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Training law students like athletes: experimenting with the constraints-led approach in law clinics

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ABSTRACT

We studied to what extent insights from the “constraints-led approach” (CLA) in physical education can be applied to skills teaching for law students in preparation for law clinics. In the CLA, athletes are challenged to independently find optimal movement solutions in a dynamic setting, rather than responding to verbal cues in a fixed environment. Similarly, we designed and implemented two CLA training exercises in preparation for law clinics aimed at implicit acquisition of problem analysis skills. Our analysis of retrospective pre-test (RPT) data finds that after the training exercises participants are better able to structure a clinical problem statement, and report being better equipped to find and analyse the “real” problem of a client in a clinic. We conclude that the CLA is an effective method for skill acquisition training in preparation for clinical legal education.

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KEYWORDS Skills teaching; law clinics; clinical legal education; constraints-led approach

1. Introduction

Clinical education is a staple of law school curricula. Law clinics allow students to do pro bono legal work with clients, to better prepare them for law practice. However, upon enrolling in past LLM level clinics at our law school, students reported they were lacking practical skills to work with clients on projects, and felt hard-wired by the routine of exam writing to search for one (and only one) possible solution to a case. This observation was the starting point of our research.

Our aim was to teach students professional lawyering skills in preparation for law clinics, in a safe learning environment with room for experimentation and mistakes, while optimising learning potential. Based on our experience in sports coaching outside

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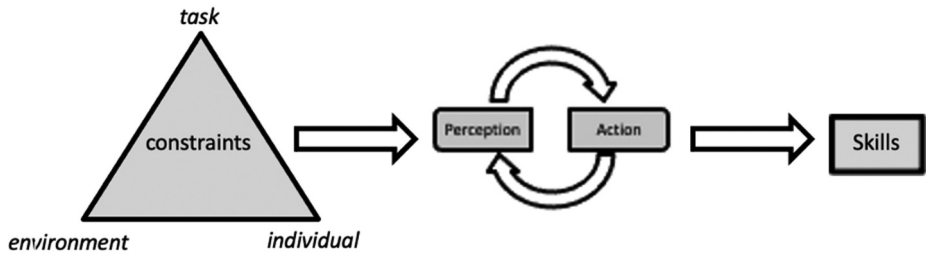


Figure 1. The CLA fosters skill acquisition by manipulation of task, environment and individual conditions, through integrated perception and action.

academia, we decided to model our skills teaching on insights from the constraints-led approach (CLA) in physical education.

The CLA is a relatively novel method in skill acquisition, in which athletes¹ are incentivised to find their own solutions to motor problems by means of manipulation (constraints) in the environment, task or individual (Figure 1)² – rather than classical training methods of isolated technical drills coupled with verbal instruction.³ Application of the CLA is reported to lead to both better skill acquisition and improved performance in competition.⁴ Similarly, rather than lecturing clinical students about practical skills, we developed a CLA-inspired methodology in which students independently acquired problem analysis skills before commencing the law clinics in which they were enrolled.

This paper chronicles our experiences developing, executing and monitoring a CLA-inspired training programme for LLM students in our Administrative & Constitutional Law LLM programme at Utrecht University, the Netherlands. To this end, we first outline how our research project is grounded in clinical legal education and the CLA, and how the CLA relates to complex learning theory in cognitive skills acquisition. We then explore our aims for this research project, and the methodology by which we have executed and evaluated it. This will lead into an analysis of our results, discussion of limitations and finally a conclusion of findings and suggestions for follow-up research.

2. Law clinics and skills training

A law degree qualifies graduates to apply for Bar membership and eventually practise as attorneys. Because of this, a completely academic law school curriculum is not the most optimal preparation for practice. The ambition to better prepare law students for

¹Lest we confuse British readers, the present research uses the term “athlete” to describe a person who competes in sports – not just in the sport of athletics.

²Keith Davids, Chris Button and Simon Bennett, *Dynamics of Skill Acquisition: A Constraints-Led Approach* (Human Kinetics 2008); Ian Renshaw and others, “A Constraints-Led Perspective to Understanding Skill Acquisition and Game Play: A Basis for Integration of Motor Learning Theory and Physical Education Praxis?” (2010) 15 *Physical Education and Sport Pedagogy* 117.

³Paul Morris Fitts and Michael I Posner, *Human Performance* (Greenwood Press 1979).

⁴Rob Gray, “Comparing the Constraints Led Approach, Differential Learning and Prescriptive Instruction for Training Opposite-Field Hitting in Baseball” (2020) 51 *Psychology of Sport and Exercise*, Article 101797; Ewout A Timmerman, Damian Farrow and Geert JP Savelsbergh, “The Effect of Manipulating Task Constraints on Game Performance in Youth Field Hockey” (2017) 12 *International Journal of Sports Science & Coaching* 588; Keith Davids and others, “How Small-Sided and Conditioned Games Enhance Acquisition of Movement and Decision-Making Skills” (2013) 41 *Exercise and Sport Sciences Reviews* 154.

practice led to the development of law clinics in US law schools from the 1930s onwards,⁵ out of fear that law students would become “like future horticulturalists confining their studies to cut flowers, like architects who study pictures of buildings and nothing else, [or] prospective dog breeders who never see anything but stuffed dogs”.⁶

Since then, a tradition of law clinics has emerged throughout the world,⁷ in which students undertake pro bono lawyering work for clients under the tutelage of clinical professors with experience in practice. Often law clinics have an access to justice component, by offering legal work to disenfranchised people or institutions,⁸ or with a more specified focus on issues of public interest, such as environmental or climate issues.⁹ Moreover, clinics tend to take place in the vicinity of the law school, allowing for community-based pro bono lawyering.¹⁰ Apart from offering “traditional” lawyering work and legal aid, some law clinics seek to train students for legal positions in more interdisciplinary working environments, such as consultancy or government.¹¹ As of recently mainly in the UK law clinics have become institutionalised components of trainee attorney programmes, allowing students to complete skill modules for Bar admission while still in law school.¹²

While law clinics offer students learning by experience,¹³ the responsibility towards clients also calls for skills training in students – e.g. analytical skills, communication, time management, presentation and professional writing skills, or skills towards a clients-centred approach to lawyering. Unsurprisingly, skills training is broadly regarded as crucial for the success of clinical education for law students.¹⁴ Law clinics could therefore best be combined with or integrated in (legal) skills training programmes.¹⁵ Given the importance of (legal) skills training, it is striking that thus far no clear common methodology for legal skills teaching

⁵Suzanne Valdez Carey, “An Essay on the Evolution of Clinical Legal Education and Its Impact on Student Trial Practice” (2002) 51 *University of Kansas Law Review* 509.

