

AN ADAPTIVE E-LEARNING SYSTEM BASED ON STORYTELLING FOR CIVIL MEDIATION

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ABSTRACT

In March 2011 the Italian Government introduced mandatory pre-trial mediation of civil and commercial cases. The Italian mediation model is capable of sensibly speed-up the settlement of disputes but, on the other end, citizens need to be sensitized to the benefits of mediation and must be trained on how mediation works and how to access it. The purpose of this paper is to describe a learning model based on Storytelling and its application in the context of training for civil mediation helping to build challenging training resources that explain, to common citizens with little or no background about legal topics, concepts related to legal mediation in general and in specific areas like e-commerce and civil liability. The defined model has been contextualized with respect to relevant literature and implemented through the development of two software components that have been integrated in an existing e-learning environment.

KEYWORDS

Storytelling, Narrative Based Learning, Adaptive Learning, Legal Education, Legal Mediation.

1. INTRODUCTION

Since 1993, when first modern Italian mediation statutes were issued, mediation practice was virtually non-existent despite the high success rates of mediated cases. To improve mediation usage and to streamline the work of Italian courts, the Italian Government introduced, in 2011, mandatory pre-trial mediation of civil and commercial cases. The new Italian mediation model is demonstrating to sensibly speed-up the settlement of disputes and there has also been significant positive attention paid to it at European level. On the other end, it needs efficient

and effective tools to support the explosion of mediation cases. Citizens need also to be sensitized to the benefits of mediation and must be trained on how mediation works and how to access it.

The project eJRM “electronic Justice Relationship Management”, supported by the Italian Ministry of University and Research, brings together researchers and practitioners in the fields of law and computer science with the aim of defining, implementing and experimenting innovative methods for managing on-line mediations. The project foresees the development of a complete environment for on-line mediation with innovative features like the possibility, for a citizen, to formalize a case in natural language or through a structured interview (Arosio et al., 2013) and let the system provide relevant information for autonomous case resolution such as connected laws, relevant jurisprudence, training modules, links to lawyers with useful competencies, etc. (Capuano et al., 2014).

eJRM also covers the definition and development of engaging training modules, targeted to citizen with little or no background on legal topics, aimed at explaining concepts related to legal mediation in general and in specific areas like e-commerce and civil liability. In line with a tradition of Narrative Pedagogy applied to legal education, we decided to adopt, in this case, a Storytelling paradigm. The purpose of this paper is to describe the developed model and the first results obtained in its implementation.

Starting from the well-known Visual Story Portrait (Stanley and Dillingham, 2009), we defined a story model composed of several situations where each one is made of subsequent events aiming respectively at interesting the learner, providing the required information, supporting reflection and assessing the acquired knowledge. We also integrated a dynamic adaptation mechanism that allows the re-articulation of the story on the basis of assessed training results to support the recovery of found knowledge gaps. The model has been implemented and integrated within an existing training environment (Capuano et al., 2008). A sample story about mediation in the e-commerce field has been also defined for a first validation of the system and of the underlying model.

The paper is organized as follows: the section 2 contextualizes the work described in this paper with respect to the research on narrative pedagogy and storytelling applied to legal topics; the section 3 describes the defined model; the section 4 presents the developed prototype; the section 5 describes the experimental story defined for system validation; the section 6 presents the results of the validation made with real users while a last section presents concluding remarks and plans for future work.

2. RELATED WORK

The goal of legal education is the teaching and learning of legal and case law doctrine. In teaching practices documented in literature a clear dichotomy emerges between a more theoretical approach to knowledge transfer and a more practical approach aimed at developing skills and knowledge in action. The first, more common in Europe (where law schools are based on traditional methods which make use of resources such as lectures, essays and manuals), focuses on the discussion of abstract concepts and on the explanation of rules often far from concrete experience.

Quite different instead is the approach adopted by Anglo-American countries, where the teaching is mainly based on practice and on the assignment of specific tasks to groups of students, pointing out resources analysis and resolution of cases. Most of such schools resort to specific teaching methods like *Casebooks* based on true or fictional stories; *Legal Clinics* i.e. real *hands-on legal experiences* where students are called to offer pro bono legal services to real clients under the guidance of experienced teachers; *Moot Courts* i.e. simulation of a real appeal and competition with others, whose value is amplified by the use of information and communication technologies (Lettieri et al., 2011).

