An instructional environment for learning to solve legal cases: PROSA

Muntjewerff, A.J.

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Chapter 1

Introduction

1.1 Legal Case Solving

The topic of this thesis is the design and implementation of instruction for training legal case solving using computers. Legal case solving involves the construction of a legal solution for a specific problem situation using legal rules as the problem solving devices. A typical example is the following situation:

The Environmental Service of the municipality of Rotterdam has a vacancy for the official position of a public information staff member. Mr. Elhag is assigned to this office. He is given a room with no telephone connection. Mr. Elhag writes a letter to the qualified administrative authorities in which he asks to be connected, because he is not able to do his work in the present situation. However, the authorities do not respond to his request to be connected.

It can be said that Mr. Elhag has a problem. There may be different ways to solve his problem. However, when Mr. Elhag opts for a legal solution he has to search for legal rules that are applicable to his situation. In his case the legal rules can be found in the domain of administrative law. The act that contains the rules to start with is the General Administrative Law Act (GALA)\textsuperscript{1}. The rule to begin with is article 8:1 section 1 of the GALA. This article states that an interested party may appeal to the court against an order. Mr. Elhag has to find out whether he is an interested party and whether he is appealing against an order.

\textsuperscript{1} In Dutch: Algemene wet bestuursrecht. See for details Chapter 3.
Article 1:2 section 1 of the GALA states that an interested party means the person whose interest is directly affected by an order. Mr. Elhag, being a person, should therefore find out if his case concerns an order. Article 1:3 section 1 of the GALA describes an order as a written ruling of an administrative authority constituting a legal act under public law. Mr. Elhag asked to be connected. However, to give or to refuse this connection does not constitute a legal act under public law. This does not mean that Mr. Elhag has no other options. Article 8:1 section 2 states that any other act, being acts that are no orders, of an administrative authority in relation to a public servant as referred to in article 1 of the Civil Servant Act shall be equivalent to an order as far as court-appeal is concerned. Now it is important for Mr. Elhag to know whether he is a public servant. He therefore has to consult the Civil Servant Act and find out if article 1 sections 1 and 2 apply. The Environmental Service of the municipality Rotterdam is a public service and Mr. Elhag is assigned to work for this service as an official. Therefore it can be concluded that Mr. Elhag is a public servant. What can we conclude? We know that Mr. Elhag is a public servant who applied for a telephone connection with the qualified administrative authorities. We also know that although this is not an order, it is equivalent to an order as far as court appeal is concerned. However, the administrative authorities did not respond to the request. Article 6:2 under b of the GALA applies in these types of situations. For the purposes of statutory regulations governing objections and appeal a failure to make an order in good time is equated with an order. What is regarded as good time is stated in article 3:28 of the GALA which in relation with article 3:1 section 2 also applies in the case of Mr. Elhag. Mr. Elhag has the right to appeal to the court to the failure to make an order, in his case an act equated with an order. None of the exceptions listed in the articles 8:2 to 8:6 of the GALA apply. The GALA then states in article 7:1 section 1 that a person who has the right to appeal against an order to an administrative court has to make an objection before appealing, unless the order has one of the specific characteristics listed. In Mr. Elhag's situation none of these specific characteristics are present, so we may conclude that Mr. Elhag has to make an objection. We know this article applies to Mr. Elhag's situation because of article 6:1 of the GALA. This article states that Chapter 6 and 7 of the GALA apply mutatis mutandis if provision has been made for the possibility of an objection or appeal against actions of administrative authorities other than orders.
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Therefore article 6:4 of the GALA stating that an objection shall be made by the lodging of a notice of objection with the administrative authority that made the order applies as well. Article 6:5 of the GALA tells Mr. Elhag what the notice of objection should contain. The conclusion is that Mr. Elhag has to make an objection by lodging a notice of appeal. This starts the objection procedure. Let us hope for Mr. Elhag that it results in the realization of the telephone connection.

