

The technological advances of the XXI century and the development of necessary skills for the professional of law by Havard's and Standford's approaches

Os avanços tecnológicos do século XXI e o desenvolvimento de habilidades necessárias ao profissional do Direito a partir das abordagens das Universidades de Harvard e Stanford

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Abstract

In the XXI century, there was a considered technological advance. In this way, there are reflections of these innovations in the labor market, especially in relation to the work of the legal science professional. Thus, this paper proposes to analyze the perspectives of the labor market in the light of these innovations; present the skills and abilities necessary to update the professional of the Law, in order to remain active in this scenario; and, finally, to analyze how American law schools have been promoting the development of these capacities. It concludes by changing the curricular matrices of the legal education institutions, in order to a pertinent update to the one required by the new market environment.

Keywords: XXI century skills. Legal innovation. Labor market.

Resumo

No século XXI, houve um considerado avanço tecnológico. Desse modo, observam-se reflexos dessas inovações no mercado de trabalho, em especial em relação à atuação do profissional da ciência jurídica. Assim, este trabalho se propõe a analisar quais são as perspectivas do mercado de trabalho à luz dessas inovações; apresentar as competências e habilidades necessárias para a atualização do profissional do Direito, de modo a se manter atuante nesse cenário; e, por fim, analisar como escolas de Direito americanas vêm promovendo o desenvolvimento dessas capacidades. Conclui-se pela mudança das matrizes curriculares das instituições de ensino jurídico, em prol de uma atualização pertinente ao exigido pela nova conjuntura do mercado.

Palavras-chave: Habilidades do século XXI. Inovação jurídica. Mercado de trabalho.

1 Introduction

With the development of technologies in the most varied fields, from genetic manipulation to information transmission, it is relevant to observe the necessity to adapt the skills required by this evolution, in the most diverse professions, since the impact caused by the ones in the job market will require of its professionals new skills. The Stanford University, at its meeting *New Breakthroughs in Computational Law - Code X Future Law Conference 2015*, explained that, despite the great capacity of artificial intelligence to replace human

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labor in many areas of knowledge, human intervention is necessary, especially in situations involving cognitive procedures and relationships that tangle with emotional processes (VERJEIJL, 2015).

The legal area is identified as the professional crop that will have a strong impact of technology, and it is necessary to review the current skills developed by professionals. Thus, the scope of this article is to examine, from this reality on, what are the intelligences and skills required for the legal professional of the XXI century. In order to do so, a bibliographical and documentary survey was carried out, analyzing innovative researches and experiments that offer ways to identify competencies that should be stimulated in the current training in the legal area.

2 Global perspectives on the labor market in the XXI century

The expansion of technology in the most varied areas of knowledge, in the words of Schwab (2016), puts the world before the Fourth Industrial Revolution, characterized by: artificial intelligence, internet of things, energy storage, biotechnology, autonomous vehicles and the most varied innovations. Through the last 20 years, therefore, there has been a modernization of the space of exercise of the labor activities and an increase in the demand of personnel qualified to work in this environment (BALCAR, 2014, CARNEVALE, 2013, EGER, GROSSMANN, 2004, INTERNATIONAL LABOR ORGANIZATION, 2008).

In the year 2015, the World Economic Forum (WEF) conducted a survey¹ to find out what would be the skills needed for the XXI century job market (Figure 1), by the expanding of those technologies, and by what prospects by the year 2020. Combined with the current technological revolution, what emerges as a skill for professionals in the XXI century are human-oriented skills, that is, for the human being's intrinsic capacity for reflection, empathy, experiencing of emotions, analysis and decision-making, commonly known as soft skills.

The solution of complex problems appears as the main skill, followed by critical thinking, creativity, people management, coordination with others (horizontality in relationships), emotional intelligence, decision-making capacity, service orientation and negotiation and cognitive flexibility, which are the proficiencies necessary for the professional of the XXI century.

In this sense, Susskind and Susskind (2017, p. 117) understand that although machines have physical capacities (faster movements and lifting of heavier loads), the dominance of the human being over certain types of tasks must be emphasized, especially those correlated with the use of perceptual, emotional and cerebral abilities.²

In a meta-analysis,³ the World Economic Forum, with the scope of identifying, in the first instance, the skills needed to meet the needs of the XXI century labor market, divided skills into three categories: fundamental education; skills and qualities of character (WEF, 2015).

¹ The objective of the research was to understand the possible expectations regarding the future of the labor, jobs and skills of the largest employers in the world's largest economies. The research had as its starting point to focus on the heads of human resources departments. We analyzed industries from several sectors, such as Infrastructure (Chemistry, Urban Planning and Mining); Consumption (Food, Production of Goods, Agriculture); Energy (Renewables, Fuels and Utilities and Energy Technologies); Investment and Financial Services (Banks, Capital Markets, Private Investors); Health (Health and Global Health Plans); Information (Information and Communication Technology); Media (Media, Entertainment and Information); Mobility (Aviation and travel, Cars and Means of Transport); Professional Services (liberal professionals).

