the student (Piaget, 1935).

Studies of the mind has taken an evolutionary step into new ways of education. In the last couple of years a different way of teaching, plan education and form curriculum have been growing. New types of scientific collaborations have lead towards a more educational practice, and a new way to work with the education in the classroom. Scientists have been doing more research on education and the best way to make learning ideal. Knowledge about learning are predicted to evolve a lot more in next generation since the neurological science develops. Education takes form in a lot of different varieties. Researchers has successfully discovered that teachers who shared their “wisdom of practice” to the students, and let the students work with their compendium, have shown a better understanding than the usual lectures (Bransford, Brown & Cocking, 2000).

Traditional lecturing is based on the hypothesis about how people learn. Education with cases are built upon the ground that people learn best by doing: we learn to write by writing, we learn to think by not being given answers, we learn to be reasonable by not being told how to do the task and we learn to make decisions simply by making the and learn from our rights and wrongs. Within the case methodology all these skills are involved, and make cases an active way of learning. In traditional lectures assumptions is made that people learn by being given, or told, the information. The teachers provide the students with theory, thoughts, simplifying information, given answers and solutions. This makes the student only listen and proceed, which makes lectures a passive way of learning (Guess, 2006)

Formal way of learning is planned, targeted and within educational institutions. It is an action taken by students which goal can be reached through different channels. Formal learning can be both information taking and experience-based (Ellström, 1996). Experiential learning is a special term of a way to learn, defined as learning from life experience (Kolb, 2015). “Learning in which the learner is directly in touch with the realities being studied. It is contrasted with the learner who only reads about, hears about, talks about, or writes about these realities but never comes into contact with them as part of the learning process” (Kolb p.18). Experiential learning is one sort of active learning (Kolb, 2015) such as problem-based learning and case-based learning (Guess, 2006)

Spaces in which lectures are based makes a difference in how student can take in the educating. Active learning demands spaces which give room creativity, problem solving and critical thinking, and groups of students need to be able to interact. Traditionally designed lecture rooms are not suitable for this kind of activities, and the innovation will not be as good. Many of the biggest university worldwide are working to renew the pedagogical spaces.
to fit the kind of educating that will be going on in there. That for encourage high motivation and higher the level of both teaching and student learning (Mingze & Chiang, 2015).

**Different methods for education**

Within business, original lectures are a frequently used method when educating. Lectures are efficient and reach out to a lot of people at the same time. Thought, the lecture method does not give the student any practice how to use the information given within the study-area. Therefore, this method does not give the student the same level of understanding as a case-study or problem-based learning does (Ellet, 2007). Lectures are based with the teacher as an ‘expert’, whose importance is to teach the students theory and the right and wrongs, (Guess, 2006). Depending on type of education, traditional lectures based on theory and textbooks can be a good enough method. When studying only facts, for example history, case-based learning may not help the student more than lecture-based learning (Ellet, 2007). Traditional lectures for learning is not to underestimate and should not be taken away completely (Nordquist, 2004).

Problem-based learning have been seen as a way of learning since its introducing because of its pedagogical structure, the groundbreaking has been especially high within medical education (Hung, Jonassen & Liu, 2008). The educating method aims to let the students take control over their own learning, and by that awaken them and make them more curious within that current area. Problem-based learning takes long time and much effort for both teachers before the lesson and students during the session, but has shown good results in active learning (Tärnvik, 2004).

Case methodology are a familiar, yet difficult to define, type of research (Bergen & While, 2000). Case studies is an appreciated method within medicine, law, management and psychology (Bengtsson, 1999). The method is also frequently used within areas like economics and political science and are a growing method for learning within other areas as well (Nordquist, 2004). The method has been rooted for a long time, and together with this huge expansion of using areas, patterns in how to use the method is going to changes as well (Gullahorn, 1959). The difference between case methodology and problem-based learning are not really easy to define. Problem-based learning aims to seek answers to: why is it this way? and the group of students must brainstorm about alternative explanations to that question. Cases usually is based upon an unsatisfied situation, in which the students have to analyze and argument to bring forward possible solutions for a change to the better. Cases aims to seek answers to: how is it this way? (Stjernquist, 2001).

**Defining the case methodology**

Just as problem-based learning, case methodology is a form of education which encourages students to be active during class. Through active participation the student will receive more insight in different types of problems and complications that may occur in reality. Cognitive research has shown that learning gained by active work with case studies, make the student gather information better and will keep it fresh for longer period of time (Stjernquist, 2001).