Narrative Pedagogy has an increasing importance in this context. Effectively used in several disciplinary contexts and domains, it guarantees, even within the legal framework, a high degree of learner's involvement and of skills development (Blissenden, 2007). Jurists of Anglo-American countries were the first to emphasize the importance of narrative pedagogy and the interrelationship between law and literature. Cardozo indeed published the essay "*Law and Literature*" already in 1925, introducing the possibility that narrative offers to accept, through the literary representation, the context within which legal experience takes place: *law in action* as opposed to *law in books*.

However, it is from the 1970s that the researchers began to focus not more on literary texts analysis, but on the training and education potential that the use of narration can have in the legal field. Between the 1980s and 1990s, several professors from important law schools and also legal scholars, tried to emphasize and promote the introduction of *Storytelling* as an alternative teaching method or as an addition to traditional techniques used to teach legal topics. This second phase was launched by studies like "*The Legal Imagination: Studies in the nature of the Legal Thought and Expression*" (White, 1985).

It is precisely in the 1980s and 1990s that the academic world reassessed the use of narrative in teaching (Bruner, 1984) and law schools introduced storytelling in their classrooms. In this way, the understanding of concepts that are often too abstract was facilitated through realistic or real stories. Furthermore, students were involved in role-playing games that, through different views, allowed them to empathize with the characters in the story, creating emotional and empathetic immersion.

In the period 2007-2009, the literature presented a view of the applied strategy of storytelling in the legal environment and "*to weave the law in the stories*" seemed to become the best way to preserve concepts and think about possible applications (Steslow and Gardner, 2011). Five techniques to integrate storytelling with traditional legal education were defined as reported below.

- *Metaphorical Stories*. Metaphors are defined as "*forms of transference in speech*" and are widely used in law schools. The legal opinions expressed by lawyer abound of metaphors to illustrate certain concepts e.g. stories are used to explain complex concepts like the difference between "*relevance of evidence*" and "*sufficiency of evidence*" or the concept of "*anticipatory repudiation*". Metaphors can be extended in the form of a story to reinforce legal concepts, especially those more abstract.
- *War Stories*. In the past, war stories have been used to train lawyers in the apprenticeship systems. Being able to weave life experiences in classroom practice, they can be effective educational tools. War stories are probably the most frequently used technique in the schools of law. "*War stories can be told to explain a legal rule or doctrine after the students labor through analysis of the rule and its application*". These stories also have a very high entertainment value.

- *Case Stories*. The majority of legal environments focus on the analysis of “law” as a set of intelligible rules understandable through identification and analysis processes. An alternative technique, known as “*Tell the story behind the facts*”, allows the student to create a personal view of story. Describing legal cases through stories is a valid alternative to the classical method. The cases explain the past (*history*), discuss the present (*the matter before the court*), and provide a guide to the future (*the ruling*).
- *Storytelling through literature*. The literature is full of lifelike characters and stories that can be taken as a model. In particular, legal training may rely on narratives that describe disputes and solutions of conflict to help lawyers and judges to the understanding of the “nature of law” (Berman, 2013).
- *Sharing stories*. One aspect of storytelling is to be a social and collective teaching activity: individuals can integrate and build together their own stories and expanding their routes and viewpoint, discovering new ways to look a case and connect cause and effects of particular events. “*Creating a classroom environment in which students are encouraged to share their stories concerning legal concepts adds meaning to the concepts*”.

In recent years, thanks to digital technologies, the *Digital Storytelling* captured the attention of experts and researchers and led to evaluating the potentiality related to its adoption. For example, *CivilObiezion!* (Steslow and Gardner, 2011) is a series of computer gaming trial simulations in which students play the role of lawyers. The players are invited to evaluate questions posed to a witness in the course of a hearing and to decide whether it is possible to oppose according to the Federal Rules of Evidence. The student must choose when to oppose and select an explanation for the objection made. Acceptance or rejection of the objection are decided by computer that plays the role of judge.

TLE (Transactional Learning Environment), developed in 2000 by Glasgow Graduate School of Law (GGSL) and UK Centre for Legal Education (Maharg, 2007), is a virtual simulation environment used in a professional legal practice training course. TLE is built around an on-line virtual town containing utilities, businesses, agencies, government organizations etc. which provide the backdrop for students to progress simulated legal transactions.