The countries analyzed were divided by region: Asia and the Pacific (Australia, China, Indonesia, India and Japan); Europe and Central Asia (France, Germany, Italy, Turkey and United Kingdom); Middle East and North Africa (Gulf Cooperation Council); Sub-Saharan Africa (South Africa); Americas (Brazil, Mexico and the United States). WORLD ECONOMIC FORUM. **Future of Jobs report**. 2016, 57.

² On the original: We can accept that machines can move quicker and lift heavier, but we like to think we hold domination over certain types of tasks, especially those that require brainpower and emotion.

³ The research used as a basis the works developed by the European Skills, Competences, Qualifications and Occupations (ESCO), Partnerships for XXI Century Skills, in Gauge, Brookings and Pearson.

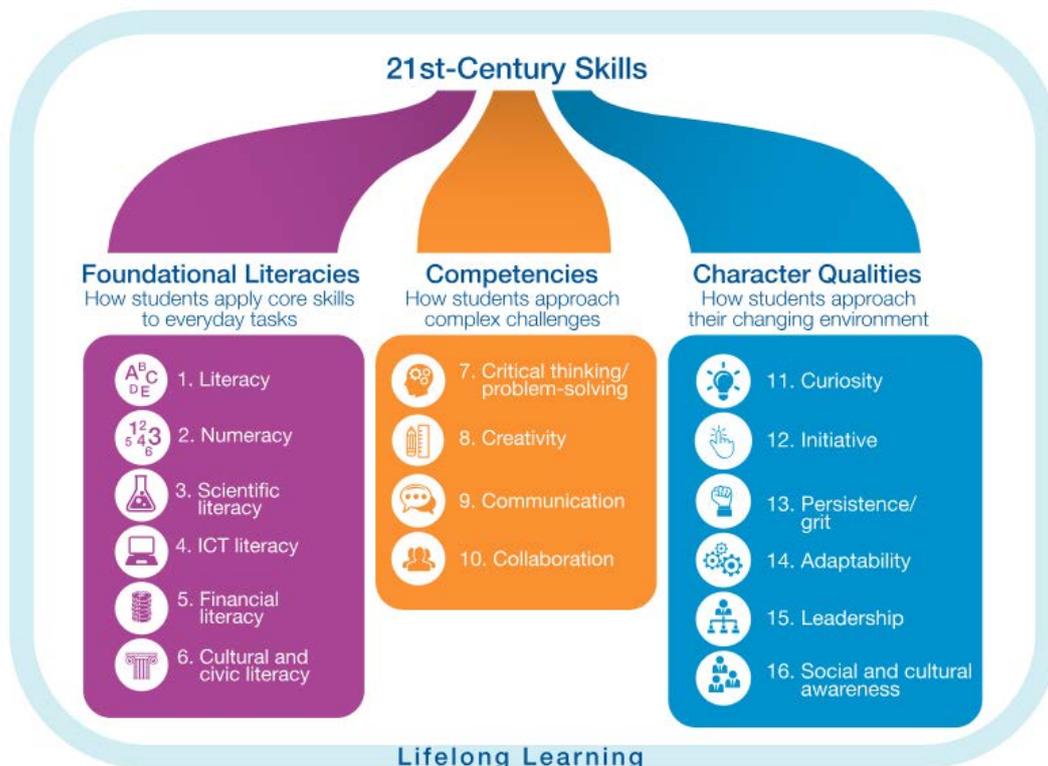
Fundamental instruction refers to how the individual applies core skills in daily life. These skills correspond to the starting point for full mastery of those needed for the XXI century. This includes not only literacy and numeracy, but also understanding of science, technology and information, financial, cultural and legislative (WEF, 2015). The American Management Association and Partnership for XXI Century Skills corroborates with this thought (2010, online):

Executives say they need a workforce fully equipped with skills beyond the basics of reading, writing and arithmetic (the “3 Rs”) to grow their businesses. Skills such as critical thinking, communication, collaboration, and creativity (the 4 Cs) will become even more important to organizations in the future.

Competencies correspond to the way the subject approaches the complex problem in order to solve the demand, and encompasses creativity, that is, the use of imagination as a tool to create innovative ways to interpellate the problem; critical thinking, which corresponds to the capacity to identify, evaluate and analyze situations in order to propose answers to problems; communication, manifested from the way an individual makes himself understood, and is able to understand what has been told to him; and collaboration, which corresponds to the ability to develop team activities and unify workforces and intelligences (WEF⁴, 2015).

Finally, character qualities are understood as the individual’s way of acting in the face of a changing environment. At this point, persistence and adaptability are abilities which functions relate to the resilience that should be employed when faced with a difficulty; initiative and curiosity, which are the ignition points for the discovery of new concepts and ideas; and leadership and social and cultural awareness, which are situations involving constructive interactions with others, so that these occur in a respectful way in social, ethical and cultural aspects (WEF, 2015).

Figure 1



Source: World Economic Forum (2015).