1.1.1 The Role of Solving Cases in Legal Education

As is illustrated by this relatively simple situation, the construction of a legal solution is not that simple. Even in this case constructing a legal solution soon becomes rather complicated. As it happens legal case solving is a complex skill that has to be learned. An important part of the work of both legal practitioners and legal researchers is the construction of legal solutions for specific problem situations. The fact that legal case solving is the key activity in legal practice and legal research demands skilled practitioners. However, as is described by Tunkel (1992):

If you ask experienced practitioners how they learned to tackle legal problems and to find the appropriate law, the chances are they will say ‘trial and error’, ‘hit and miss’, ‘jumping in at the deep end’, or similar vague expressions. The probability is that they never actually ‘learned’ it at all, in the sense of being taught. (.........) very few law students get much systematic instruction or testing in the ability to use the daily, routine, apparatus of the law; and in the technique of problem solving (Tunkel, 1992, p. 1).

Many authors stress the importance of solving cases in legal education (see, for instance, Crombag & van Tuyll van Serooskerken, 1970; Crombag, de Wijkerslooth & van Tuyll van Serooskerken, 1971; van Gunsteren, 1974; Scholten, 1974; Abas, 1985; Bos, 1986; Teich, 1986; Fernhout, Otto, Span & van Rijthoven, 1988; Henket & van den Hoven, 1990; Algra, ten Berge & Sleurink, 1991; Tunkel, 1992; Wessels, 1992).
Solving legal cases is a central skill of legal practitioners; training students in solving legal cases is a main task for legal education (Crombag et al., 1971, p. 1).²

One of the most important activities of legal practitioners is solving problems, or legal cases. Legal education that does not deal with this skill fails. Right from the start it is important that students are confronted with this aspect of the activities of legal practitioners. Later during the studies the student may benefit from the fact that she has learned to solve a legal problem taking a systematic approach (Abas, 1985, p. 6, 7).³

Although it is acknowledged that legal case solving should be taught, there are a number of, more or less pragmatic, reasons why teaching legal case solving has a somewhat limited position within the legal curriculum. For one, legal education primarily aims at acquiring insight in the legal sources, their history and background. That the explanation of the basic knowledge is of major importance is almost self evident, because without this knowledge and insight it is impossible to do anything at all. To illustrate how the acquired knowledge should be applied to a specific problem, teachers work through legal cases as examples. These worked out examples have the role of demonstrations. However, it is difficult, if not impossible, to learn to solve problems by explanation or by imitation alone. Anyway, the only way to effectively obtain expertise (skill) in legal case solving is by actually performing the task, i.e. by presenting exercises to the student and to provide feedback on their solutions. Moreover, until now legal case solving training is mainly restricted to handing out assignments to the student to take home and solve by herself.

² In original “Het oplossen van casusposities is een centrale vaardigheid van juristen, studenten oefenen in het oplossen van casusposities is een centrale opgave voor het juridisch onderwijs.”.

³ In original “Een van de belangrijkste bezigheden van de jurist is het oplossen van problemen, van casusposities. Een juridische studie waarbij deze vaardigheid niet aan de orde wordt gesteld schiet tekort. Juist in het begin van de studie is het van belang dat studenten met dit aspect van de werkzaamheden van de jurist wordt geconfronteerd. In het vervolg van de studie kan de student baat vinden bij het feit dat zij geleerd heeft dat door een systematische aanpak een juridisch probleem kan worden opgelost.”.
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Although it is important that students practice legal case solving by actually solving cases, the lack of support during the process of solving a case makes learning less effective. It is also important that the teacher corrects the solutions constructed by the student. The option of discussing students' solutions in class may be of some support. Where legal practicals are rare, in other disciplines as computer science, physics and medicine actually more attention is paid to training by arranging special practicals. The paradoxical situation however, is that students are generally tested for their understanding of a legal domain by solving legal cases.

1.2 Students' Difficulties in Solving Legal Cases

Teachers in law schools invariably complain that students are poor in solving legal cases. Although this is mainly concluded on the basis of exam results, the statement that students are poor legal case solvers is confirmed in educational research. Law students experience difficulties in solving legal cases. Why this is the case and what to do to support students to overcome these difficulties has been the topic of research by Crombag and colleagues (Crombag & van Tuyll van Serooskerken, 1970; Crombag, de Wijkerslooth & van Tuyll van Serooskerken, 1971, 1972; Crombag, de Wijkerslooth & Cohen, 1977). They observed that students do not work in a systematic way when solving a legal case, i.e. it appears that students do not apply (consistently) a method. They reasoned that lack of a method might be a primary cause of students' problems. Therefore Crombag and colleagues constructed a method for legal case solving and instructed this method to new groups of students. Although both the method and the instructional materials were never properly evaluated, the experiences with instructing the method for legal case solving were not overall positive.

