

The Utilization of Information Technology Solutions as a Response to Present Challenges

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1 Introduction

This paper will focus on three issues. The first issue to be examined is that of "Case Karlsson", which is best described as an interactive role-play "game", which is increasingly being used for study purposes. The second issue which will be addressed is the possibility of a movement towards a more distance based learning programme. The intention is that distance based learning will be offered as a compliment to the traditional law study programme offered by the Stockholm University Faculty of Law. The third issue to be discussed is the development of systems for electronic examination and the effect that this is having within the realm of education at the Stockholm University Faculty of Law. These three developments are a response to the new challenges facing the Faculty of Law and have resulted in numerous opportunities as well.

2 Case Karlsson

So what is Case Karlsson? As mentioned above, Case Karlsson is best described as an interactive role-play "game", which has all the characteristics of a proper criminal investigation. [\[2\]](#) The programme software was developed by Professor Peter Wahlgren, Professor Christian Diesen and Cenneth Andersson in conjunction with Stockholm University. The goal of Case Karlsson is to ensure that the students participating in Procedural Law courses will receive hands-on experience of Procedural Law in a pedagogic manner and also with the help of an information technology tool. The "player", by participating in this interactive game, comes across all the principles of Procedural law by being exposed to a multitude of real life situations and in this way is exposed to the content matter of the subject of Procedural Law.

The game is broken down into various segments that mirror the actual elements of a real life criminal law scenario. For example, there is the crime, the police investigation, the use of differing investigative methods, the court procedure itself and finally the judgment handed down from the court. During each step of the game, reference is made to relevant legal principles and legislation as well as case law and legal doctrine. Therefore, the player requires a certain degree of knowledge in the field of Procedural law in order to navigate

through the game. However, assistance is provided along the way, which serves as a valuable means of learning the basic principles making up the subject of Procedural law. In addition, Case Karlsson also serves as a useful source of knowledge. By playing Case Karlsson, one is exposed to the most relevant and up-to-date legal paragraphs as well as the most relevant developments, e.g., in case law. Therefore, even if one does not wish to play the actual game, one is nevertheless given the opportunity of accessing that database that lies in the background of the game and this has the additional advantage of serving as a wealth of up-to-date information.

The aim of the game is to mirror reality as closely as possible. Therefore, one is not able to navigate backwards or forward; rather one takes an action and is then locked to the consequences of that specific action, whether beneficial to the player or not. All mistakes need to be rectified just as they would be done in reality. In cases where an exceptionally incorrect mistake is made, the game is stopped automatically and the player is forced to start from the beginning. The player is also able to receive "warnings" and a collection of too many warnings along the way will also result in the game being automatically stopped. For example, too many complaints from the Office of the Chancellor of Justice will result in such a termination of the game.

The player starts by choosing a role. The roles to be chosen from are "prosecutor", "Defence Attorney" and "Judge". It is emphasized from the start that choosing the "Prosecutor" role entails the most work and that in order to be able to participate from as early a stage as possible, this role should be chosen. There are, of course, advantages with gaining experience as to what it is like joining an investigation at a much later stage, e.g. in the middle, where one is not exposed to all the case material from the start. Here experience is gained as to what is required in order to get all the relevant information from a late entry into a criminal investigation.

The player, having chosen a role, is then presented a scenario and is faced with a question. Once the correct answer is provided, the relevant reference to the Swedish Procedural Code is presented in the form of a live link or hyperlink, which once clicked, takes the player to the relevant paragraph in the Procedural Code. The scenarios presented are altered depending on the actions taken by the player. For example, the strength given to different pieces of evidence may in fact differ depending on actions previously taken by a player. In addition, when taking on the role of the Defence Attorney, e.g., the player is given the opportunity of being either a more "aggressive", "demagogic" and "hired gun" type of attorney or an attorney with a more strict legal style. The style chosen will affect later proceedings.

Case Karlsson is therefore a valuable means of learning about the principles of Procedural Law in an interactive manner and where the player can receive a more practical perspective of the subject matter being taught. It is also a valuable supplement to the more traditional paper based educational material.

3 Distance Learning

The Faculty of Law, Stockholm University has just begun the process of initiating an inquiry into the advantages that can be gained from offering distance learning

programmes. This investment in a distance learning programme is only in its initial stages, although the intention and desire is that this goal will be able to be accomplished within a short time perspective.

The main reason for embarking on a distance learning programme is the fact that from the academic year starting in the Autumn of 2011, all foreign students from outside of the European Union will be required to pay a substantial tuition fee in order to participate in a Masters programme at Stockholm University. Up until now, there has been much speculation as to how this decision will affect the Masters programmes, e.g., the International Masters Programme in Law and Information Technology. Some are of the opinion that there will be a dramatic drop in the number of students applying to the Master programmes as well as that the level of proficiency of the students may decrease. Whatever the consequences, what is known is that prospective students from outside the EU will be negatively affected by this decision. In order to give students from outside the EU the same access to the Masters programmes that they previously had, the Faculty of Law has taken the initial step of inquiring into whether these programmes can be packaged in the form of distance learning programmes.

The intention is to create modules as part of existing Master Programmes but also to create new separate Master Programme modules based on the distance learning model. The Faculty of Law also offers so-called "special courses", which are courses that are independent of the main undergraduate law study curriculum. Undergraduate law students are required to take at least two special courses during their period of undergraduate studies. The aim is that the distance learning model will also be able to be applied to these special courses and in turn become an established part of the undergraduate law programme taken by all Swedish students studying at the Faculty of Law, Stockholm University.