⁴ WORLD ECONOMIC FORUM. **New Vision for Education - Unlocking the Potential of Technology**. 2015.

In 2018, the World Economic Forum reinforces the 2015 research and, again, highlights the importance of developing human skills to create, solve problems and make decisions, reporting that repetitive or routine knowledge activities will be automated and that the development of the skills pointed out can open a new range of opportunities (WEF, 2018). Thus, leaders⁵ warn that there must be a change in the form of education, given the imminent danger of being left behind in the past. Emphasis is given to learning skills such as teamwork, awareness of values and critical-creative thinking, and the imminence of replacing manual, routine, and repetitive tasks with automata (WEF, 2018).

Following these results, the McKinsey Global Institute presents research reporting that, as a result of technological advances, the labor market will be impacted by the replacement of around 800 (eight hundred) million human workers by artificial intelligence technologies (MCKINSEY GLOBAL INSTITUTE, 2017).

Deloitte reported in 2016 that the technical knowledge acquired by students in their academic training represents only a fraction of the skills and abilities essential to the job market. The acquisition and development of other talents, such as the cognitive essentials, the ability to connect and socialize, and the ability to solve problems, as well as the know how⁶ of applying such competences in concrete situations, are relevant in the context of employability. The report also presents data in the direction of the profit capitalization that the development of these abilities provides:

A ten per cent increase in the importance of cognitive abilities, which influence the acquisition and application of knowledge, contributes to a 12 per cent increase in median hourly earnings. The same increase in the importance of social skills contributes to a ten per cent increase in median hourly earnings.

With the technological evolution and the development of economies based on innovation, creativity and collaboration, the labor market was impacted, there was a decline in the need for operators to carry out manual or cognitive work, but there was a high and corresponding demand in those who lacked skills of non-analytical routines and interpersonal skills.

With the change of competency axis, the problem of the provision of trained agents with such skills was diagnosed. As an example, the *Manpower Group* (2014) evidenced the hiring difficulty due to the absence of qualified personnel, since only 6% of employees were able to solve problems with proficiency in technologically rich environments.

Among the necessary skills, the most important ones were: ability to solve complex problems; leadership; Communication; understanding of technology; teamwork and people management; creative thinking; project management; and functional knowledge (ACCENTURE, 2013).

Thus, Accenture (2013) identified strategies capable of reducing this gap, namely: the search for the balance between formal and informal knowledge; encompassing new ways of developing skills; expansion of candidate options; perception of talent through new technologies; and investment in talent early in life.

It presents as a strategy to strengthen these abilities the stimulation of partnerships with higher education institutions, in order to revise curricular matrices and propose ways to encourage students' abilities, so that they can acquire and develop these skills throughout their undergraduate program (ACCENTURE, 2013).

As a matter of fact, the relevance of the development of competences is highlighted, to adapt the professional of the XXI century to the reality in which it is inserted. Therefore, it is necessary to break the paradigm of stagnation, the feeling that only technical knowledge is a sign of success in the labor market, since technological development is already able to supply human activity in this sense. Thus, it is important

⁵ Sample interviewees: Jack Ma, founder of Alibaba, China's largest electronic merchant; Minouche Shafik, director of the London School of Economics; Fabiola Gianotti, director general of CERN; Justin Trudeau, Prime Minister of Canada.

⁶ N.T. Know how to do.

to note what are the capabilities that electronic development cannot meet, such as empathy, leadership, creativity and teamwork, looking for methods and ways to stimulate the development of these skills.

2 The perspective of the legal professional's performance from the technological evolution of the XXI century

In the face of technological advances, the process of adaptability of the legal science professional is eminently prominent. The change in the scenario of legal science operations, according to Susskind (2013, p. XIII), will be more expressive in the next two decades than in the last two centuries. In countries such as England and Australia, the legal monopoly is no longer exercised by lawyers, since professionals, not necessarily with legal training, can conduct legal offices and law firms may have shares on the stock exchanges or such as private equity.⁷ Examples include Co-Op Bank of England, BT Group, English telecommunications company, and Automobile Association, related to vehicles and transportation in Australia, which offer services the legal basis.

Still in this sense, the Deloitte report (2016) estimated that 39% of jobs involving legal services will be endangered, at risk of extinction, given the speed of technological development, since, according to Sperandio (2016, p. 6), there would be a cost reduction resulting from division of functions by task, so that activities such as documentary review and due diligence can be outsourced.

In this sense, the world trend is for law firms to start to work not only on legal practices, but also incorporate knowledge of industry, commerce, information technology and other areas of expertise into their repertoire (DELOITTE, 2016).

Accordingly, another study conducted by the same institution concluded that, by 2030, the number of traditional law firms would be smaller, due to the growth of non-legal functions and the greater use of technology as an alternative for career; a new range of skills of lawyers capable of adapting and promoting change to new needs will be further developed; increasing flexibility and mobility, given the international expansion and the overcoming of barriers, as well as faster work arrangements and new contractual types; and the reformulation of the workforce structure, which allows the recruitment of employees with skills of the most diversified types (DELOITTE, 2016).

