

DISTANCE LEARNING - POTENTIAL AND RISKS IN THE CURRENT SITUATION OF EDUCATION IN BRAZIL

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Abstract. *This paper analyses the current moment of education in Brazil, highlighting the potential of Distance Learning (DL) as a tool of social inclusion. It will also describe some impacts which might be felt by the formal Engineering Education, mainly after the publication of "Portaria nº 2.253", dated October, 18th, 2001, by the Ministry of Education (MEC), known as "Portaria dos 20%". This "Portaria" allows the institutions to offer up to 20% of their subjects via Distance Learning. The paper will also consider the precautions that should be taken before implementing this tool (DL), in order to minimize the effects of some polemic points like Performance Analysis, Competences and learning quality, for this aspects may influence the credibility of the diplomas conferred by the institutions which adopt DL. Other points like the impacts on research and on the generation of innovations will also be discussed, as well as the repercussions on the labour market. This considerations are relevant for a New University Reformation is being discussed in Brazil nowadays, that's why society should reflect about the growing implementation of DL, which is an instrument of great potential, but can also present some risks if not implemented with social conscience and critical considerations.*

Keywords: *Distance Learning, Engineering Education*

1. Introduction

When one looks at the historical panorama on education in this country, one verifies that the necessities of the productive sector and the attempts to speed up the national technological development have generally given birth to public policies in the area of the education which were aimed to fulfill these necessities in the short-term, but which in certain ways overlooked some side effects in the long run or neglected some social groups. The consequence of all this is that a new University Reformation is being discussed, and part of its objectives is to promote social inclusion and, at the same time, to enable the country to generate innovations. In this context, Distance Learning (DL) assumes a significant role, for in a country of continental dimensions like Brazil, where educational exclusion is still immense, DL is being considered as a potential instrument of insertion of more people in some type of schooling or improvement, thus promoting social inclusion. Although still incipient in Brazil, less in the private sector than in the public one, some countries already adopt it vigorously, like England, Canada, Australia, countries of Scandinavia and the U.S.A. (United States of America), among others, which offer, according to Formiga (2003) "*Universidades Abertas, em seguida as Mega-Universidades (com mais de cem mil alunos que utilizam EAD)*" (Open Universities, followed by Mega-Universities (with up to one hundred thousand students who use DL)).

In Brazil, DL is not a recent phenomenon, but it has acquired impetus not only as a complementing instrument, but also as an instrument of basic education. Nowadays, the momentum which has been given to the diffusion of DL via electronical means is significant, making possible the introduction of this tool in all educational levels in a short period of time. Although DL can reach a huge number of people, on the other hand a serious reflection is necessary to make sure this instrument is not used indiscriminately. The objective of this paper is therefore to present an overview on Distance Learning in Brazil, taking into consideration some effects this instrument can have on Engineering Education.

2. DL in the current context of education in Brazil

According to Alves (access in 2004) "*A Educação a Distância - EAD começou no século XV, quando Johannes Guttenberg, em Mogúncia, Alemanha, inventou a imprensa...*" (Distance Learning – DL began in the 15th century, when Johannes Guttenberg, in Mainz, Germany, invented the press...).

Passing to a posterior stage, more structuralized, it can be said that the experiences of DL started when postal services began to be used to transmit educational contents in the 18th century. The use of mail to diffuse DL gained impulse from the 19th century on. With the advent of the radio, diffusion of educative programs started, specially in rural areas (Nunes, 1994). The radio was only the first step, amongst others that will follow, of technological innovations that had helped to spread out, faster and for a bigger number of people, the desired contents, what helped to characterize DL as instrument of penetration and social inclusion.

In Brazil, the first experience in DL can be situated in the turn of the 19th to the 20th century, as cited by Alves (access in 2004). The same author points out that DL via radio began in 1923 and that in the *Instituto Universal Brasileiro* (Brazilian Universal Institute) was founded in 1941 to provide professional training of intermediate and elementary levels. World War II and the technological development it inspired spurred DL tremendously. According to Nunes (1994) “*a necessidade de capacitação rápida de recrutas norteamericanos durante a II Guerra Mundial faz aparecerem novos métodos (entre eles se destacam as experiências de F.Keller para o ensino da recepção do Código Morse, v. Keller, 1943) que logo serão utilizados, em tempos de paz, para a integração social dos atingidos pela guerra e para o desenvolvimento de capacidades laborais novas nas populações que migram em grande quantidade do campo para as cidades da Europa em reconstrução*” (the necessity to rapidly train the American G.I.'s during World War II promoted the appearance of new methods (among them one can highlight the experiences by F. Keller on teaching the reception of Morse Code, v. Keller, 1943) which will soon be applied, in times of peace, to the social integration of those reached by war and to the development of new labour capacities in the populations that migrate in great numbers from the field to the European cities under reconstruction).