⁶Jerome Frank, “Why Not a Clinical Lawyer-School?” (1933) 81 *University of Pennsylvania Law Review* 912.

⁷See, eg Richard Grimes, “Reflections on Clinical Legal Education” (1995) 29 *The Law Teacher* 169 about the spread of clinical legal education in the UK.

⁸Donald Nicolson, “Legal Education, Ethics and Access to Justice: Forging Warriors for Justice in a Neo-Liberal World” (2015) 22 *International Journal of the Legal Profession* 51; Margaret Martin Barry and others, “Teaching Social Justice Lawyering: Systematically Including Community Legal Education in Law School Clinics” (2012) 18 *Clinical Law Review* 401.

⁹Yanmei Lin, “Environmental and Biodiversity Law Clinic at Southwest Forestry University: A New Environmental Law Clinic Model in China” (2016) 18 *Vermont Journal of Environmental Law* 18.

¹⁰Karen Tokarz and others, “Conversations on Community Lawyering: The Newest (Oldest) Wave in Clinical Legal Education New Directions in Clinical Legal Education” (2008) 28 *Washington University Journal of Law and Policy* 359. For critical remarks on pro bono clinical projects in the absence of effective government-offered access to justice, see Frank Dignan, Richard Grimes and Rebecca Parker, “Pro Bono and Clinical Work in Law Schools: Summary and Analysis” (2017) 4 *Asian Journal of Legal Education* 1.

¹¹Sherry L Batzer, “The Evolution of an In-House Government Law Clinic” (2010) 12 *Thomas M Cooley Journal of Practical and Clinical Law* 381.

¹²Rachel Dunn, Victoria Roper and Vinny Kennedy, “Clinical Legal Education as Qualifying Work Experience for Solicitors” (2018) 52 *The Law Teacher* 439.

¹³Stephen Wizner, “The Law School Clinic: Legal Education in the Interests of Justice” (2002) 70 *Fordham Law Review* 1929; Richard Grimes, “Learning Law by Doing Law in the UK” (2000) 1 *International Journal of Clinical Legal Education* 54.

¹⁴Carolyn Grose, “Beyond Skills Training, Revisited: The Clinical Education Spiral” (2013) 19 *Clinical Law Review* 489; Norman Fell, “Development of a Criminal Law Clinic: A Blended Approach” (1996) 44 *Cleveland State Law Review* 275.

¹⁵For instance, at our law school several law clinics are organised within the framework of the Legal Skills Academy, see <www.uu.nl/en/organisation/utrecht-university-school-of-law/education/legal-skills-academy> accessed 15 November 2023.

has emerged.¹⁶ Although this could be explained by the great diversity of law clinics and their unique sets of relevant skills, we find it is key to develop and test (tailored) training methodologies in order to optimise learning potential in law clinics.

In this article, we report on our experimenting with the so-called constraints-led approach (CLA) in legal skills training for law clinics. The CLA is method for skills acquisition in physical education. We chose the CLA as a skills teaching method to experiment with for legal skills acquisition because of our personal involvement with the CLA in sports coaching – as an Olympic committee certified boxing coach (author 1) and as part of the Royal Netherlands Army National Reserve Corps (author 2). Given our positive experiences with the CLA in skills teaching of athletes, we were curious to what extent the CLA could be applied to legal skills teaching in preparation for law clinics.

3. The constraints-led approach

Originally the CLA stems from pedagogical science as a way to study motor learning in children.¹⁷ As a framework, the CLA has since been adapted to physical education and motor development for athletes, offering a new approach to skills acquisition in sports. We work with this latter iteration of the CLA.

The traditional approach to skills acquisition in sports prescribes coaches and teachers to encourage athletes to progress towards perfect technical execution in isolation, which will then transfer to optimal performance in competition.¹⁸ This typically involves repetitive drills – dribbling a basketball between cones leading up to a jump-shot – coupled with explicit verbal feedback. The coach explains the drill, prescribes how the necessary skills should be executed technically, lets the athletes perform the drill and then provides feedback on how they performed technically. This style of coaching can still be witnessed from training grounds for youth sports to professional sports training facilities.¹⁹

Conversely, the CLA poses that the supposed transfer from isolated, repetitive practice to competition in this traditional approach to skills acquisition does not materialise in reality. Being able to dribble between static cones does not transfer to better performance in dynamic game environments. Therefore, there is little use for striving towards perfect technical execution in isolation – after all, this only teaches skills within the confines of its isolated and stylised practice environment.²⁰

In the CLA, instead, athletes are challenged to independently find the optimal movement solutions in a dynamic setting, through manipulation of tasks, environment, and individual conditions:²¹

¹⁶Katherine R Kruse, “Legal Education and Professional Skills: Myths and Misconceptions about Theory and Practice” (2013) 45 *McGeorge Law Review* 7.

¹⁷KM Newell, “Constraints on the Development of Coordination” in MG Wade and HTA Whiting (eds), *Motor Development in Children: Aspects of Coordination and Control* (Martinus Nijhoff Publishers 1986).

¹⁸Fitts and Posner (n 3).

¹⁹See, eg M Partington and C Cushion, “An Investigation of the Practice Activities and Coaching Behaviors of Professional Top-Level Youth Soccer Coaches” (2013) 23 *Scandinavian Journal of Medicine & Science in Sports* 374.

²⁰Renshaw and others (n 2).

²¹Ian Renshaw, Keith Davids and Geert JP Savelsbergh, *Motor Learning in Practice: A Constraints-Led Approach* (Routledge 2010).

- A task constraint manipulates objectives, rules or equipment, for instance limiting the playing field to the perimeter in basketball so that only mid-range shots can be made.
- An environmental constraint manipulates the conditions in which practice takes place, for instance by forcing tennis players to serve under a strong tailwind to incentivise a placed instead of a power service.
- An individual constraint manipulates traits or condition of players, for instance by deliberately over-fatiguing the arms and shoulders of a boxer to stimulate slipping rather than blocking or parrying of the opponent's punches.