4 Legal cases are used in exams as assignments for students. These cases are often not only more difficult but also different than the ones that were explained during the course, where it is also common to put a catch in them. This seems to be motivated by the misconception that examinations should not be intended to ask what students already know explicitly, but in fact are intended to ask what they know implicitly, i.e. what they can infer, given a full understanding of the subject matter. Testing inference capabilities, however, is not a fair test for understanding if they have no experience; raw, novice inferring is combinatorial explosive.
For one, students who used the instructional materials to learn the method for legal case solving did not perform better on legal case solving exercises than students who were not presented the materials. Moreover the instructional materials were experienced as boring by the students, while teachers had the same feelings about teaching the method. Although time and effort were spent constructing a method, designing instructional materials and using the materials in legal education, students still showed the same problems with solving legal cases.

So here we are: confronted with students who do not solve legal cases in a systematic way, where at the same time instructing a method appears not to solve their problems. Why the approach taken by Crombag & van Tuyll van Serooskerken (1970) and Crombag et al. (1971, 1972, 1977) did not turn out to have a (positive) effect may be due to different factors:

1. The instructional materials are incorrect or ineffective (1.2.1)
2. The legal case solving method is ineffective (1.2.2)
3. The difficulties of law students with learning legal case solving are not, or not in the first place, caused by the lack of a method (1.2.3)

1.2.1 Instructing a Method

The fact that instructing a method apparently did not improve the legal case solving capabilities of the students is also observed with method instruction in other disciplines. Instructing a method does not work for novices. This is partly due to the fact that instructing a method is a problem in itself. It is hard to instruct a method, as it is difficult to communicate a method, because this requires the translation of actions into words. This makes verbal instruction difficult, whereas demonstrating a method for the novice to imitate blots out what actually happens. A method is in fact empty, explaining content is much more "substantial" and therefore easier.

1.2.2 Legal Case Solving Method

The somewhat paradoxical situation is that novices have to learn to solve problems by solving problems.

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5 The instructional material has recently been supported by the computer program CoCo (Span, 1999, http://www2.unimaas.nl/~edit/).
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However, how can one solve a problem if you do not know how? The two key aspects in problem solving are (1) that you must be able to recognize the problem situation in terms of the discipline and (2) that you know what steps to take to reach the goal.

The first aspect involves the ability to recognize terms in the problem situation as referring to typical objects in the domain. For example, within physics this means that presented with a thermodynamics problem describing a situation with a bicycle tire and a bicycle pump the student is able to recognize that these are “canonical” (prototypical) objects in thermodynamics where the bicycle tire refers to a balloon (being an open system) and the bicycle pump refers to a pump with a piston (being a closed system) (Jansweijer, 1988). By way of these objects thermodynamic concepts as pressure and volume can be applied to the situation. The same is the case in a legal problem situation.

The student who is confronted with the Elhag case described in the beginning of this Chapter should be able to recognize facts in the situation as referring to basic concepts in the field of administrative law. In this case she should be able to recognize that administrative authority is a basic concept in the GALA, where the fact of the request for a telephone connection refers to an act, being a typical (canonical) object in administrative law. With these concepts the student is able to search in the applicable statutes for articles and to interpret the legal case facts on the basis of these articles via a matching of terms.

This recognition ability, to see or not to see, requires knowledge of the meaning of the basic concepts in the domain of practice (semantics). There is no way in which a method may be of any use here.

This is different with the second aspect in problem solving, being the steps to take to reach the goal. In principle a method can be of use here. When the novice is presented with a legal case to solve and she has recognized what this case means in legal terms she already solved the case halfway. However, she still has to search for the applicable articles and interpret the facts on the basis of these applicable articles. This involves much leafing, going back and forth not knowing exactly were to go, because a legal source is not structured in a semantically coherent way. A legal source is rather viewed as a list of individual statements and there is no direct mapping between this list and the semantic structure of a case (i.e. a story/event structure).
It therefore also involves making many inferences and storing intermediate results, all which put a heavy load on memory. In due time, however, the novice will be able to construct a solution. However, this is not the way to learn effectively, because of the inefficient, time consuming and cluttered process of solving the problem. Learning problem solving is availed by an accurate, prompt and neat problem solving process. Therefore some systematic guidance may be beneficial, if only to prevent a typical aspect of novice problem solving behavior being jumping to conclusion.