Trough the case students will face different situations that is related to their forward field of work, and will therefore be more prepared when starting to work (Dahlkwist, 2007). Cases is a good way to gain knowledge in different types of business and industries. Trough cases student get more abilities and levels of knowledge (Bengtsson, 1999). A case study make the student receives a wide understanding by stimulating creativity through problem-solving (Dahlkwist, 2007). There are no stated right and wrong. Working with cases focus on the way towards a good understanding, which is why the analysis is an important part of the case. In the analysis, the student must reflect on why they did as they did, what they case resulted in, did they found answers to stated questions or problems, and if their solution and strategy of work were planned well (Kjellnê, Lunderberg & Myrman, 2008).
Cases as a method for learning

Cases together with stories, theories and facts might be a good combination for creating an effective way of learning. If the teacher exemplifies theories by using cases, students may learn better and by connecting theories to the case they remember those and connect their learning to reality which creates a good way of learning (Solberg & Huber, 2006). When using a case in education it usually gives the user two kinds of solutions. One simple description of the correlations, that can be stated out clear. That solution does not make the user think beyond the first thought. On the other hand, it forces the user to go beyond the normal, be inventive and stimulate creativity that is more than expected. The user have to step away from standards and think outside the box (Abbott, 2000).

Case method let the learners make knowledge (Ellet, 2007). Cases brings a deeper understanding among student, and brings forward discussions and reflections, which makes the education levels higher (Nordquist, 2004). Working with cases higher the motivation of the students comparing to lecture based education (Dahlkwist, 2007). Case studies educate the students in decision making, practice problem-solving, help student think in a critical view, learn to reflect, develop a higher cognitive thinking, apply theory in practice (Nordquist, 2004). Students have shown a deeper understanding about the subject in focus by learning from realistic situations, with focus on problem-solving. The teacher has a better communication with the student, and they must reflect a lot about what being said (Tärnvik, 2004).

McHarg says that the way of learn through problem-based cases “aligns with evidence from psychology of how we humans construct knowledge and make sense of the world” (McHarg 2009 p.2). Learning by case-studies make student connect with reality and the living world, which gives more perspective to the task given. Cases will force the students to apply concepts and content. It will make them expand and form new skills. They will improve their proficiency and create a better knowledge in how to be critical, be analytic, be theoretical and be relevant in different situations. Working with cases will higher the creativity and open up for different solutions and answers. Instead of traditional lectures, cases will reflect the real environment better. After working with cases, students will be more understandable with the complexity in the given are, the complexity of al business and the complexity of the environment and the world. This gives them a more stable ground with knowledge when graduating their studies (Guess, 2006). Case studies are a constant renewing project, and using cases in lectures also opens a lot of doors to future research (Nordquist, 2004).

Learning and management within specific areas

Within medicine, students learn from practise. Learning by lecture is not as efficient as learning by doing (Noorafshah, Hoseini, Amini, Dehghani, Kojuri & Bazrafi, 2014).

Case methodology is a good method for further education for students within medicine (Tärnvik, 2004). Several teaching techniques have been proved within the area of medicine, where innovative lectures including practice have had the most positive outcome in both motivation and knowledge after finishing studies (Drake, 2007). The purpose of a case study is to analyze and try to understand underlying facts and norms that are av importance for the history or a problem. In medicine, it is important to learn to go back and look for reason or causes that have created the situation being in today. When created a understanding of the cause, you are able to go forward to an solution (Philips, 2008). Professionals should also use the case as a study of knowledge and experience which should help students to improve their skills (Forsgren, Christensen & Hedemalm, 2014).

Problem-based learning has dominated the style of education within medicine for years. Many medicine faculties worldwide have successfully worked with that method for a
long time, but recent years the case methodology has proven be just as good (Stjernquist, 2001). Case studies has been proven as a good method by nursing students. Cases tests the students understanding from theory with skills in practice. Students has proven be more confident and well-educated when finishing school (Bergen & While, 2000).

The methodology is deeply rooted in practice of law. Nearly all American law schools use the method in education (Patterson, 1951). Both schools and firms are ongoing using cases, in which aspirants lawyers can analyze the data with purpose to reach the same conclusion as they did in court. They also use fictitious reports which purpose is to play a part in training aspiring lawyers. With that they can make up a role-play do make it as real as possible, and using the case to move forward step by step. By this the students or aspirants gain a deeper knowledge by really learning how the routine is going (Gullahorn, 1959).

The supercase
The phenomenon supercase has grown from the case methodology, in sense to make the case as authentic as possible. In practice this can be in form of a real problem in a specific company that must reach to a solution, or a living patient that needs a consultation to plan his treatment. The concept of the supercase aims to be the peak of the course or education, which will make the student reach the meaning of the subject and the case. This method demands more effort and time from the teachers to reach a good understanding for the student, but the outcome of this method balances that (Gyllenhammar & Björck, 2012).