An aspect of, or preferred outcome in, the competitive environment is modelled using constraints on environment, individual and task – hence the moniker “constraints-led”. Crucially, constraints exclude some non-optimal movement solutions by design, so that the athlete independently achieves the optimal movement solution. This involves non-specific drills closely resembling competition, with few verbal cues by coaches.²² Randomised controlled trials show better performance by athletes following CLA training over traditional skills acquisition methods (repetitive, isolated drills with verbal feedback).²³

The theoretical underpinning of the CLA stems from the field of behavioural dynamics (also called ecological dynamics) in neuropsychology. Using the CLA in coaching is better aligned to how humans develop motor skills. Humans self-organise their movement in physical space and dynamically refine their movement responses based on affordances in the environment.²⁴ Perception of the environment is intertwined with action responding to the environment in a complex neurobiological system.²⁵ Applying these principles to sports involves athletes self-organising their perceptions/actions in an environment modelled on a competitive environment – only this way will they find optimal movement solutions that will transfer to competitive performance.²⁶

Interestingly, we find parallels between the reasoning of the CLA and the field of complex cognitive skills learning. Studies in this field, for instance, demonstrate optimal skills-learning outcomes in dynamic versus static settings and holistic versus fragmented tasks.²⁷ These findings echo the CLA's argument for non-isolated and dynamic skills acquisition. Furthermore, complex cognitive skills learning similarly identifies problems associated with (supposed) transfer between isolated and specific training and complex, integrated skills acquisition.²⁸ This led to the development of the four-component instructional design (4C-ID) method, which offers a blueprint educational method for complex cognitive skills acquisition in

²²Davids, Button and Bennett (n 2); Renshaw, Davids and Savelsbergh (n 21).

²³Gray (n 4); Timmerman, Farrow and Savelsbergh (n 4); Davids and others (n 4).

²⁴Henry S Harrison, Michael T Turvey and Till D Frank, “Affordance-Based Perception-Action Dynamics: A Model of Visually Guided Braking” (2016) 123 *Psychological Review* 305.

²⁵William H Warren, “The Dynamics of Perception and Action” (2006) 113 *Psychological Review* 358.

²⁶Keith Davids and others, “An Ecological Dynamics Approach to Skill Acquisition: Implications for Development of Talent in Sport” (2013) 5 *Talent Development and Excellence* 21.

²⁷Ron JCM Salden, Fred Paas and Jeroen JG van Merriënboer, “A Comparison of Approaches to Learning Task Selection in the Training of Complex Cognitive Skills” (2006) 22 *Computers in Human Behavior* 321.

²⁸Paul Kirschner and Jeroen JG van Merriënboer, “Ten Steps to Complex Learning: A New Approach to Instruction and Instructional Design” in Thomas L. Good (eds), *21st Century Education: A Reference Handbook* (SAGE Publications 2008).

dynamic, whole-task learning experiences.²⁹ The 4C-ID method has since successfully been implemented in training modules for communication skills for nurses,³⁰ technical skills in high school students,³¹ interaction design skills for app developers and problem analysis skills for teachers.³²

Moreover, experiences in applying CLA insights into maths skills teaching indicate the value of constraints-led skills acquisition in an academic environment.³³ We therefore felt encouraged to apply the CLA methodology to legal skills training of our law clinic students.

4. Aims of the project

Many law schools have moved away from linear lecturing and the mere study of legislation, case law and textbooks.³⁴ There is a growing focus on lawyering skills and clinical education to achieve these skills in law school curricula. At the same time, we see an opportunity to better guide students in acquiring practical lawyering skills in law clinics.

On the basis that we see parallels between the challenges faced by athletes preparing to apply skills in a dynamic environment and the challenges faced by law students preparing for clinical work, we have developed an innovative project that applies insights from the CLA to clinical legal education. Our expectation was that by applying insights from the CLA in preparing students, they would emerge better equipped to meaningfully participate in law clinics. Thus, we have developed, executed and qualitatively monitored a pilot on professional skills acquisition modelled on the CLA methodology in preparation for a law clinic.

The impetus for this project was our experience that law students were not properly prepared for working with real clients in law clinics. This manifested itself on two levels. First, at the start of past clinics students reported feeling insecure and ill-equipped to dealing with “real” cases and clients in clinics, mainly due to self-reported inexperience, a perceived lack of adequate skills, and a fear of making mistakes. Second, as lecturers we found students to be hard-wired to treat clinical work like abstract and pre-designed exam questions where there is one perfect answer, rather than approaching the clinical tasks as real-world problems of real people that can be solved in multiple ways – and where the people experiencing the problem need to be involved in the project.

Therefore, while clinics offer law students a unique opportunity of “learning law by doing law”,³⁵ there appeared to be too big a gap between clinics and the regular

²⁹Jeroen JG van Merriënboer and Paul A Kirschner, *Ten Steps to Complex Learning: A Systematic Approach to Four-Component Instructional Design* (Routledge 2017).

³⁰Astrid Pratinidina Susilo and others, “From Lecture to Learning Tasks: Use of the 4C/ID Model in a Communication Skills Course in a Continuing Professional Education Context” (2013) 44 *The Journal of Continuing Education in Nursing* 278.

³¹Frederick K Sarfo and Jan Elen, “Developing Technical Expertise in Secondary Technical Schools: The Effect of 4C/ID Learning Environments” (2007) 10 *Learning Environments Research* 207.

³²Jimmy Freerejean and others, “Designing Instruction for Complex Learning: 4C/ID in Higher Education” (2019) 54 *European Journal of Education* 513.

³³Daniel D Hutto, Michael D Kirchhoff and Dor Abrahamson, “The Enactive Roots of STEM: Rethinking Educational Design in Mathematics” (2015) 27 *Educational Psychology Review* 371.

³⁴For an overview, see Emma Jones and Fiona Cownie (eds), *Key Directions in Legal Education: National and International Perspectives* (Routledge 2020).

³⁵Grimes, “Learning Law by Doing Law in the UK” (n 13).

curriculum to have students enjoy the benefits of clinical legal education fully and comfortably. Our research aimed to bridge this gap.

Similar to the traditional approach to physical education mentioned above, academic legal skills teaching often presupposes transfer from verbal instruction to practical execution.³⁶ Better preparing graduates for practice by skills teaching and the optimal methodology to teach skills has become a prioritised topic in legal academia.³⁷ At our law school, this has led to the establishment of a “Legal Skills Academy”,³⁸ offering both repositories and training modules on writing, presenting and collaborative skills. As part of the ongoing debate on skills teaching for law students, we wanted to test the CLA assumption that students would better acquire certain skills when they are challenged to acquire these skills independently, instead of a teacher giving verbal instructions about how certain skills should be executed.

A variety of professional skills is required of a modern lawyer, but these cannot all be trained at once in a law clinic.³⁹ Of the many skills that students need to utilise in a law clinic, in our project we decided to focus on the problem analysis skills required for client work. Previous studies have highlighted student deficiencies in problem analysis skills, particularly in case of ill-structured problems.⁴⁰ Similar to law practice, clients in law clinics often have a hard time explaining the legal problem they face – they are not trained lawyers, after all. This is often the case when laymen seek legal assistance: their situation has multiple dimensions in which multiple particular legal issues may lie hidden.⁴¹ Acquiring the analytical skills to abstract a client’s often ill-structured problem, in our view, would better prepare students for law clinics.⁴² Indeed, figuring out what a client’s “real problem” is would be a good start for any client-based work.