Fishbowl Online Role-Play (Douglas and Johnson, 2010) is an educational game based on problem solving for the development of legal skills. The game provides students with opportunities to practice legal skills by taking different roles that allow them to practice interviews to witnesses, legal advice and moments of judicial negotiation and enjoy instructional scaffolding moments that promote the construction of knowledge in action. The narrative game allows the development of specific skills in the negotiation and mediation field as well as those required to conduct an interrogation.

3. THE STORYTELLING MODEL

This section describes the *Storytelling Model* we have defined in the context of the *eJRM* project. The model is aimed at building challenging training resources capable of explaining, to common citizens with little or no background about legal topics, concepts related to *legal mediation* in general and in specific areas like *e-commerce* and *civil liability*. Such training resources have to transfer proper knowledge about procedures to follow, actors involved,

normative references on mediation and advantages of such a method of disputes resolution with respect to a legal trial.

In the following subsections we deepen different aspects of the defined model, from the description of the whole story framework to the composition of each situation, taking also into account the defined adaptation techniques. In the next sections we explain, instead, how the defined model has been used as basis to build challenging training resources in the target context.

3.1 The Visual Story Portrait

The defined *Storytelling Model* is based on the *Visual Story Portrait* (VSP) described in (Ohler, 2006). It sees a story as a logic composition of cross-linked narrative sequences with a core composed by the following elements: the *central challenge* (i.e. a problem to be solved or a goal to be reached by the main character), the *character transformation* (i.e. the essential change that the main character needs to undergo to address the central challenge) and the *response to the challenge* (i.e. the solution of the problem or the achievement of the goal obtained by the character thanks to his/her transformation).

The challenge creates tension that produces listener involvement. The tension decreases when a response to the challenge is found. On the other hand, if the response comes too easily, the listener tends to disengage. The figure 1 plots the core elements of a story with respect to the expected level of tension. Basing on this graph the following six situations of a story have been identified.

- *Introduction*. In this situation the story presents the ordinary life background of the involved characters i.e. the information about the usual events of life that precede the challenge that is going to arise.
- *Call to adventure*. In this situation the ordinary routine of life is interrupted and a new quest begins. This situation establishes the beginning of a problem that must be solved or a conflict that needs resolution.
- *Problem*. In this situation, the full extent of the challenge becomes clear, the problem to be solved or the goal to be reached is made apparent and the story reaches a peak of tension.
- *Middle*. This situation deals with the process of traversing the path from problem to solution. To do that, the character needs to change in some extent i.e. to become stronger, smarter, wiser, more mature, etc.
- *Solution*. In this situation the transformation, and what is learned from it, is put into play in order to response to the challenge and to solve/achieve the connected problem/goal. The tension starts to decrease.
- *Closure*. In this situation the story concludes and shows that the transformation has been internalized by the characters and the life goes forward differently thanks to that.

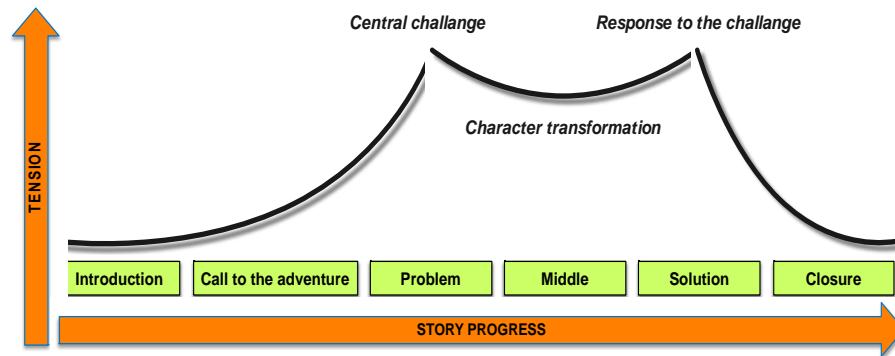


Figure 1. Core elements and situations of the *Virtual Story Portrait*.

To assess the power (the *storyability*) of situations, the story is conceptualized in terms of *transformations formations* i.e. transformation layers of several types: physical/kinaesthetic, inner strength, emotional, moral, intellectual, psychological, social and spiritual. The proposed model considers the *intellectual transformation* of VSP as changes in terms of *learning objectives* extracted from Bloom's taxonomy (Bloom et al., 1956). The learners are encouraged to use the knowledge and cognitive skills to go through different teaching situations associated with various phases of a classical VSP (Mangione et al., 2013). The correspondence between situations of VSP and learning objectives of Bloom (Krathwohl, 2002) guides the transformation of the *character* and the structure of situations.