In finding out why students experience difficulties in solving legal cases Crombag & van Tuyl van Serooskerken (1970) and Crombag et al. (1971, 1972, 1977) argued that the main cause was that students did not work in a systematic way when solving legal cases. They concluded that the performance of the student could be improved by instructing a method. However, their remedy did not work. The legal case solving method constructed may be ineffective due to the fact that their method is not suitable for novices. The method is constructed based on the legal case solving performance of expert legal case solvers. However, there is a major difference between expert and novice problem solvers in how they solve problems. So what we need is a method that suits novices. However, there is no way to find out what method will suit a novice.

1.2.3 Content over Method

We agree that students experience difficulties in solving legal cases, however, we do not follow Crombag & van Tuyl van Serooskerken (1970) and Crombag et al. (1971, 1972, 1977) in their interpretation of their observations. Their observations were that students work in an unsystematic way. For now we will assume that this is the case. However, we do not agree with their interpretation that this unsystematic problem solving behavior is the (sole) cause of students’ difficulties and that this unsystematic behavior is caused by not using a method. Unsystematic problem solving behavior is identical to not consistently using one single method. It does not necessarily follow that students do not use a method; students may have used a variety of individual methods, and different ones for different cases. Lack of using an articulate method may not have been the cause of students’ problems at all, but rather the consequence of some deeper or ‘earlier’ cause, e.g., insufficient mastery of, or insight in, the subject matter, i.e. the legal source, its concepts and structure.
Law teachers also report that subject matter knowledge is very important in solving legal cases. Anecdotal evidence may come from the Faculty of Law of the University of Amsterdam where plans for a general course on instructing a method for legal case solving did not materialize. The main reason was the objection made by the teachers that subject matter knowledge is more important in solving legal cases than a general method.

1.2.4 Our hypotheses

We hypothesize that the difficulties in legal case solving are first of all caused by insufficient mastery of, or insight in, the subject matter. This leads to problems in recognizing the problem situation in terms of the domain of practice. Therefore we think it is worthwhile to elaborate on the issue of subject matter content.

Secondly there is the question whether a method is a sine qua non for problem solving or whether a method emerges from solving problems. We hypothesize that, especially for novices, methods emerge from problem solving, instead of being the driving force.

Methods may emerge as a side effect of (novice) problem solving activities; i.e. problem solving is not ‘driven by’ the method, e.g. due to the fact that the subject matter is the major source for finding or trying (a) solution(steps). To summarize:

- Difficulties in legal case solving are first of all caused by insufficient mastery of, or insight in, the subject matter
- Methods emerge from problem solving, instead of being the driving force

1.3 Arranging Legal Case Solving Instruction

The key issue is that we claim that subject matter content is more important in (learning) problem solving than a method. This claim has major consequences for arranging legal case solving instruction.

We will not instruct an explicit method, but the emphasis will be on systematic guidance during problem solving that should help the student to manage the information in an explicit manner, to keep on track and to enable the building up of a complete and correct legal solution by bits and pieces.
1.3.1 A principled design approach

In arranging instruction it is important to take a (principled, structured and) coherent design approach. The instructional design decisions should be made based on a global theory of learning and instruction. Many authors (see, for example, Gagné, 1965; Ausubel, 1968; Mettes & Pilot, 1980; Merrill, 1983; Gagné, Briggs, & Wager, 1992; Warrie & Pieters, 1994) stress the importance of designing instruction on the basis of a theory on learning and instruction. Such a principled approach may result in a coherent and consistent instructional model. Choices made in the instructional design process are then well founded and difficulties and mistakes may be accounted for (Warrie & Pieters, 1994). However, there are many (global) theories on learning, instruction and instructional design. An important aspect in designing instruction is to formulate criteria for selecting a (global) theory, select the theory, stick to it and base the instructional design on these theoretical assumptions.