5. Materials and methods

We developed a problem analysis skills acquisition training grounded in CLA methodology over the course of two academic years. In 2020–2021 the training was only offered to students enrolled in “Environmental & Sustainability Law” LLM in preparation for the Water and Climate Law clinic. The efficacy of this module could however not be properly evaluated, as the Netherlands went into full Covid-19 lockdown shortly after the module and the clinical work could not be executed properly by the participating students. We therefore decided to use our experience organising and executing the training module as input for the next academic year.

³⁶Tonya Kowalski, “True North: Navigating for the Transfer of Learning in Legal Education” (2010) 34 *Seattle University Law Review* 51; Charlotte D Schneider, “Using Scaffolding Techniques for Legal Research Instruction” (2016) 2 *Legal Information Review* 61.

³⁷Kruse (n 16).

³⁸See <www.uu.nl/en/organisation/utrecht-university-school-of-law/education/legal-skills-academy> accessed 15 November 2023.

³⁹David A Binder and Paul Bergman, “Taking Lawyering Skills Training Seriously Symposium: The 25th Anniversary of Gary Bellow’s & Bea Moulton’s the Lawyering Process” (2003) 10 *Clinical Law Review* 191.

⁴⁰Xun Ge and Susan M Land, “Scaffolding Students’ Problem-Solving Processes in an Ill-Structured Task Using Question Prompts and Peer Interactions” (2003) 51 *Educational Technology Research and Development* 21.

⁴¹Ann Thanaraj, “Understanding How a Law Clinic Can Contribute towards Students’ Development of Professional Responsibility” (2016) 23(4) *International Journal of Clinical Legal Education* 89.

⁴²This notion is echoed by Richard Grimes, “Problem-Based Learning and Legal Education – a Case Study in Integrated Experiential Study” (2015) 13 *REDU: Revista de Docencia Universitaria* 361, reflecting on embedding law clinics in a law school curriculum in a system of problem-based learning.

For the 2021–2022 academic year we repurposed our training module towards acquiring problem analysis skills in preparation for two 5-ECTS,⁴³ LLM-level clinics as part of the one-year Constitutional & Administrative Law LLM programme at Utrecht University School of Law in the Netherlands.⁴⁴

First, in the “Water & Climate Law Clinic” students advise public authorities or other (semi)public organisations on legal and governance issues relating to water management and climate change. A typical client for this clinic would be the legal affairs office of a small municipality in the Utrecht, the Netherlands, region. These clients would for instance approach the clinic as part of a climate adaptation policy proposal aimed at preventing pluvial flooding, and students would assist in developing subsidy schemes for inhabitants to “de-pave” their gardens from grey to green. Cases presented to the clinic would take place at the nexus of (small-scaled) policy development and implementation.

Second, in the “Administrative Law Litigation Clinic” students become involved in the successive stages of the Dutch administrative law litigation process on the basis of one real-life case. This case would typically concern an objection or appeal against a decision by a public authority in matters of immigration, social security or permitting, involving a disenfranchised client supported by a social justice attorney. Students would assist in client communication, litigation strategy and plea drafting, eventually pleading in a parallel mock trial.

These clinics had in common that the problems that clients presented without exception were multi-faceted and ill-articulated. In almost all cases, the problems were not expressed in clear legal terms and failed to distinguish main and tangential issues. For instance, the aforementioned subsidy scheme for “de-paving” gardens had to be designed from scratch and both maximise accessibility and minimise waste and fraud. Such clinical problems, thus, were nothing like the clear and concise cases in administrative law the students had previously encountered in written exams.

Recall that acquiring the analytical skills to abstract a client’s often ill-structured problem was the goal of our project. With this goal in mind, we chose to teach students the “5W1H” theorem to abstract a client’s situation into a coherent and tractable outline to be engaged with. 5W1H (what, why, where, when, who and how) is a common methodology in governance studies, posing that analysing a problem towards a policy intervention starts by asking these six basic questions.⁴⁵ Moreover, 5W1H has been used as a method for students to develop problem-solving skills in a real-life training context.⁴⁶ We find that the 5W1H questions can allow students to get a basic overview of the legal problems they will address with their clients in the law clinic. However, following the CLA, the students should self-organise towards this learning outcome

⁴³The European Credit Transfer and Accumulation System (ECTS) is the standardised European credit system for European higher education. One ECTS credit represents 28 hours of study. See <<https://education.ec.europa.eu/levels/higher-education/inclusion-connectivity/european-credit-transfer-accumulation-system>> accessed 15 November 2023.

⁴⁴The Constitutional and Administrative LLM programme comprises two specialisations: “Environmental and Sustainability Law” and “Fundamental Rights, Democracy and Governance”. Students of the former specialisation take part in the “Water & Climate Law Clinic”, whereas students enrolled in the latter take part in the “Administrative Law Litigation Clinic”.

⁴⁵David Bromell, “Doing Policy Analysis” in *The Art and Craft of Policy Advising: A Practical Guide* (Springer International Publishing 2017).

⁴⁶Min-Huei Lin and Ching-Fan Chen, “Scaffolding Opportunity in Problem Solving – The Perspective of Weak-Tie” in Ngoc Thanh Nguyen and others (eds), *Advanced Methods for Computational Collective Intelligence* (Springer 2013).

guided by constraints-led training exercises. Instead of lecturing students about 5W1H, we set out to incentivise students to themselves discover the value and application of this method in two exercises.

The problem analysis training module was organised as a plenary, starting meeting for both clinics combined, in which all students that were enrolled in both clinics participated jointly. The training module took place a week before the start of the clinics and was prepared and executed in collaboration with alumni of the LLM who currently work in administrative law practice.

5.1. Training exercise 1

Students were given documents and a problem statement from a fictional client. These cases were derived from real-life cases that were submitted to us by the aforementioned alumni of the LLM, and thus had a high practical relevance. Given the complexity of the problem statement, students were divided into groups of four or five and were asked to figure out a method to discern its basic components. For this, we offered each group a set of two questions, of which the first one was different for each group:

- Question 1.1:
- Group 1: what is the problem?
- Group 2: why has this problem emerged?
- Group 3: where has the problem emerged, and what are the particularities of this location/these locations?
- Group 4: when did this problem emerge?
- Group 5: which stakeholders are involved in this problem?
- Group 6: how (using what instruments) could this problem be solved?
- Question 1.2 (for all groups): what other questions would you wish to ask to figure out the key elements of this programme?