Conversely
Working with case studies is a project over time. Both teacher and student have to prepare before class, and they have to evaluate the work being done after finishing the lecture, to be able to bring new thoughts until next time (Nordquist, 2004). People working with a case study can have different opinions than the creator of the case. Because of that the student can have problem to reach a conclusion and a solution. It is important that the creator writes understandable information with no room for misunderstanding, to ashore that all imaginary problems can be identified (Yin, 2007).

Cases are often very complex, unclear and does not give an direct answer which reflects the reality well. This because it does not always end up with a clear answer or solution, which also does not point on a right or a wrong. The method is based on analyses and creative thinking and might result in several possible solutions. Because of the complexity, the case methodology can sometimes be seemed as woolly or fuzzy and hard to attach. The method requires an active attitude from both teacher and student, and is given by that a demanding way of learning (Bengtsson, 1999).

One preconception about using case studies, comparing with using experiments and surveys, is when not working with the case study well and detailed enough, the outcome may show an adverse result. This because important factors can be missed, which then make the case seem doubtful (Yin, 2007). When putting systematic learning, in form av science and lecture-based education, next to experiential learning, based on past experiences such as cases, the picture appears that experiential learning might be unreliable and seems to misguide the student. It should therefore be supplemented with theory and academic instructs (Kolb, 2015).

The lack of generalizability has been stated as a weakness about using cases as an education methods. The criticism has been contra by scientist, who implies that the value of a case and the contribution it gives is created of the study's meaning and purpose (Miles, 2015). The case methodology has a lot to contribute within educational matters. It represents a complex practice and the case study is seen as one of the major methodologies within education research (Pereira & Vallance, 2006).
Analysis

There are many ways and techniques for learning, and strategies for education. Giertz (2003) and Herbart (1806/1994) are both indicating the importance of the pedagogical process in order to help the student to gain knowledge at his or her best purpose. Bron and Wilhelmsson (2004) are supporting their statements and says that the case method is working well within the explained pedagogical process. They all highlight the importance of the teacher’s role and share Piaget’s (1935) opinion that the teacher should be an inspiration. The teacher should be a mentor to help the students use the right tools to make them able to reach a deeper understanding. This will also help them come forward with good conclusions through a active participation.

Neurological science has becoming an important research for education and learning. Bransford, Brown and Cocking (2000) indicates that several scientists are saying that teachers who share experience and educate by examples from reality, makes their students reach a wider and deeper understanding. Guess (2006) stay in the same line by saying that “Learning by doing” is human’s nature to do. Ellström (1996) describes formal learning as partly experience based. Experiential learning make the person who learns directly in touch with reality and real happenings and learns through them. This brings activity, and experiential together with problem-based and case-based learning constitutes the term active learning, (Kolb, 2015 & Guess, 2006). Guess (2006) conversely also talks about traditional learning as lectures. This been categorized as passive learning because that it is information given by the teacher who can be seen as an expert. Ellet (2007) states the same conclusion. He is saying that lectures let the learners receive knowledge while cases let the learners make knowledge. Lectures does not make the student reach the same deep understanding which both problem-based learning and cases do. Nordquist (2004) says that lectures is not to underestimate even if he does not give the students same understanding as cases do. This is something Ellet (2007) agrees with, but with restriction that the lesson educated is only about facts that cannot be exemplified.

Hung, Jonassen and Liu (2008) indicates that problem-based learning is used of many big universities because of the pedagogical structure. Stjernquist (2001) show that the method been used especially when teaching nurses. This method makes the student take more control over their learning which makes the motivation for learning higher, and shows good results in activity (Hung et al, 2008, Tärnvik, 2004, Mingze & Chiang, 2015). Bergman and While (2000) implies that the case methodology is similar to the problem-based learning. Case It’s been used for a long period of time and are growing into more different types of areas depending on how we use it. Stjernquist (2001) are saying that problem-based learning answers to the question why, and case-based learning to the question how. He implies that the way to reach a solution differ in the two methods, but they both force the students to an active participation. Bergen and While (2000) says that case studies are as good method as problem-based. They imply that cases may be even better because of the deep understanding the students get from using the case method. Solberg and Huber (2006) have a theory that cases in combination with stories, theories and facts may be good and effective way of learning. This way theories can be exemplified by using cases, which would make the students connect the learning more to reality.