According to data collected by Altman Weil (2015), regarding efforts to increase productivity and efficiency of legal assistance, 58% of respondents⁸ adopted as a measure the substitution of human resources for technological tools.

This way, we present Legaltechs (also known as lawtechs), which consist of start-ups of technological solutions aimed at reformulating the legal sector. The term derives from the English words Legal/Law⁹ and Technology,¹⁰ and has as its scope the collaboration of technology in legal routine. This facility is promoted by collecting, reading, storing information, unifying this information in databank, and the ability to reproduce document patterns and the issuing alerts regarding deadlines (SALOMÃO, 2017). In the understanding of Praduroux, Paiva and Caro (2016, online), this type of legal informatics:

“[...] Legal informatics (legal information technology and its study) is concerned with the social implications of informatics use, as well as with all the informatics applications in the field of law, such as the storage and the automatic retrieval of sources of law, the automation in law offices and in the judicial administration and all other uses of the computers in law (Database, information systems,

⁷ These changes were authorized in England and Wales under the Legal Services Act 2007, which has been in force since 2011.

⁸ For conducting the survey, we interviewed Administrators and Heads of 797 law firms in the United States with 50 or more employees.

⁹ Legal / Law.

¹⁰ Technology.

educational programs, expert systems, computer-aided legal drafting, etc.) “. It concerns the social implications of the use of information technology in the field of law, such as automatic storage and retrieval of law sources, automation of law firms and administrative and all use of computers in law (Database, information system, programs knowledge systems, computer-aided legal text writing).

The aforementioned authors, based on the explanation by Harvard University,¹¹ didactically divide the forms of lawtechs into eight types, namely: legal market; assembly and automation of documents; managerial practice; legal research; predictive analysis and survey of litigation data; electronic discovery; online dispute resolution; and security technology.¹²

Legal market corresponds to the digital environment capable of promoting connection between lawyers and clients, final or not, and communication with other lawyers (PRADUROUX; PAIVA; CARO, 2016).

Assembly and document automation consist of the category that covers the design of systems and workflows that assist in the creation of electronic documents. These include logic-based systems, which use pre-existing text segments and / or data to assemble a new document (PRADUROUX; PAIVA; CARO, 2016).

Management practice concerns case and activity management software, which provides lawyers with convenient modes for effective management of information relevant to clients and cases, such as contacts, meetings, documents, and general specificities. Anything that is involved in facilitating automation in law practices can be considered practical / case management software. Most of the program packages offer: case manager; time monitoring, and contact management (PRADUROUX; PAIVA; CARO, 2016).

Legal research is based on advanced legal research tools, capable of permeating the fields of artificial intelligence, data collection and the natural linguistic process, in order to identify the different features and characteristics available (PRADUROUX; PAIVA; CARO, 2016).

Predictive analysis and data collection of litigation are consistent with the analysis of information and data by means of statistical or mathematical techniques that result in a correlation between the accuracy. These results are used to better predict situations and decision making. The predictive model of demand management provides information at the beginning of the litigation with the scope to present the best possible output (PRADUROUX; PAIVA; CARO, 2016).

Electronic discovery is about identifying, collecting, and producing electronically stored information in response to the production of evidence in a process or investigation. These data can be exemplified as: e-mails, documents, database, voice mails and text and video files (PRADUROUX; PAIVA; CARO, 2016).

Online dispute resolution uses Internet technology to propose out-of-court conflict resolution. There are two branches of this form of legaltech: the first, in which technology operates actively in solving the litigation, such as the blind betting system, which makes use of mathematical variables in order to propose to the parties the best possible outcome; the second consists of forms of conflict resolution aided by technology, with the aim of increasing the number of alternative dispute resolution processes, regardless of technology (PRADUROUX; PAIVA; CARO, 2016).

Finally, information security technology is intended to protect the confidentiality of data exchanged between server and client. For the use of these innovations, it is necessary algorithms and cryptography (PRADUROUX; PAIVA; CARO, 2016).

The market has some exemplary tools of legaltechs, such as Contract Express and Exari, which generate high quality legal documents after interaction with the user; the Docracy app, capable of selecting

¹¹ Available At: <<http://techindex.law.stanford.edu/>>. Accessed on: 31 Jan 2018.

¹² In the original: Legal Market Place; Document Automation and Assembly; Practice Management; Legal Research; Predictive Analytics and Litigation Data Mining; Electronic discovery; Online dispute resolution; Data security technologies.

decisions and judgments; and Shake, able to produce contracts through cell phones. Another instrument of technological innovation in legal activity is the online trading rooms, which are platforms besieged on the Internet, whose purpose is to encourage the negotiation and mediation before the judicialization of demand and collaboration between law firm and client for the sharing and storage of documents (SUSSKIND; SUSSKIND, 2017).

Also, as a reflection of these technologies, there are online communities, such as Legal OnRamp, in which people, trained in Law or not, contribute and share their experiences in resolving legal disputes (SUSSKIND; SUSSKIND, 2017).