Students prepared for 20 minutes, presented their findings plenary and compared their answers to Question 1.2. The anticipated outcome of this exercise was that the students would, through the in-group Question 1.2 and the plenary discussion, arrive at 5W1H (or comparable) as the basic questions to ask when familiarising themselves with a client's situation in their law clinics. To achieve this outcome, we used task constraints: letting each group address only one aspect of 5W1H – instead of all 5W1H aspects – in Question 1.1; and having the groups focus on asking questions rather than getting answers in Question 1.2. Following the exercise and the plenary discussion, we would show how the 5W1H method is grounded in governance studies and applied in policy analysis.

On the basis of this exercise, students could become familiar with a simple analytical tool (5W1H). However, clients would approach the students not with a baseline situation that needed to be analysed in our law clinic, but with a problem related to their baseline situation. Therefore, in the second training exercise we set out to familiarise students with common problems in public policy programmes – similar to the problems clients would approach them within the law clinic.

5.2. Training exercise 2

Students were again divided into the same groups as in exercise 1, and asked to again consider the same documents and problem statement. Now, we asked each group the same two questions:

- Question 2.1: Compile the 5W1H elements of your client's situation. How do the elements contrast to each other?
- Question 2.2: Prepare a < 5-minute presentation to your client, explaining what you see as the core problem that should be solved for them.

Students prepared for 20 minutes, and then presented plenary as specified in Question 2.2. Following each group's presentation, the alumni would discuss briefly how they had approached a similar situation in practice. Finally, there would be a plenary explainer on interpreting a client's problem as a tension between 5W1H elements. For example: a case in which the local implementation of a housing development policy is delayed by various nature conservation permit procedures can be approached as a tension between the "what" question ("the housing project is delayed") and the "who" question ("the national government spearheads the housing policy, but many regional governments are involved in the locally required permits").

The anticipated outcome of this second exercise was that students would independently learn to interpret a client's problem as a basic tension between 5W1H elements. Instead of lecturing them on tensions between 5W1H elements, we used task constraints. We fragmented the task by drawing attention to relations between 5W1H elements in Question 2.1, and thereafter challenged students to explain the core problem to their (fictional) client in Question 2.2. Both questions were also to be answered under a time constraint. We anticipated that students would connect Question 2.1 with Question 2.2 and realise that a client's core problem can be interpreted as a tension between 5W1H elements.

5.3. Hypotheses

With the two exercises above, we wished to test several hypotheses on the efficacy of the constraints-led approach in preparing students for working with clients in law clinics.

- H1: *Acquiring analytical problem-solving skills using the 5W1H method through CLA training exercises better prepares LLM students for working with clients in a law clinic.*
- H2: *The CLA is an effective method for teaching the 5W1H theorem to LLM students.*
- H3: *The CLA is effective in making students realise 5W1H is a valuable tool for analysing a client's problem.*
- H4: *The CLA is effective in making students realise the core problem of a client can be approached as a tension of 5W1H elements.*

5.4. Methodology

Because of the heterogeneity of both the clinics' substance and the student population in the clinics from one year to the next, we could not test our hypotheses based on the

relative performance or grades of students. Moreover, we deemed utilising the post-course student evaluations as a risky strategy to test our hypotheses, as the evaluation would take place 10 weeks after the training module itself. For these reasons, to reject or confirm the above hypotheses we set out to generate qualitative data by surveying the participating students immediately after the training exercises by means of a retrospective pre-test (RPT, also referred to as “retrospective pretest-post-test”). The RPT asks respondents *after* an intervention to rate their post-intervention aptitude, knowledge or beliefs as compared to their aptitude, knowledge or beliefs *before* the intervention.⁴⁷ The RPT moreover counters pitfalls associated with the traditional pretest-post-test (TPP) approach to evaluating interventions, where participants are surveyed both before and after the intervention on their aptitude, knowledge or beliefs.⁴⁸ The RPT is an accepted survey method for evaluating the efficacy of training or professional development programmes.⁴⁹

Thus, the students would receive a short new clinical problem statement coupled with a 10-question RPT survey upon completion of the training exercises (see [Appendix A](#): RPT questionnaire). In the questionnaire, first we asked participants to explain how they would have approached finding the key elements of the problem statement and main tensions underlying the problem statements *prior* to participating in the training exercises, and to motivate this approach. Then, the participants were asked to explain their approach finding the key elements of the problem statement and main tensions underlying the problem statements *after* having participated in the training exercise, and again to motivate their approach.

The survey responses would be processed by means of thematic analysis, which is a method mainly applied in psychology for qualitative analysis of interviews, focus groups and surveys.⁵⁰ Thematic analysis offers a systematic approach to generating themes in qualitative data independent from an ontological or epistemological base.⁵¹ Typically a six-phase iterative and recursive process is undertaken with a qualitative dataset, in which data is coded, from which themes are proposed, reviewed and defined and visualised into tables or maps showing coordinated or subordinated relations within or between themes.⁵²

The data generated by the survey were coded and abstracted into initial themes by authors 1 and 3 independently. Then, the authors reviewed each other’s coding/theming and in a joint session developed a consensus coding and theme designation. The

⁴⁷Rong Chang and Todd D Little, “Innovations for Evaluation Research: Multiform Protocols, Visual Analog Scaling, and the Retrospective Pretest–Posttest Design” (2018) 41 *Evaluation & the Health Professions* 246.

⁴⁸For instance, the TPP presupposes a consistent frame of reference in the participants regarding their aptitude, knowledge or beliefs pre- and post-intervention; moreover participants may change their awareness of the aptitude, knowledge or beliefs that the intervention is designed to affect pre- and post-intervention. See Todd D Little and others, “The Retrospective Pretest–Posttest Design Redux: On Its Validity as an Alternative to Traditional Pretest–Posttest Measurement” (2020) 44 *International Journal of Behavioral Development* 175.

⁴⁹Debra Moore and Cynthia A Tananis, “Measuring Change in a Short-Term Educational Program Using a Retrospective Pretest Design” (2009) 30 *American Journal of Evaluation* 189; Jeff M Allen and Kim Nimon, “Retrospective Pretest: A Practical Technique for Professional Development Evaluation” (2007) 44 *Journal of Industrial Teacher Education* 27.

⁵⁰Virginia Braun and Victoria Clarke, “Using Thematic Analysis in Psychology” (2006) 3 *Qualitative Research in Psychology* 77.

⁵¹Gareth Terry and others, “Thematic Analysis” in Carla Willig and Wendy Stainton Rogers (eds), *The SAGE Handbook of Qualitative Research in Psychology* (SAGE 2017).

⁵²Victoria Clarke, Virginia Braun and Nikki Hayfield, “Thematic Analysis” in Jonathan A Smith (ed), *Qualitative Psychology: A Practical Guide to Research Methods* (SAGE 2015).

consensus themes were then developed into thematic maps by author 1, which were reviewed by author 3. The definitive thematic maps can be reviewed in [Appendix B](#).