1.3.2 Realize a coaching system

To acquire the required expertise in legal problem solving a student should be able to practice legal case solving over and over again. However, practicing is not enough. The student should be able to ask for immediate support and to receive immediate feedback during practicing legal case solving. The ideal situation is that a teacher is available for every student, monitoring the student while practicing and providing support where necessary. However, this being not practically feasible, the second best situation is to offer the student computer assisted support. Using a computer program as the instructional medium has a series of advantages. The computer program offers individualized instruction and practice combined with immediate support and feedback. The computer program has the capacity to adapt to the individual student’s performance and last but not least the computer program may support the management of information.
1.3.3 Our leading research questions

These issues result in the following research questions:

- Will it prove helpful to law students to present them with an instructional environment for solving legal cases which, rather than presenting an explicit method for legal case solving, offers guided access to the subject matter content?
- Will it prove helpful to law students to present them with an instructional environment for solving legal cases that serves as an external memory?

This guided access should involve guided access to the subject matter content following the basic concepts, it involves guided access to statutes using structures following a functional differentiation of knowledge, it involves the management of information as, for instance, the intermediate results, and the externalization of the major task components and characteristics in legal case solving to prevent too unsystematic problem solving and to enable the construction of a correct and complete legal solution.

1.4 Outline

The research reported in this thesis aims at arranging instruction for learning legal case solving that does solve the problems students experience with legal case solving. An instructional environment is presented to the students to support the effective and efficient learning of legal case solving. This thesis has an analytical part and a practical part. The analytical part covers the conceptualization of the roles of the problem solving method and the domain knowledge in legal case solving. These conceptualizations are the basis for arranging the instruction. In arranging the instruction a principled, structured and coherent design approach is taken resulting in an instructional model. The instructional environment is the outcome of the application of the conceptualizations of the task of legal case solving and the knowledge in the domain of practice, combined with the instructional model. The instructional environment is realized as a coaching system. The analytical part results in a set of basic requirements for designing the system.
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The practical part of the thesis consists of a specification of these requirements and the implementation of the design specification resulting in the computer program PROSA. PROSA stands for PROblem Situations in Administrative law. The practical part also covers the evaluation of PROSA.

Chapter 2 sets out with an exploration and conceptualization of legal case solving. The basic components in problem solving are problem solving method and domain knowledge. It is necessary to specify the role of both method and knowledge in legal case solving to be able to arrange effective instruction for learning legal case solving.

To be able to specify the role of these two components in legal case solving it is important to (re)examine legal case solving and to have a closer look at how legal cases are solved. Different theoretical sources are used to examine legal case solving. To improve our understanding of how legal cases are solved an empirical study was carried out. Law students and legal experts were asked to solve legal cases while thinking aloud to examine how students solve legal cases, what difficulties students experience and what the differences are between students and experts.

Chapter 3 is concerned with conceptualizing the domain knowledge. Because subject matter knowledge is the material to actually do things with, that is, the knowledge has to be used in task performance, it is important to properly analyze and structure the subject matter knowledge. We also describe the principles for designing the legal cases. Our domain of practice is administrative law.

Arranging instruction for learning legal case solving is the subject in Chapter 4. The choice for a principled approach to instructional design based on a model of learning is motivated. Criteria are formulated to be able to select a principled instructional design approach. The outcome is an instructional model for learning legal case solving to be used in the design of the instructional environment.

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6 In Dutch: PRObleem Situaties Algemeen bestuursrecht.
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The instructional environment for learning legal case solving is to be realized as a coaching system. In Chapter 5 we first introduce the characteristics of coaching systems in general. We then review a selection of present legal coaching systems to find out what they do and how they are designed. This information is used for refining our design and justifying our design decisions.

In Chapter 6 the requirements and constraints formulated so far are combined and decisions are added to realize PROSA. The requirements and functional specification, describing what we want the system to do, are presented followed by the design and implementation of PROSA. A session with PROSA is described to get a basic idea of the functionality of the system.

PROSA’s evaluation is reported in Chapter 7 using a developmental test and a field test. A developmental test is carried out to test the acceptability of the design and to correct any defects and weaknesses in the computer program. A field test is carried out to evaluate the instructional effectiveness of PROSA.

The final chapter, Chapter 8, presents the major research findings and of course, new problems that may elicit further research.