In addition, the US office Baker & Hostetler has acquired the ROSS artificial intelligence system, which uses IBM's WATSON technology. They include the abilities of the mentioned system: the capacity of detailing about legal actions; monitoring of jurisprudence; requesting a memorandum to better understand legal problems or conferring work on another source of research; extracting citations and keywords from multiple law cases for a legal understanding and analysis of the situation in question; identification of the legal basis for bankruptcy problems, based on federal and state court decisions; identification of legal intellectual property issues, not only of the courts but also of administrative decisions by the Trademark and Patent registry institutions; and designation of responses to cases involving labor disputes (ROSS, 2018).

Thus, it is noted that the legal professional requires the development of skills and a certain adaptability to this new scenario of the labor market, in view of the search for faster, less conflicting solutions and tools and applications capable of presenting the same technical knowledge. Thus, it remains for the operator of the Right to work for the expansion of competences which artificial intelligences cannot reproduce.

3 Approaches of international legal education institutions in the face of XXI century innovations

After demonstrating the range of competences required of the legal science professional due to the impacts brought about by the technological advances of the XXI century, it is up to this research to examine the methodologies used by higher education institutions in the promotion and development of these skills. To this end, the following international institutions were chosen: Harvard University and Stanford University, ranking among the five best Law schools in the world.¹³

3.1 Harvard University

It is the scope of the Harvard Law School program to promote differential methods that enable undergraduates not to be mere information repeaters, breaking the mold of teaching, in order to develop innovative ways of conflict resolution and to equip the future operator of the Law with skills essential to the XXI century, which cannot be taught by the traditional means of teaching (COLINS, 2017).

One of the programs used by this institution consists of Law Without Walls,¹⁴ whose purpose is the training of legal operators able to resolve conflicts in a creative and innovative way, in order to understand the needs of their clients empathically; leaders with multidisciplinary skills, tolerance to high risk situations and able to develop plural teamwork (cultures, countries and disciplines); as well as specialists in business situations, competent in the use of technologies and social media, with a focus on communication and collaboration (COLINS, 2017).

¹³ According to QS University Rankings <https://www.topuniversities.com/university-rankings/university-subject-rankings/2018/law-legal-studies>.

¹⁴ Created by Professor Michele DeStefano, a professor at the University of Miami and a visiting faculty member in the Executive Education Program at the Harvard Law School.

Problem Solving Workshop aims to connect the theoretical study of the science of law to the practice of advocacy, so the student is presented to questions, in order to reflect on what types of problems lawyers solve and how they do it, as well as how and the practical effects of the conclusions reached. Thus, the student learns to interconnect the legal knowledge and the practical part of the professional exercise, in order to reach the objectives of the clients within the legal limits. One of the key points of the workshop is the collaborative effort, which stimulates the ability of group work as well as leadership skills (HARVARD, 2018).

The **Legal Research and Writing Program** has as a premise not only to provide the student with tools for the composition of legal pieces, but to make him understand the internal problem to be studied and know how to express the situation through concise and pertinent arguments, thus having the ability to analyze the situation in order to obtain the best possible solution. In this program, the capacity of critical thinking, cognitive analysis of information, communication and understanding of positions is developed (HARVARD, 2018).

In subsequent years, it is the student's choice of subjects of interest to complete the number of credits required for graduation, in such a way that the institution offers several study groups with varied concentration areas. Tangible to the skills of the XXI century, it is worth noting the Law and Business programs and Law, Science and Technology (HARVARD, 2018).

Regarding the **Law and Business Program**, the student understands the intersection between legal activity and the dynamics of business relations. As an example of developing skills for both, there are the disciplines of **Analytical Methods for Lawyers** and **Business Strategies for Lawyers** (HARVARD, 2018).

The first subject aims to make the student assimilate the basics of management, negotiation and economics. This understanding is stimulated by the development of activities capable of instructing the student to have a cognitive organization for conscious decision-making in conflict resolution (HARVARD, 2018).

In dealing with the notions of business strategy, the institution advocates the promotion of analytical thinking of concrete situations, through economic approaches and game theory, to negotiation studies in association processes, in order to present its advantages and how to structure situations of collaboration and leadership (HARVARD, 2018).

The study group also has the possibility of multidisciplinary integration in order to stimulate student engagement in disciplines, such as the **Leading Innovative Ventures** at the Harvard Business School, which aims at creating thinking in the context of industrial innovations. In this way, it promotes the competence of creativity, since it fosters in the student the capacity for legal advice in this field (HARVARD, 2018).

The Law, Science and Technology Program aligns legal expertise to the scenario of technological innovation in its most varied aspects, such as: industrial property, biotechnology, bioethics, internet rights and technology and individual freedoms. This research aspect proposes to the student a vision about the technological innovations, and not only in the tuning of the legal developments, but also in the adaptive capacities of the professional in this area. Examples of the above-mentioned program are the **City Use of Technology** courses and **Counseling and Legal Strategy in the Digital Age** (HARVARD, 2018).