6. Results

The training session took place on 14 January 2022 from 09:00 to 12:00, through the MS Teams platform because of continued Covid-19 restrictions. All students enrolled in the Constitutional & Administrative Law LLM programme were invited as part of the programme's general research skills trajectory. In total 43 students participated in the training, and they were asked to voluntarily complete the survey, which was stressed to be anonymous and unrelated to grading. Seventeen participants completed the RPT survey. Sixteen out of 17 respondents were enrolled in a clinic – 8 in the “Water & Climate Law” Clinic and the other 8 in the “Administrative Law Litigation” Clinic. As the training would benefit them equally, we decided to work with a sample size of 16 law clinic students without distinguishing further between the clinics in which students were enrolled.

6.1. Pre-test results

When interpreting the thematic map of the pre-test stage – where the students are asked to reflect on their ability to approach the problem statement prior to having completed the training exercises – it seems that although some respondents would have approached finding the key elements of the problem purely intuitively, a large majority would have taken a structured approach. These respondents report attempts to divide a problem statement into chunks, identifying key stakeholders and taking a step-by-step approach towards determining its key elements. For instance:

Taking the separate parts of the problem apart in order to get an overview of the situation, in order to follow a step-by-step process towards the solution to this problem. (Respondent 3, translated from Dutch to English by author 1)

Upon motivating their pre-test approach to finding the key element of the problem statement, some respondents reported not giving their approach much thought or working from experience. A large majority, however, stated how providing a structured approach to the problem to them was the only meaningful way to start. For instance:

I first need to figure out what exactly is going on, before I can determine what to do with it. For me it's helpful to visualise this process. (Respondent 2, translated from Dutch to English by author 1)

In determining the main tensions underlying the problem, a minority of respondents reported not previously distinguishing between the 5W1H elements and the tensions of a problem statement – it was all the same to them. However, a large majority of the respondents make it clear that they would have interpreted tensions underneath a problem to mainly, or only, relate to tensions between stakeholders and their conflicting interests. For example:

[I would be] looking at the relevant stakeholders, and how these relate to the main objective (Respondent 7, translated from Dutch to English by author 1)

This interpretation of tensions as conflicts between stakeholders was motivated in various loosely related ways, mainly reinforcing the focus on stakeholders rather than explaining it. For instance:

By looking at the various interests of the actors the contrast between them becomes apparent. This way, the friction or conflict of a particular situation can be found. (Respondent 12, translated from Dutch to English by author 1)

6.2. Post-test results

Upon being asked to reflect on their experiences after having participated in the training exercises, the respondents overwhelmingly responded to have employed the 5W1H methodology to distil the key elements of the given problem statement. The respondents motivated their choice for 5W1H by stating how this method would allow for a better understanding of the “real” problem or would better enable them to find a solution to problem statement. For instance:

By changing the previously more intuitive process into explicit questions, you can get a better understanding of key elements of a given situation when these are not readily apparent. Also, there’s less of a chance to miss something important. (Respondent 13, translated from Dutch to English by author 1)

This way you get a clear view on the facts of the case. The main problem that you’re supposed to solve becomes much more visible, because you now have all background facts straight. (Respondent 17, translated from Dutch to English by author 1)

Moreover, the very few respondents who indicated they did not use 5W1H for the problem statement explained how they would use 5W1H if the situation they would encounter would be more complex than the problem statement of the survey.

When reflecting on their ability to discern the main tension underlying the problem statement, many students reported having looked for a tension between 5W1H elements to structure their approach. For example:

I would again apply the 5W1H method, and then consider whether the 5W1H questions clash with each other or find a tension within individual 5W1H aspects. (Respondent 9, translated from Dutch to English by author 1)

Some respondents indicated that they would explore tensions in a problem statement according to the 5W1H method, if the problem would have been more complex:

I would probably figure it out on my own, but in this meeting various questions have been introduced that I could use to create an overview. In case of a particularly complex problem, I would perhaps use that [method]. (Respondent 12, translated from Dutch to English by author 1)

Moreover, most respondents could clearly articulate why they found applying the 5W1H method helpful for interpreting the problem statement as a tension between its basic elements. They mentioned appreciating the systematic, tractable approach to problem analysis and the ability to select what is really relevant:

By dividing up the case, you can find out which parts of 5W1H clash with each other. Without this structured approach, you depend only on intuition and may end up not seeing the forest for the trees. (Respondent 13, translated from Dutch to English by author 1)

Not everything [in a case] needs to be a problem. This way I can funnel the relevant information better. (Respondent 15, translated from Dutch to English by author 1)

6.3. Findings

The first finding that emerges from these results is that in the pre-test phase respondents clearly see a need to approach a problem structurally but struggle to articulate what this structural approach actually entails. Instead of *demonstrating* their structured approach to defining a problem, they merely *tell* they use a structured approach without further explicating this approach. The demand for structure seems to suffer from a lack of methodology in achieving this structure.

Second, the outcome of their non-methodological approach in the pre-test seems incomplete: the respondents mistakenly over-emphasise stakeholders in determining the key tensions in a clinical problem statement. Tensions in a case can arise on many more levels than just between stakeholders, for instance related to the location (where?) or timeframe (when?) in which the case is situated. The lack of an explicit problem analysis methodology seems to insufficiently enable them to be mindful of this over-reliance on stakeholders.

Third, the post-test results indicate an improvement in perceived outcomes of respondents: they have been able to apply the 5W1H framework and see the value of applying 5W1H to distinguishing both the basic elements and the core problem that underlies a problem statement. 5W1H provides a more structured approach for the respondents, and allows them to distinguish between relevant and irrelevant details. The respondents themselves conclude that 5W1H allows them to find and analyse the “real” problem of a clinical problem statement.

With these results and findings in mind, the hypotheses of this research can be addressed in reverse order:

- *H4: The CLA is effective in making students realise the core problem of a client can be approached as a tension of 5W1H elements.*

This hypothesis can be confirmed. After having participated in a CLA training exercise aimed at learning to interpret the core problem of a case as a tension the 5W1H elements, the respondents are found by large majority to independently and deliberately reach the intended learning outcome.

- *H3: The CLA is effective in making students realise 5W1H is a valuable tool for analysing a client’s problem.*

This hypothesis can be confirmed. After having participated in a CLA training exercise aimed at learning to distinguish the 5W1H elements of a case, the respondents are found by a large majority to independently and deliberately reach the intended learning outcome.

- *H2: The CLA is an effective method for teaching the 5W1H theorem to LLM students.*

Following the confirmation of hypotheses 3 and 4, this hypothesis can also be confirmed. As two CLA training exercises have led to the intended learning outcome of applying the 5W1H theorem to LLM students, it is plausible to conclude that the CLA can be an effective method for teaching 5W1H.