3.2 The Anatomy of a Situation

As seen in the previous sub-section, the model foresees a story composed of six subsequent situations. Each situation is in turn composed of a *stage* (i.e. the background for the situation), the *characters* (i.e. the player and non-player actors that are involved in the situation), a *event* (i.e. something that happens and that can determine or change the situation) and an *action* (i.e. an act performed by a character in response to the event). The combination of these elements has the objective to sustain the cognitive transformation of the involved learners.

To ensure the achievement of assigned learning objectives, each situation presents itself as the composition of four educational events whose structure facilitates organization, selection and integration of information (Mangione et al., 2014):

- the *Advancer Event* designed to activate student's prior knowledge and to ensure his involvement in the initial situation;
- the *Learning Event* that supports the objective to maximize student's topic understanding and is based on a heavily driven approach;
- the *Reflective Event* designed to support the learner in the reflection process on concepts learned and helping he consolidate the knowledge acquired;
- the *Assessment Event* able to assess whether the type of cognitive transformation hoped for him has occurred.

By recognizing the knowledge gained by the user in different teaching situations, it is possible to define a series of treatments able to support the student in overcoming the presented shortcomings. *Assessment events* are in fact the driver of a *story adaptation* mechanism that allows a re-articulation of the story to recovery found knowledge gaps. We deepen this topic in the next subsection.

3.3 Assessment and Story Adaptation

The defined model supports different “*corrective*” paths that meet specific educational approaches or principles. The alternative routes call the student to take up a new perspective in the story. Coherently with an *interactionist perspective* one accepts the idea of how individuals are able to take certain “*views*” (e.g., *helper*, *hero*, *victim*, *antagonist*, *essay*, etc.) during the interaction with the learning resource which allows learners to experience situations and events with greater responsibility and empathy (Porteous et al., 2010).

The figure 2 shows the flow of events within a modelled situation. The *assessment event* that occurs at the end of a situation, allows to obtain a measure of understanding of key concepts involved with the situation through a formative evaluation. If the learner doesn’t reach a sufficient score, the same situation is adapted and replayed by the student. Three different type of adaptation are foreseen.

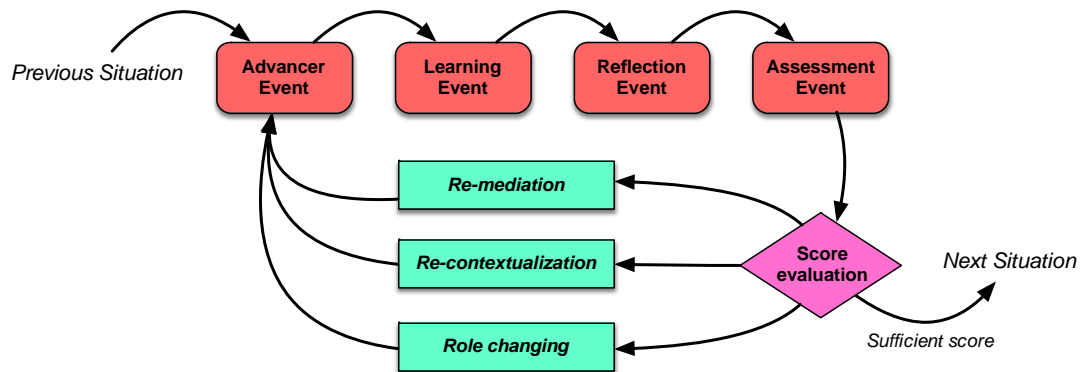


Figure 2. The defined Storytelling teaching flow.

- *Re-mediation*: the same events (in the same situation) are re-lived by the learner with different media. This level is defined according to the idea that that the most effective learning occurs when the learning activities most closely match the learners preferred style.
- *Re-contextualization*: the same events (in the same situation) are re-lived by the learner in a different scenario (context). This level is defined according to the situated learning approach.
- *Role changing*: the same events (in the same situation) are re-lived by the learner taking a new character with a new role in the story. This level is defined according to the concept of *Point of View* in a story where a given narrative situation can be represented differently depending on the perspective of a specific character (with a specific role) taking part in that action.

The choice of the adaptation type to apply is based on the score reached by the learner tests (Mangione et al., 2011). For lower scores the role-changing and re-contextualization strategies are preferred while for higher scores (below the sufficiency) the re-mediation strategy is chosen.