The Course of **Citizen Use of Technology** is intended to explore the efforts of public agents to use technology in solving civil problems in the community. The competences of creativity and teamwork are stimulated in the discipline, with the objective of providing the students with tools to solve the civic-urban conflicts in the reality that they are at the end of the graduation period (HARVARD, 2018).

The discipline of **Legal Assistance and Strategy in the Digital Age** focuses on the reflection and the elaboration of a critical and strategic analysis for the solution of complex conflicts that cross the spectrum of the technological challenges facing entrepreneurs and companies. Through a multidisciplinary approach, it explores situations of risk and negotiation, as well as stimulating the critical screening of documents, in order to better develop strategies for clients. The course relies on the methodology of case study as a primary form of explanation, as well as the approach through seminars (HARVARD, 2018).

With this, one can observe the commitment of the institution in the development of skills, such as critical thinking, creativity, teamwork, leadership, cognitive organization and the solution of complex problems. In this way, one can see the alignment of the Harvard Law School with the teaching of skills relevant to the XXI century job market.

3.2 Stanford University

Stanford University Law School has as a curricular premise the training of the legal trader, not only with the skills essential to the career, but also with the students' interests and ambitions (UNIVERSITY OF STANFORD, 2018).

The institution innovates by presenting on its curricular matrix the offer of several disciplines that promote not only the jurist's technical training, but also the skills and competences for an increasingly dynamic and differentiated work market. As examples, the courses mentioned are of **Legal Writing; Oral Argument; Law and Creativity; Negotiation; Mediation; Problem Solving and Decision Making; Law and Psychology; Disruptive Technologies**.

In **Legal Writing**, the student not only learns to develop concise, clear and effective writing, but also the ability to analyze and interpret texts. The discipline aims to broaden the capabilities of research, analysis, interpretation, composition of legal texts, synthesis and text editing (UNIVERSITY OF STANFORD, 2018).

In a workshop format, the **Oral Argumentation** discipline aims to develop skills for oral supports, allowing students to refine their ability to speak in public and develop self-confidence, as well as their way of responding promptly to the situations presented (UNIVERSITY OF STANFORD, 2018).

The creative thinking capacity is explored by the Curriculum Matrix of the Stanford University law course, directly by the **Law and Creativity** discipline, whose scope is to reduce the distance between Law and Art, so that it improves the ability to think creatively and the use of the student's imagination in solving complex problems. To do so, initially, various forms of media (films, books, serials) are discussed and what tangencies with the science of law can be drawn. Next, students should work on creative writing through writing and analyzing group discussion texts (UNIVERSITY OF STANFORD, 2018).

The disciplines of **Negotiation, Mediation and Problem Solving and Decision Making** correspond to the way in which the institution in question stimulates in the student the ability to solve complex conflicts through the alternative routes, as well as managing their activities as a lawyer.

Thus, it develops competences that broaden its understanding of the negotiation situations, as well as provides tools and concepts to prepare and create diverse forms of problem solving, that is, to extract from the experience new knowledge. In addition to the thought of avoiding litigation, after the course, students are able to understand the nature of conflicts and what are the principles for their management (UNIVERSITY OF STANFORD, 2018).

Disruptive technologies are those that give rise to new markets and forms of negotiation (CHRISTENSEN, 1997). In this sense, it is observed that the legal operator must pay attention to these innovations, since many of them go against existing regulations, policies and laws for the maintenance of a status quo.

Along the same lines, Stanford University provides the opportunity for students to broaden their knowledge in this area so that they can not only help their clients stay in the market but can help them thrive. In order to do so, we have the discipline of Disruptive Technologies, which generates the discussion about the themes of using artificial intelligence, such as cars that do not require drivers, besides examining the legal challenges and opportunities presented by these technologies (UNIVERSITY OF STANFORD, 2018).

Through the explanation of some of the disciplines offered in their curriculum, one can see the relevance that the institution in question values, not only for the development of skills, such as creative thinking, communication and empathy, but also for the concern with the positioning of the student in the period after graduation, since he is attentive to the ways to prepare him for the legal labor market in the face of the needs of the XXI century.

4 Conclusion

In the perspective of the analysis of the studies on the skills needed for professionals of the XXI century and the impacts caused by technology in the labor market, particular in the legal sector, it is pointed out the need for the development and improvement of these skills, especially regarding to what technology is unable to promote.

In legal terms, specifically, the emergence of legaltechs provided technological tools capable of supplying human activity more quickly and efficiently, such as analysis and data collection, jurisprudence, drafting of legal texts (such as contracts, petitions and corporate agreements), as well as the possibility of narrative of judicial experiences through online forums.

Thus, it is concluded, according to the researches and experiences presented, that the Legal profession undergoes significant changes, requiring new skills for the Legal professional, such as: ability to work in teams, critical thinking to solve problems, leadership, creativity and communication skills. Therefore, the need for people capable of preventing and resolving conflicts in an efficient way, apt to the creation of strategies and endowed with a systemic vision.