- *H1: Acquiring analytical problem-solving skills using the 5W1H method through CLA training exercises better prepares LLM students for working with clients in a law clinic*

This hypothesis can be confirmed under the assumption that the outcome of respondents expressing themselves to be better equipped in problem-solving skills after the training exercises, also actually better prepares them for working with clients in a law clinic.

7. Discussion

A number of limitations apply to this research. First, the research suffers from a disappointing response rate (39%) and therefore a small sample size of only 16 respondents. This is below the recommended sample size of 20–30 for thematic analysis of survey responses in a small project as prescribed by Clarke and others.⁵³ Because students participated through MS Teams, there was no way for us to check whether the participants actually completed the survey immediately following the training exercises. Reminders to fill out the survey later would have changed the conditions of participants – reflecting on their learning outcomes either immediately following the exercises, or after considerable time. With repeating the training module and survey with a new cohort of students in the upcoming academic year as the only alternative, we opted to move ahead with the limited sample size.

Second, the use of an RPT as a survey method has been criticised in the literature, pointing out implicit cognitive biases affecting the validity of RPT outcomes such as social desirability bias and effort justification bias.⁵⁴ Without intending to become involved in methodological debates, we readily admit that all self-reporting measures come with biases – as has been long established in the literature.⁵⁵ Given the risk of response shift bias when using a TPP (respondents not realising their skills development until after the training exercises), we remain willing and able to justify a RPT in the present research.

Third, our application of the thematic analysis method may not be as fully organic and recursive as the “reflexive TA” that the originators of the method see as the purest form of thematic analysis.⁵⁶ Admittedly, our independent coding with consensus outcome is more akin what is referred to “coding reliability TA”.⁵⁷ We are, and have been, mindful of the tension between the reflexive and interpretative TA and the objectivity that consensus coding implies. Given our small sample size, however, we felt more at ease with two independent coding efforts.

Fourth, our confirmation of hypothesis 1 may be subject to criticism. When interpreted narrowly, we can conclude with confidence that the CLA training exercises improves the self-reported inexperience and lack of adequate skills of prospective clinical students. Admittedly the results do not demonstrate definitively that participants would actually turn out to be better equipped to approach a law clinic as a “real-

⁵³ibid 229.

⁵⁴Laura G Hill, “Back to the Future: Considerations in Use and Reporting of the Retrospective Pretest” (2020) 44 *International Journal of Behavioral Development* 184.

⁵⁵Richard E Nisbett and Timothy D Wilson, “Telling More than We Can Know: Verbal Reports on Mental Processes” (1977) 84 *Psychological Review* 231.

⁵⁶Virginia Braun and Victoria Clarke, “One Size Fits All? What Counts as Quality Practice in (Reflexive) Thematic Analysis?” (2021) 18 *Qualitative Research in Psychology* 328, 333–34.

⁵⁷Braun and Clarke (n 56).

world” problem rather than an abstract case as part of an exam. The connection between skills acquisition in preparation for law clinics and the ability to transcend the level of artificial “case solving” could be explored in further research.

Indeed, the main take-away from these limitations is that the promise of the CLA towards better preparing students for law clinics should be tested on a larger scale. This means that more students should be surveyed after CLA teaching, but also (crucially) that the CLA should be applied to teach various other legal skills, such as legal writing, public speaking and client communication. We hope this research provides a blueprint for such follow-up research projects.

8. Conclusion

We applied the CLA, a didactic method in sports training and physical education, to training law students in preparation for a law clinic. This experiment was born out of reports from students that they felt ill-equipped to working with “real” clients in law clinics, and our observation that they were hard-wired to treat a practical legal case as an exam question.

The CLA approaches physical education by building on how humans neuropsychologically acquire motor skills. Instead of isolated skill practice towards perfect technical execution, athletes are challenged to themselves find optimal movement solutions by means of constraints created by coaches in the task, individual or environment. Given positive past experiences with applying the CLA methodology to skills teaching in academia and the similarity of the CLA to the field of complex cognitive skills learning, we felt encouraged to apply this methodology in designing a training session to better prepare students for law clinics.

Recalling the original motivation for the training session – students feeling ill-equipped to work with clients and being hard-wired by exam writing – we focused our training on acquiring the analytical skills to abstract a client’s often ill-structured problem. We operationalised this by using the “5W1H” theorem, which is a common problem analysis methodology in governance studies.

We designed a 5W1H training session for LLM students in Constitutional and Administrative Law/Environmental Law who were about to enrol in a law clinic. First, by using task constraints we challenged groups of students to independently formulate the basic 5W1H questions as a useful tool when familiarising oneself with a client’s situation. Second, again by means of task constraints, we challenged students to independently learn to interpret a client’s problem as a basic tension between 5W1H questions formulated in the previous exercise. The students were asked to complete a retrospective pre-test (RPT) survey about their experience immediately following the training exercises.

We found that in the retrospective pre-test the students articulated a willingness to organise a client’s situation in a structured way but were unable to effectuate this willingness in a coherent analytical structure. Moreover, they over-relied on the stakeholders of a clinical problem statement to the detriment of other relevant factors such as location and timeframe. In the post-test, the students responded having used the 5W1H method to approach the clinical problem statement given, while being able to articulate why 5W1H worked better for them than their previous approach. This allowed them to better find and analyse the “real” problem in a clinical problem statement.

We conclude that our CLA training exercises have led our students to feel better prepared for participating in law clinics. Consequently, we are confident that teaching problem analysis skills according to CLA principles mitigates the self-reported inexperience and lack of adequate skills of prospective law clinic students.

Furthermore, the results of the present research have implications for skills teaching for law students in general. The CLA seems to be a promising method not only for effective motor skills acquisition, but also for professional skills acquisition. In the continuing search for effective skills teaching in the academic environment of a law school, the CLA can inform and improve the way we teach legal skills to our students.

Broadly rolling out the CLA in legal skills teaching, however, may require somewhat of a paradigm shift for traditional legal skills teaching – similarly to how the CLA upends the traditional approach of isolated drills and verbal feedback in sports. Skills teaching in law schools is typically organised in a format of instruction-application-feedback, while the CLA would favour more implicit skill acquisition through self-organised problem solving. We believe that the benefits of the CLA are supported by compelling evidence, and law school lecturers would be receptive to the CLA's tenet of implicit skills acquisition. Getting lecturers to fully internalise and apply the CLA, including moving beyond the traditional focus on knowledge transfer grounded in classical instruction,⁵⁸ may be the biggest obstacle to achieving scale in skills teaching in law schools.