4. THE DEVELOPED PROTOTYPE

In order to build and experiment a *Storytelling Learning Resource* based on the defined model, two software components have been defined and integrated within an existing e-learning environment. Such a learning environment, named *IWT (Intelligent Web Teacher)*, allows the definition and execution of personalized e-learning experiences tailored to learners' cognitive state and learning preferences (Capuano et al., 2011). In particular, defined software components have been obtained as a customization, in the legal domain, of results coming from a previous research initiative oriented to *risk management* (Capuano et al., 2013).

The first component developed is the *Storytelling Editor*. It allows the creation of multimedia resources, the design of story elements, the creation of testing activities and the management of different flows inside the story. It is conceived as a desktop application allowing to select several editing layouts and to support content editing functions. It enables the authors to make creative contents by integrating multimedia objects such as textbox, images, video and audio as well as to associate interactive behaviours to each object. A table of rules allows to check scores obtained by the learner within each *Assessment Event* and, if the score reach a given threshold, the story flow proceeds to the next situation; otherwise the situation is restarted with different parameters (change of media, change of scenario, change of role) according to the process shown in figure 2.

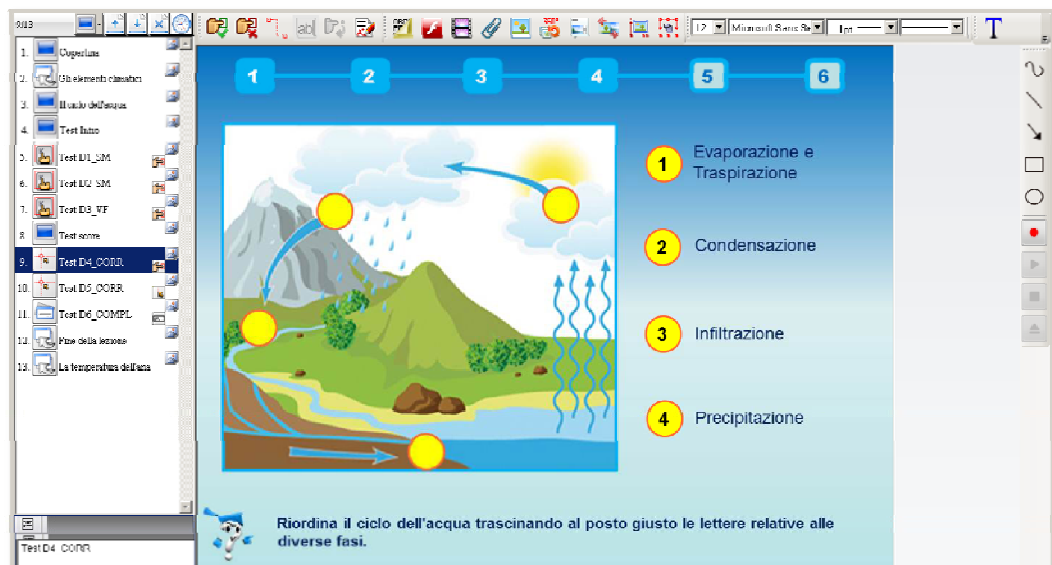


Figure 3. Screenshot of the Storytelling Editor.



Figure 4. Screenshot of the Storytelling Player.

Figure 3 shows the main interface of the editor. The left pane lists the sequence of situation events while the selected event is displayed in the content pane on the right for editing. The toolbar on top of the window includes editing functions and allows to insert, in the current event, several kinds of multimedia objects. A recording toolbar is also provided on the right to capture live audio and video.

The second component is the *Storytelling Player*: a Web application based on *Microsoft Silverlight* that can execute the story according to a designed flow. By interacting with the available events during the story, the learner returns a feedback to the player, while the underlying story engine, basing on them, can reason on the right continuation of the story. Figure 4 shows a screenshot of the storytelling player integrated within the learning environment. The learner interacts within the main pane and the flow of events changes accordingly with respect to defined rules.

On the lower pane there is the possibility to access the list of situation events (*index* button), to print the current situation event as a textual story to be read (*print* button), to open a text editor allowing to attach some note on the current event to be found later on (*note* button), to access a glossary of common terms (*glossary* button), to open additional training material connected with the current situation (*depth* button). In the main pane, the current situation is rendered as a video whose controls are placed in the lower right corner of the screen (including *volume* control, *play/pause* and *rewind* buttons). The same control panel also allows to step to the previous or the next event while the progress bar on the upper-left corner of the screen shows the current position of the learner in the list of available events and situations.