As a result, new methodologies and themes are being developed in universities such as Harvard and Stanford, pointing to legal formation for a new direction, as well as technical training, with a strong focus on the mentioned skills.

This fact makes it relevant to observe the updating of the traditional model of legal education, in order to aim at a modification of curricular matrices, evaluation criteria and the application of teaching methods, so that they are in line with the needs of the professionals of the XXI century.

References

- ACCENTURE. **2013 Accenture Skills and Employment Trends Survey**: Perspectives on the Perspectives on Training. Dublin, 2013. Disponível em: <https://www.accenture.com/sk-en/~media/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Strategy_3/Accenture-2013-Skills-And-Employment-Trends-Survey-Perspectives-On-Training.pdf>. Acesso em: 31 jan. 2018.
- ALTMAN WEIL. **Law firms in transition** – an Altman Weil Flash Survey. Newtown Square: Altman Weil, 2015. Disponível em: <http://www.altmanweil.com/dir_docs/resource/1c789ef2-5cff-463a-863a-2248d23882a7_document.pdf>. Acesso em: 31 jan. 2018.
- AMERICAN MANAGEMENT ASSOCIATION; PARTNERSHIP FOR 21ST CENTURY SKILLS. **Critical Skills Survey**, AMA, 2010. Disponível em: <<http://www.p21.org/storage/documents/Critical%20Skills%20Survey%20Executive%20Summary.pdf>>. Acesso em: 31 jan. 2018.
- BALCAR, J. Soft skills and their wage returns: overview of empirical literature. **Review of Economic Perspectives**, Národhospodarsky Obzor, v. 14, n. 1, p. 3-15, 2014.
- CARNEVALE, A. **21st century competencies for college and career readiness**. Broken Arrow: National Career Development Association, 2013. p. 1-9. Disponível em: <<https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/21stCenturyCompetencies.pdf>>. Acesso em: 31 jan. 2018.
- CHRISTENSEN, Clayton. **The innovator's dilemma**. Massachusetts: Harvard Business School Press, 1997.
- COLINS, Julia. Possible futures: thoughts on what awaits HLS and the legal profession. **Harvard Law Bulletin**, fall 2017. Disponível em: <<https://today.law.harvard.edu/feature/possible-futures/>>. Acesso em: 31 jan. 2018.

EGER, H.; GROSSMANN, V. **Noncognitive abilities and within-group wage inequality**. Bonn: Institute for the Study of Labour, 2004.

HARVARD UNIVERSITY. Analytica Methods for Lawyers. **Course Catalog**. 2018. Disponível em: <<http://hls.harvard.edu/academics/curriculum/catalog/default.aspx?o=69487>>. Acesso em: 2 fev. 2018.

HARVARD UNIVERSITY. Business Strategies for Lawyers. **Course Catalog**. 2018. Disponível em: <<http://hls.harvard.edu/academics/curriculum/catalog/default.aspx?o=69488>>. Acesso em: 2 fev. 2018.

HARVARD UNIVERSITY. City Use of Technology. **Course Catalog**. 2018. Disponível em: <<http://hls.harvard.edu/academics/curriculum/catalog/default.aspx?o=69100>>. Acesso em: 2 fev. 2018.

HARVARD UNIVERSITY. Counseling and Legal Strategy in the Digital Age. **Course Catalog**. 2018. Disponível em: <<http://hls.harvard.edu/academics/curriculum/catalog/default.aspx?o=68060>>. Acesso em: 2 fev. 2018.

HARVARD UNIVERSITY. **First-Year legal research and writing program**, 2018. Disponível em: <<http://hls.harvard.edu/dept/lrw/course-overview/>>. Acesso em: 1 fev. 2018.

HARVARD UNIVERSITY. **J. D. Program** – The first year, 2018. Disponível em: <<http://hls.harvard.edu/dept/academics/degree-programs/j-d-program/>>. Acesso em: 31 jan. 2018.

HARVARD UNIVERSITY. **J. D. Program** – The Upper Level Years, 2018. Disponível em: <<http://hls.harvard.edu/dept/academics/degree-programs/j-d-program/>>. Acesso em: 1 fev. 2018.

HARVARD UNIVERSITY. **Academic offerings**. Law, Science and Technology, 2018. Disponível em: <<http://hls.harvard.edu/dept/academics/programs-of-study/law-science-and-technology/academic-offerings-law-science-and-technology/>>. Acesso em: 2 fev. 2018.

HARVARD UNIVERSITY. **Leading innovative ventures**, 2018. Disponível em: <<http://www.hbs.edu/coursecatalog/2030.html>>. Acesso em: 2 fev. 2018.

HARVARD UNIVERSITY. **Problem solving workshop**, 2018. Disponível em: <<http://hls.harvard.edu/dept/academics/winter-term/problem-solving-workshop/>>. Acesso em: 1 fev. 2018.

HARVARD UNIVERSITY. **Programs of Studying**, 2018. Disponível em: <<http://hls.harvard.edu/dept/academics/programs-of-study/>>. Acesso em: 2 fev. 2018.