In order to establish these new distance learning programmes, amongst other things, special attention will need to be paid to the following:

- Developing new and effective means of communication between teacher and student
- Finding effective teaching methods that work on simple and mobile equipment
- Developing functions for effective communication, group work, electronic examination, the submission of individual as well as group assignments, identification of students, distribution of material and assignments, administration and continuous development of the education modules

4 Electronic Examination

Up until recently, most examinations undertaken at the Faculty of Law have been carried out in the form of written examinations, i.e. handwritten examinations, and it is estimated that approximately 20 000 examinations are completed each year at the Faculty of Law. Most of the submitted answers are of the essay type and on average the examined students submit approximately 10 handwritten pages per examination. These in turn need to be graded by an examiner within three weeks of submission of the examination. Due to the fact that these answers are written under time constraints and under stressful

circumstances, they are usually of a poor structure and the handwriting style is of a poor quality. The examiner is therefore given the additional task of decrypting the handwritten answers, which are often unreadable. Combined with a high volume of examinations to grade and the monotonous task that this can often entail, it can be challenging and require an increased effort to ensure that all examinations are treated evenly and in a fair manner.

The number of law students at The Faculty of Law is increasing each term. There are on average 300 law students starting their undergraduate law education each term and approximately 4000 registered law students at any given time. Previous attempts at arranging electronic examinations have been characterized by many obstacles. For example, there have not been adequate examination halls with the required IT equipment. As a result, a single examination comprising 300 students would sometimes need to be arranged over 6 or 7 different geographical locations and in different shifts. The administrative workload in connection with the organization of a single examination is therefore extremely heavy, for both the course secretary as well as examiner.

Consequently, the Faculty of Law has embarked on the process of converting all major examination halls to include digital equipment. The advantages of this are numerous. The students are able to submit examination answers in digital form which allows the examiner to read the answers more easily. In addition, new forms of examination can be developed and the introduction of interactive forms of examination also becomes a possibility. Also, the possibility arises for testing other skills, e.g., the ability to search for legal information as well as more advanced problem-solving skills on various levels. The submitted answers are clearly readable which allows the examiner to spend more time on judging the answer and time savings are large. The teacher is also able to adapt his or her pedagogic skills and creativity to these new examination forms. Preliminary indicators show that the electronic examinations have resulted in dramatically improved answers. The examination therefore becomes an integral part of the teaching and education system in a different way. Finally, the requirement of having acquired basic word processing skills also becomes part of the examination.

An example of the positive outcome of electronic examination can be drawn from the subject of Jurisprudence ("allmän rättslära" in Swedish). The subject is part of the undergraduate syllabus and is situated in the final term of study. A part of the examination procedure takes the form of an electronic examination. The students are confronted with multiple choice questions. The questions are saved in a database of approximately 250 questions and the examinations comprised of 20 questions that must be answered. A pass is 10 correctly answered questions. What is unique is the fact that the *order* in which the questions are presented are totally random for each individual student. In other words, each student, although being examined at the same moment, will receive the questions in a completely different order from other students. At present, the examiner decides which 20 questions are chosen from the database and which will comprise the examination. It must be noted that it is possible to set up the examination so that the questions received are also random (and not only the order, which is presently the case). This is not in practice yet, as it entails giving the 250 database questions a varying weight depending on their degree of difficulty so as to ensure that all students receive questions with a similar degree of difficulty. Furthermore, the examiner can dictate that the order

of the alternative answers will also be random. Therefore, whereas the correct answer to question 1 was choice a) for one student, the correct answer to that same question for another student will be, e.g., choice d). The examiner can also control whether the examination result will be shown instantaneously or only appear at a later time, e.g. when all the students have written the examination. In addition, the questions also differ in nature and degree of difficulty. Some questions require a certain amount of knowledge acquired from the course material and lectures while other questions are more analytical in nature. Therefore, the examiner is able to use various types of questioning with varying grades of difficulty to test the knowledge of the student.

The benefits of this examination method are numerous. Firstly, the examinations are graded instantaneously by the programme delivering the questions. This means that the questions need not be graded manually. This not only saves time, but also ensures that all answers are graded equally and fairly. In addition, the ability to cheat is reduced dramatically. The reason for the randomness of questions and answers is the desire to be able to use smaller examination rooms in which students are required to sit a close distance away from each other. Furthermore, the examiner is empowered with a large range of options for setting up the examination, which allows for creativity and the introduction of new teaching and learning methods. Finally, examination administration time is decreased to a minimum.

5 Conclusion

The above three scenarios indicate that there is an increasingly important role for information technology based teaching, learning and examination solutions as we face new challenges within the realm of higher education. A distance based programme will only benefit from a module like Case Karlsson. It will serve to increase the options open to the programme director or teacher, and examiners will then be able to take this into account with the introduction of new forms of electronic examination. The new forms of digitally based teaching methods combined with electronic examinations will allow the teacher/examiner to deal effectively with the continuously increasing numbers of students enrolling in the legal programme at the Stockholm University Faculty of Law. Not only do these solutions solve current challenges, but they open up for new creative methods of education and examination. These new digitally based solutions require greater investment in technology but the long-term benefits outweigh this initial investment. This seems to be the only way in overcoming the future challenges and keeping abreast with future trends and developments.

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by the Faculty of Law, Stockholm University.

[2] It can be accessed at: <http://bevis.cenneth.com/>. At present Case Karlsson is only available in Swedish.