This quotation is also interesting, because it shows that the concept of using DL as an instrument of "social integration" has already been known since the end of the Second World War.

As time went by, technological new features as the advent of the television, the cassette tapes and, later, the dissemination of personal computers and of VCR's starting in the 70's and culminating with the Internet, in the 90's, also helped to popularize the idea of DL as an instrument of popular penetration, with increasing technological support.

In Brazil, the concept of DL has been spread since the foundation of *Instituto Universal Brasileiro*, in 1941, which specialized in education via mail. Nunes (1994) mentions that “*um levantamento feito com apoio do Ministério da Educação, em fins dos anos 70, apontava a existência de 31 estabelecimentos de ensino utilizando-se da metodologia de EAD, distribuídos em grande parte nos Estados de São Paulo e Rio de Janeiro*” (a survey made with support of the Ministry of the Education, by the end of the 70's, pointed the existence of 31 educational establishments using DL methodology, distributed in the States of São Paulo and Rio de Janeiro). From this point, one verifies the growing trend to concentrate the generation of DL contents in the great urban centers. The expansion of the EAD was accelerated as time went by, for since the Law of “Diretrizes e Bases”, published in 1996 (Brazil, 1996), this tool received legal support and permeated all school levels, including post-graduation. Recently, this instrument has been increasingly adopted by private companies.

Currently, the Ministry of Education (*Ministério da Educação - MEC*) continues attributing great importance to DL, having created a specific Secretariat for this purpose, the Secretariat of Distance Learning (*Secretaria de Educação a Distância - SEED*). The legal base for DL is concentrated in the Law of “Diretrizes e Bases” of the National Education (Law n.º 9,394, dated December 20, 1996) (Brazil, 1996), in the Decree n.º 2,494, dated February 10, 1998 (Brazil, 1990, a), in the Decree n.º 2,561, dated April 27, 1998 (Brazil, 1998, b) and in Ministerial “Portaria n.º 301”, dated April 7, 1998 (*MEC*, 1998). It is important to mention the emblematic “Portaria n.º 2,253”, of October 18, 2001 (*MEC*, 2001), issued by *MEC* and known as “Portaria dos 20%”, for it allows the institutions of superior education (ISE) to offer up to 20% of its regular subjects via DL. The bases for post-graduations “*lato*” and “*stricto sensu*” were established by Resolution n.º 1 of “*Conselho Nacional de Educação*” (National Education Council) on April 9, 2001 (*CNE*, 2001).

Based on the specific laws mentioned above, *MEC* established the goals of *SEED*, which consist in “taking for the public school all the contribution that the methods, techniques and technologies related to Distance Learning can give to the construction of a new paradigm for the Brazilian education”. For this, the Secretariat must exert a “normative, redistributive, supletive and coordinating” function among the educational entities. The activities of *SEED* are divided in 3 blocks: “Development of strategical projects; institutionalization of Distance Learning in the country and articulation of the institucional area and the civil society”.

The lines of action of the Secretariat are (*MEC*, access in 2004):

- To provide more opportunities wherever resources are scarce;
- to make the citizen familiar to the technology he uses on a regular basis;
- to give flexible and personalized answers for people who demand bigger diversity of types of education, information and training;
- to offer ways to bring up to date knowledge quickly;
- to increase educational spaces and
- to motivate the professionals and pupils to learn continuously, in any period of their lives.

With the concern to structuralize and to safeguard DL quality in the country, MEC, through SEED, established “Referenciais de Qualidade” (Guidelines of Quality) for DL, represented by the following aspects which are not laws strictly speaking (MEC, 2003):

1. integration with policies, lines of direction and defined standards of quality for superior education as a whole and for the specific course;
2. design of the project: the identity of DL;
3. professionals of many areas involved;
4. communication/interactivity between teacher and pupil;
5. quality of educational resources;
6. support infrastructure;
7. broad and continuous quality evaluation;
8. agreements and partnerships;
9. proclamation and information on the DL graduation courses;
10. costs of implementation and maintenance of DL graduation.

SEED still adds that “*Além desses aspectos, a instituição proponente poderá acrescentar outros mais específicos e que atendam a particularidades de sua organização e necessidades sócio-culturais de sua clientela, cidade, região*” (Beyond these aspects, the proponent institution will be able to add others still more specific and that it must see to it that particularities of its organization and the social and cultural necessities of its clientele, city, region should be satisfied).