INTERNATIONAL LABOUR ORGANIZATION. **Skills for improved productivity, employment growth and development**. Trabalho apresentado no International Labour Conference. Geneva. 2008. Disponível em: <https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_092054.pdf>. Acesso em: 2 fev. 2018.

MANPOWER GROUP. WORLD ECONOMIC FORUM. **New Vision for Education - Unlocking the Potential of Technology**, 2015. Disponível em: <http://www3.weforum.org/docs/WEFUSA_NewVisionforEducation_Report2015.pdf>. Acesso em: 2 fev. 2018.

MCKINSEY GLOBAL INSTITUTE. **Jobs lost, jobs gained: workforce transitions in a time of automation**. 2017. Disponível em: <<https://www.mckinsey.com/~/media/McKinsey/Global%20Themes/Future%20of%20Organizations/What%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/MGI-Jobs-Lost-Jobs-Gained-Report-December-6-2017.ashx>>. Acesso em: 09 maio 2018.

PRADUROUX, Sabrina; PAIVA, Valeria de; CARO, Luigi di. **Legal Tech Start-ups: State of the Art and Trends**, 2016. Disponível em: <<http://vcvpaiva.github.io/includes/pubs/2016-legal.pdf>>. Acesso em: 31 jan. 2018.

ROSS. **What is Ross?** 2018. Disponível em: <<https://rossintelligence.com/ross/>>. Acesso em: 31 jan. 2018.

- SALOMÃO, Celina. Lawtechs: tecnologia transformando os negócios do Direito. **Falando de TI**, 2017. Disponível em: < <https://www.ibm.com/blogs/robertoa/2017/05/lawtechs-a-tecnologia-transformando-os-negocios-do-direito/>>. Acesso em: 31 jan. 2018.
- SCHWAB, Klaus. **A quarta revolução industrial**. São Paulo: Edipro, 2016.
- SPERANDIO, Henrique Raimundo do Carmo. **Desafios jurídicos frente às novas tecnologias: a inteligência artificial e seus impactos na área jurídica**. São Paulo: FGV, 2016.
- SUSSKIND, Richard. **Tomorrow's Lawyers**. Nova York: Oxford University Press, 2013.
- SUSSKIND, Richard; SUSSKIND, Daniel. **The future of professions: how technology will transform the work of human experts**. New York: Oxford, 2017.
- UNIVERSITY OF STANFORD. Disruptive Technologies: their impact in our laws and the laws' impact on the technology. **Course Catalog**, 2018. Disponível em: <<https://law.stanford.edu/courses/disruptive-technologies-their-impact-on-our-laws-and-the-laws-impact-on-the-technology/>>. Acesso em: 2 fev. 2018.
- UNIVERSITY OF STANFORD. Advanced Legal Writing. **Course Catalog**., 2018. Disponível em: < <https://law.stanford.edu/courses/advanced-legal-writing-business-transactions/>>. Acesso em: 2 fev. 2018.
- UNIVERSITY OF STANFORD. **Build a foundation that will support your aspirations**, 2018. Disponível em: <<https://law.stanford.edu/education/courses/#slnav-first-year-academics>>. Acesso em: 2 fev. 2018.
- UNIVERSITY OF STANFORD. Law and Creativity. **Course Catalog**., 2018. Disponível em: <<https://law.stanford.edu/courses/writing-workshop-law-and-creativity//>>. Acesso em: 2 fev. 2018.
- UNIVERSITY OF STANFORD. Law and Psychology. **Course Catalog**., 2018. Disponível em: <<https://law.stanford.edu/courses/law-and-psychology/>>. Acesso em: 2 fev. 2018.
- UNIVERSITY OF STANFORD. Negotiation; mediation; problem solving and decision making. **Course Catalog**, 2018. Disponível em: <<https://law.stanford.edu/courses/negotiation//>>. Acesso em: 2 fev. 2018.
- UNIVERSITY OF STANFORD. Oral argument workshop. **Course Catalog**., 2018. Disponível em: <<https://law.stanford.edu/courses/oral-argument-workshop//>>. Acesso em: 2 fev. 2018.
- VERJEIJL, Bart et al. **New breakthroughs in computational law** – Code X Future Law Conference. Stanford University. Disponível em: <<https://www.youtube.com/watch?v=efr9VctcMe8>>. Acesso em: 30 jan. 2018.
- WORLD ECONOMIC FORUM - WEF. **6 quotes from Davos on the future of education**, 2018. Disponível em: <<https://www.weforum.org/agenda/2018/01/top-quotes-from-davos-on-the-future-of-education>>. Acesso em: 30 jan. 2018.
- WORLD ECONOMIC FORUM - WEF. **Future of Jobs report**, 2016. Disponível em: <http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf>. Acesso em: 25 dez. 2017.
- WORLD ECONOMIC FORUM. **New vision for education** - Unlocking the potential of technology, 2015. Disponível em: <<https://widgets.weforum.org/nve-2015/chapter1.html>>. Acesso em: 29 jan. 2018.

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