5. AN EXPERIMENTAL STORY

In the context of eJRM, several stories based on the model described in section 3 are currently under development. We present here a first story, covering the topic of mediation in the e-commerce field that we have defined to validate the prototype as well as the underlying model. The didactic objective is articulated into three sub-Objectives: understanding the concept of mediation and situations; understanding the life cycle of mediation and key roles for its correct management; opportunities and possible consequences of mediation. The story flow is graphically depicted in figure 5 while some screenshots of the story within the storytelling player are shown in figure 6.

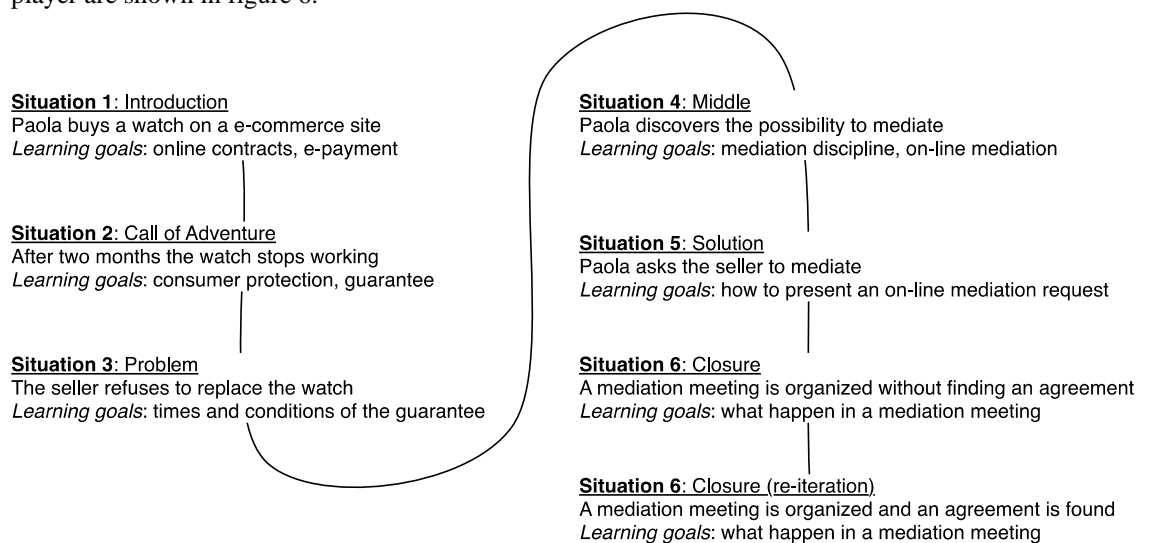


Figure 5. The teaching flow of the experimental story.

The first situation (*Introduction*), presents an *Advancer Event*, where the protagonist, Paola, following numerous commercials of the e-commerce site Orelejo.it broadcast on TV, decided to make her first online purchase, buying a watch with an automatic mechanism. In the *Learning Event*, it is possible to learn key concepts such as methods of concluding contracts online and applicable law discipline, e-payment systems, and personal data protection. The *Reflection Event* clarifies the conclusion of the online contract and finally an *Assessment Event* proposes questions and multiple choice test to understand risks and advantages of online shopping.

The second situation (*Call of Adventure*), in the *Advancer Event*, proposes a scene where Paola receives the clock and, after checked for its proper operation, wears it, and immediately starts using it. Something goes wrong so, only two months after the purchase, the automatic mechanism is blocked. Paola is disappointed and tries to solve the problem by turning the crown for manual charging many times and strongly, but the watch does not work anymore. Paola, not knowing what to do, returns to the website where the purchase was made and reads about the possibility to withdraw from the contract as well as information on product's warranty. The *Learning Event* focuses on concepts of consumer protection, conditions, timing and withdrawal rule exercising procedures, and sale's guarantees. A *Reflection Event* on the

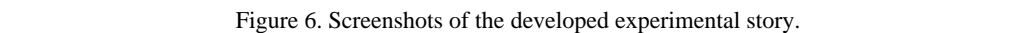
importance of consumer protection follows as well as an *Assessment Event* on how to fill the request for product replacement and cases in which you can take advantage of the replacement procedure.