Stjernquist (2001), Dahkswist (2007) and Bengtsson (1999) are all highlighting that the case methodology brings forward discussions and reflections which higher the activity before and during class. Abbott (2000) are saying that the one of the good outcomes of cases is that it forces the student to step away from normal and think outside the box. McHarg (2009) says that learning through cases make humans construct knowledge and make sense of the world. Guess (2006) indicates that if student can connect facts to reality and the world they are living in, they get more
perspective and understand the complexity of the world more. Cases will make students apply concepts and contents which in the long run will improve their proficiency. Wider knowledge and ability to be critical, analytical, creative and open minded will higher the level of the outcome. Kjellné, Lundberg and Myrman (2008) focuses on the analysis part in the case methodology, which they say are the most important. It is the analysis of the work being done in the case that make the students receive this deep understanding and put them on this higher level of education.

Forsgren, Christensen and Hedemalm (2014) and Tärnvik (2004) are saying that professionals should use the case study to share knowledge in order to let students improve their skills. This is a good way to learn more within their future proficiency. Drake (2007) proves that several innovative lectures trough cases within this area have had the most possible positive outcome. Philips (2008) states that the most important is to analyze and understand the underlying factors that are of importance for the problem. Patterson (1951) and Gullahorn (1959) says that the case methodology is growing fast into new directions and ways to use it. Nearly all professional American law schools used the method, along with law firms used the method to educate their aspiring lawyers further and make them ready for real happenings in court. Noorafshan, Hoseini, Amini, Dehghani, Kojuri and Bazrafkan (2014) and Stjärnquist (2001) are saying that within medicine students have to learn from practice, and that the method is expanding within this field of work too.

The case method takes time and a lot of preparation. Cases are very complex and can be unclear because of that it does not give the learner a clear answer (Nordquist, 2004 & Bengtsson, 1999). Yin (2007) states that because of this complexity cases sometimes can show adverse information because people working with it may have different points of view, and different knowledge before which colors the outcome. Therefore, it is, according to Yin (2007), important for the creator of the case to make it as understandable and clear as possible to reduce this possibility. Bengtsson (1999) also implies that because of the difficulty to attach the case it is a very demanding way of learning.

Yin (2007) says that there is one perception to the case method. If the user cannot handle the complexity, important facts may be missed which make this method seem unreliable. Kolb (2015) says that comparing to systematic learning such as lecture-based education, are experiential learning based on experience less certain. To work against this uncertainty, he implies that cases should be supplemented with theory. Further, Miles (2015) states that a weakness of the method is the lack of generalizability. Scientists contra this weakness when saying that the methods value and contribution is created of its propose. Pereira and Vallance (2006) also proves this by saying that the case methodology has a lot to contribute within education. Even though it is a complex and demanding method it is one of the major methodologies within education research.

Conclusion

How the teacher educate is one important factor that will affect how students learn. The teacher's role, according to Piaget (1935) is not to underestimate and together with method of learning it will develop a good system. The world is constantly changing and new research help the education system to improve all the time. Teaching and education are no exception and need to follow the rhythm. Education and method are constantly renewing in different ways of doing them. The case methodology been growing for a lot of years and are now well used method within several areas on some of the biggest universities worldwide, according to Hung, Jonassen and Liu (2008).

Traditional lectures are not a bad choice. According to Ellet (2007) among other it is good method within certain areas. Experience-based learning seems to be the common denominator. Bransford, Brown and Cocking (2000), Guess (2006), Ellet
(2007) all states that when teaching from experience creates a higher motivation and reality anchor for the student. Together with Kolb (2015) the term active learning is stated, which made activity a keyword through the paper. Problem-based learning has been used for a long time and clearly has its attachment. Tärnvik (2004) indicates that problem-based learning make the student take responsibility over their education, which has shown in higher knowledge. Learning through cases are according to Bergen and While (2000) even better. One strong argument for using cases is the connection to real life and future field of work that it brings.

The case methodology is very complex which makes it time consuming. Because of its complexity, it can sometimes be unclear which creates a pressure on the student to really get into it for making it right. If the users don’t work with the case hard enough they may have an adverse result, which Yin (2007) states as important factor to have in mind. Nearly all the writers brought up agrees that the case method is a good method for educating. They evaluate method from different angles, and the conclusion is that it is more about what being educated and which method that is best required. That is based on what skills and knowledge that is to expect of the outcome of the course.

At last, the case methodology demands a lot but at the same time it makes the student work for the result of the outcome. The method gives the student motivation and fore to higher activity and creativity. The method help creating abilities to be critical, analytical and open minded. This will all make the student better prepared for similar situations in reality, and within their future proficiency. It will give students confidence to embrace what’s up next. As McHarg (2009) said, learning through experience make humans construct knowledge and make sense of the world. With basis in the written material from the writers brought up, Yes, the case method is a good way for learning.

References