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⁵⁸Kowalski (n 36).

Appendices

Appendix A. RPT questionnaire

[Translated from Dutch to English by author 1.]

Screen 1 – Survey Introduction:

Research on preparing for complex problem solving in law practice

We would like to ask you to participate in this brief survey (maximum of 10 minutes). This survey is part of a research project by [author 1], [author 2] and [author 3]. This project addresses the expressed need by students to be better prepared for the complex legal problems they will encounter in law clinics. By means of this survey we wish to find out how you would approach complex legal problems, and how we could help you do this even better.

We do not ask for personal data in this survey, and your survey responses will be processed anonymously so that these are not traceable to you. Survey data will be stored on the protected UU server for 2 years after the completion of the research.

At all times you may abort participating in this research, without needing to motivate this.

We use your survey responses to improve teaching quality and for reporting our findings in (academic) publications, with the aim of sharing our findings with academics, teachers and practitioners.

Screen 2:

I wish to participate in this survey

- Yes
- No

Screen 3:

In which clinic are you enrolled?

- Water & Climate Law clinic
- Administrative Law Litigation clinic
- Other

Screen 4:

Please read the following scenario and answer the questions below.

Waterproof 030

Because of climate change changes of downpours have increased, coupled with increased chances of pluvial flooding and water damage in Utrecht. The project “Waterproof 030” is initiated by the city government, in which the city, water authority, citizens and firms collaborate to prevent pluvial flooding in Utrecht. One of the (many) instruments of Waterproof 030 concerns subsidies towards urban greening.

From the Utrecht Central district many subsidy requests are submitted towards greening of gardens and developing “wadis” (ephemeral wet riverbeds) in parks. At the same time the central district is situated at the highest altitude of the city, with almost no pluvial flooding recorded. From the lower-altitude districts, where pluvial flooding has occurred quite often, only very few subsidy requests were submitted. The city government finds this outcome problematic and asks you to advise on optimising the subsidy programme.

Please think back to your knowledge and skills *before* participating in the training exercises of today. What approach would you have taken to find the core problem in the above scenario? Please note you do not need to optimise the subsidy programme here, only to explain your approach to identifying the main underlying problem.

- Text Box

Can you explain why you chose this approach to identifying the main underlying problem?

- Text Box

What steps would you have taken *before* today's training exercise to identify the main tensions underlying this scenario? Also here you only need to explain your approach.

- Text Box

Can you explain why you chose this approach to identifying the main tensions underlying this scenario?

- Text Box

Now please think back to the knowledge and skills you have acquired during the training exercises of today. What approach would you now take to find the core problem in the above scenario? Again, note you do not need to optimise the subsidy programme here, only to explain your approach to identifying the main underlying problem.

- Text Box

Can you explain why you chose this approach to identifying the main underlying problem?

- Text Box

What steps would you have taken *after* today's training exercise to identify the main tensions underlying this scenario? Also here you only need to explain your approach.

- Text Box

Can you explain why you chose this approach to identifying the main tensions underlying this scenario?

- Text Box

Screen 4:

Do you think that based on today's training exercises you would be well enough equipped to advise the city government in this scenario?

- Yes
- No

Do you feel that after today's training exercises you are prepared to analyse complex problems in law practice?

- Yes
- No

Could you further explain the previous answer?

Screen 5:

Thank you for participating in this survey. Your response has been registered.

Appendix B. Thematic maps

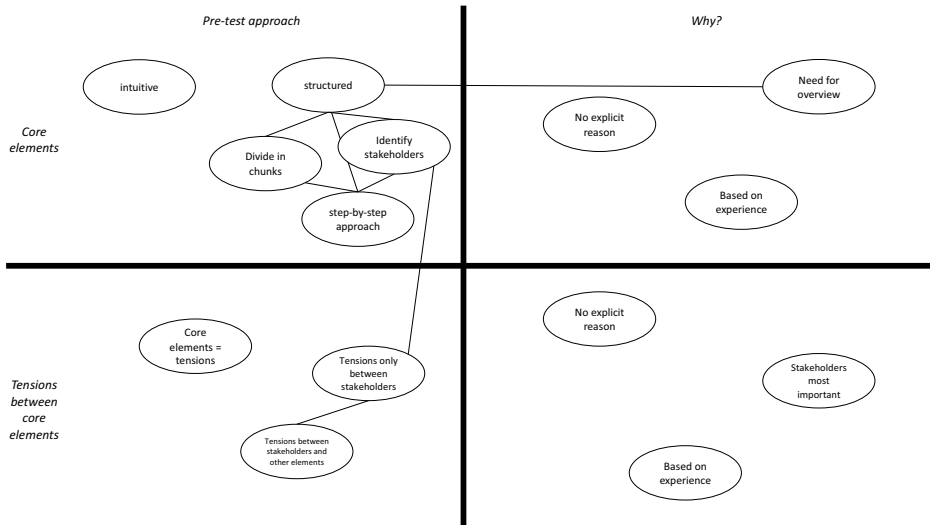


Figure B1. Thematic mapping of the pre-test survey results.

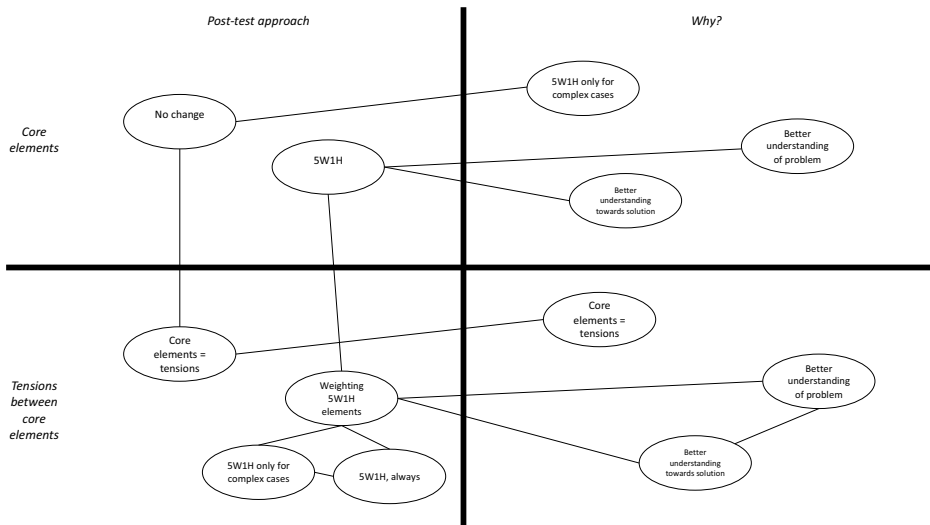


Figure B2. Thematic mapping of the post-test survey results.