In the third situation (*Problem*), the *Advancer Event*, Paola learns all the needed information that will help her understand that she can make use of a warranty covering her watch purchase. Paola, therefore, communicates the problem to the vendor and requests to have it replaced. After a considerable period of time, the vendor replies communicating to Paola that the company does not intend to replace the watch because, after having analysed the problem, they found the failure to be caused by an incorrect operation made by Paola. She, in fact, in an attempt to unlock the watch, would have forced the watch crown, causing a mechanism fault.

In the seller's opinion, Paola should have immediately asked for a watch replacement, as soon as the problem had occurred, without making any arbitrary attempts. The seller, however, is willing to repair the clock at Paola's expense. Paola does not agree with this solution and insists on her right to replacement. In the *Learning Event*, times and conditions of guarantee are explained as well as the consumer options, including replacement and repair of goods; a price reduction or termination of contract. After a *Reflection Event* on the discipline of guarantee, understanding of the explained concepts is assessed through an *Assessment Event*.

The fourth situation (*Middle*), in the *Advancer Event*, sees Paola contacting a lawyer, who clarifies her that, according to the Legislative Decree no. 28/2010, as recently amended, even if e-commerce is an area not covered by mandatory mediation, there is the option to do so anyhow, trying to avoid arbitration, as well as issues related to it. Paola searches for additional information on the Internet and discovers the existence of eJRM, a system that guides citizens in legal mediation. By this website, Paola does a self-assessment, she shortly describes her case, the system then classifies the case and suggests her to undertake the process of mediation. Through the site, Paola also understands how the mediation is performed and finds similar cases resolved through mediation. The *Learning Event* presents resources that help learn more about the current discipline regulating mediation for civil and commercial disputes, together with the concept of voluntary and mandatory mediation, and key figures in the process of mediation. After a *Reflection Event* on key concepts, the *Assessment Event* requires the student to identify and sort pros and cons of mediation compared to the legal action.





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simulation-based *Assessment Event* requires the user to identify the best way to manage a mediation meeting.

In the sixth situation, (*Closing*), the *Advancer Event* shows a virtual room meeting, where the mediator is unable to find a solution between the parties who in the end will go to a trial. The *Learning Event* emphasizes the importance of the mediation process, and after a *Reflection Event*, the user is asked to go through an *Assessment Event* to understand and identify ways of managing an event in order to reach an agreement. In this latter event, in case the learner does not reach a satisfactory score, the system suggests an adaptive recovery path where the user is given an alternative scene where through various steps he can achieve a successful mediation (re-contextualization). A new facilitated *Assessment Event*, will then test the successful knowledge acquisition.

6. VALIDATION

To validate the effectiveness of the storytelling training resource and of the underlying model, 28 employees from eJRM partner organizations had been involved on a voluntary basis. Involved employees didn't have any background about juridical topics and had no connections with the eJRM project. On the other hand, all employees involved in the validation have had experience in the use of IWT, the e-learning environment in which the learning resource has been integrated.

We asked the validation group to interact with the defined storytelling resource within IWT and to fill a post-questionnaire made of 20 questions divided in three groups: *methodology*, *content* and *usability*. The first 10 questions are reported in the following list, the first 6 refer to the *methodology* group while the last 4 refer to the *content* group.

1. Did the combination between the exploration and guide of the storytelling resource allow you to maintain a good level of motivation?
2. You have explored different didactic situations, did the proposed sequence allow you to maintain high your attention to the problem and facilitate the understanding of related concepts?
3. Did the explorative logic that characterizes the resource allow you to capture different aspects of the problem and possible solutions to put in practice?
4. Were the advancer events useful for contextualizing what explained with real life problems?
5. Did the reflection events allow you to reflect on what you have learned?
6. Did the recovery paths guide you and was it helpful to recover knowledge gaps?
7. Have the story an user friendly interface?
8. Could you browse and operate with the educational content at various levels of detail?
9. How have you interacted with the story?
10. The visual quality of the experience contents has helped you to have more awareness of the task and tests to overcome?

In both *methodology* and *content* groups, possible answers were: *in no way* (0 points), *partially* (1 point) and *completely* (2 points). The last group of 10 questions was taken from the *System Usability Scale* defined in (Brooke, 1996) and possible answers ranged in a five-points *Likert* scale from *strongly disagree* (0 points) to *strongly agree* (4 points). Obtained

scores for the first 10 questions, normalized between 0 and 100, are summarized in figure 7 in terms of Mean (M), Standard Deviation (SD) and Median (Md).

Average scores obtained in the *methodology* group of questions is $M=68.5$, $SD=28.8$, $Md=66.7$. This is promising for the developed model. Best scores have been obtained by question 2 (confirming that this kind of learning method is able to capture a high level of attention from the learner) and by question 3 (confirming that the articulation of the method in situations and events is capable of providing knowledge about several different aspects of the problem). According to questionnaire results, the weakest point seems to be the recovery path (question 6) that was felt not enough useful to recover knowledge gaps. This is probably due to the fact that the experimental learning resource provided has just one adaptation point so it doesn't exploit the full potential of the underlying model.

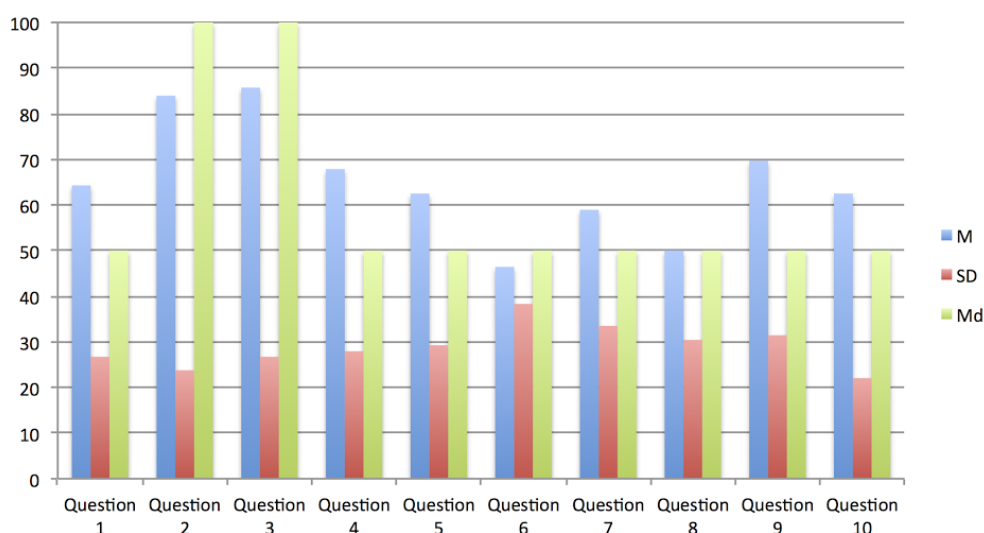


Figure 7. Scores obtained in the 10 questions of the *methodology* (1-6) and *content* (7-10) groups.

Average scores obtained in the *content* group of questions is $M=60.3$, $SD=29.4$, $Md=50.0$. This result is quite interesting too, also taking into account the prototypical nature of the developed content. The stronger point seems to be, in this case, the level of interaction with the system (question 9) while the weakest one is the possibility to operate with the resource at different levels of detail.

The *System Usability Score* calculated basing on the last 10 questions is 60.25. The minimum obtained score is 50 while the maximum is 75. In particular, some questions (like “I thought the system was easy to use” and “I found the various function in the tool were well integrated”) show a predominance of the score 3 (*I agree*) while some other questions (like “I would imagine that most people would learn to use the tool very quickly” or “I felt very confident using the tool”) show a good presence of score 3 and 4 (*I Agree/Strongly Agree*). These data show that the storytelling learning resource as well as its integration with the learning environment has been duly appreciated by the learners.

7. CONCLUSION

We described in this paper a new learning model, based on narrative pedagogy and storytelling, that integrates dynamic branching facilities allowing re-articulation of the story according to assessed training results. The model has been instantiated in the legal domain to build engaging learning resources about online mediation, targeted to users with limited background on legal topics. A prototype and a sample story have also been defined and developed to provide a first empirical validation of the model. The prototype was experimented by a group of real users.

The results obtained up to now are encouraging and confirm that the storytelling model is capable of building valuable learning resources in the field of legal education. The defined model is able to represent a complex storyboard covering the topic of mediation in e-commerce while the developed prototype is capable of editing and playing multimedia components connected to each story event and situation as well as to model the underlying teaching flow.

The obtained learning resource is a fully interactive didactic element oriented to a real learner centred educational approach and able to provide guidance and to make the reflection easier. The *transmedia* nature of the obtained learning resources allows the creation of an *augmented narrative* that is capable of supporting learners participation and enhancement of concepts and skills.

The work described in this paper is still on-going in the framework of the eJRM project. Additional stories are currently in course of definition together with a comprehensive experimentation plan involving an Italian mediation entity and a selection of real customers.

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