This concern with the local particularities expressed by SEED meets one of the objectives of this work, which is exactly to show that DL may be an instrument of concentration of generation of contents by great urban centers or private groups, which may be an inhibition factor for the development of regional research and for the preservation of local cultural standards. It is suggested that the SEED should monitor this aspect closer, for it is not enough to trust only the institution, as the entity proposes in the quotation above, since concern with costs and the law of the lesser effort will encourage the elaboration of standardized contents that may be used nationwide. The problem may increase, for Portaria nº 2,253, of October 18, 2001 (Portaria dos 20%) (MEC, 2001), which regulates the “Offer of non-presential subjects in recognized presential courses - Institutions of Superior Education”, now enables DL to become an integrant part of presential courses, increasing still more, if not well managed, the risk of neglecting regional and national characteristics, concern expressed by SEED in the quotation above.

DL has also been frequently mentioned by entities and authors who have been discussing education in this country and the current University Reformation, as the ForGRAD (Fórum de Pró-reitores de Graduação das Universidades Brasileiras) (2004), and authors as Litto (2003), Demo (2000), Buarque (1994), Markovitch (1998) and others.

ForGRAD (2004), for example, defends the tripod education/extension/research and shares its thoughts on the part DL can play: “*A EAD pode ser vista como mais uma modalidade de organização de atividades de ensino e extensão das IES que pode contribuir para maior dinamização de seus projetos, alcançando segmentos populacionais hoje ausentes das IES, contribuindo para satisfazer amplas e diversificadas necessidades de formação e qualificação profissional. A grande demanda reconhecida para esta modalidade de ensino é a da formação de professores para a educação fundamental. Como já atestou formalmente o ForGRAD, é importante que haja clareza por partes das IES que a EAD deve estar inserida em seus projetos pedagógicos, como parte de suas políticas para o desenvolvimento do ensino, pesquisa e extensão*” (DL can be seen as another kind of organization of activities of education and extension of the ISE (Institutions of Superior Education) that can contribute to a bigger dinamization of its projects, reaching segments of population which today have no access to ISE, contributing to satisfy broad and distinct necessities of training and professional qualification. The great recognized demand for this kind of education is the training of teachers for basic education. As ForGRAD has already declared, it is important that all the ISE state clearly that DL must be inserted in its pedagogical projects, as part of its policies for the development of education, research and extension).

It is important to comment on the position of ForGRAD (2004). DL, according to the quotation above, will be a preponderant factor to reach “*segmentos populacionais hoje ausentes das IES (Instituições de Ensino Superior)*” (segments of population which today have no access to ISE (Institutions of Superior Education)) which is an important challenge if the country wants to reach the numerical objectives established by the PNE (Plano Nacional de Educação -National Plan of Education), (Brazil, 2001). This challenge consists of making the population of young people between 18 and 24 years of age enrolled in superior education reach 30% in the ten following years to its promulgation (2001). According to ForGRAD (2004) “*ocorre que no presente, quase três anos após esta promulgação, o sistema brasileiro alcança apenas 9% desta população*” (for the time being, almost three years after this promulgation, the Brazilian system reaches only 9% of this population). To reach such goal, the country will have greater necessity of qualified teachers, and DL will be one of the ways to reach this goal.

The relevance of DL in training and perfecting teachers, decisive factor to reach the quantitative objectives established by the PNE, is also defended by some authors as Buarque (1994), Litto (2003), Formiga (2003), Nunes (1994) and Demo (2000). This last author goes beyond, pointing out that “*as instrumentações eletrônicas*” (the electronic instruments) also bring advantages to get more quality in other activities: “*Cabe ressaltar a importância dessas instrumentações (circuito de tevê, vídeo, computação e informática, disco-laser) para a melhoria da qualidade*

da pesquisa, da relação teoria-prática, mas igualmente para o gerenciamento mais adequado e mesmo mais barato do processo de produção científica” (It is important to highlight the importance of these instruments (TV circuit, video, computation and computer science, laser-disk) for the improvement of the quality of the research, of the theory-practice relation, but equally for the most adequate management and even cheaper of the process of scientific production).

Demo (2000) also defends the "electronic instruments" as elements that propitiate a better management of the time of the teachers because of the "*redução expressiva das aulas expositivas, via vídeos, liberando os professores para pesquisa e para orientação de pesquisa*" (significant reduction of the presential classes by using videos, liberating the teachers for research and supervision of research).

DL has had an increasing importance in training teachers, what is proved by the fact the majority of the institutions accredited by MEC to offer DL superior education provide courses in the areas of education and training of teachers. However, Engineering courses are already being targeted, since the Pontifical Catholic University of Rio Grande do Sul is accredited by MEC to offer a DL-Chemical Engineering course. That means the phenomenon will very soon reach Mechanical Engineering: it is only a matter of time.

The current discussion on the University Reformation has significant consequences in the national environment of science development and technology, therefore whatever decisions are made will have enormous consequences in the future of the technological development of the country. And DL deserves a special reflection in this context, for it is a low cost and a penetration instrument, what enables it to be an instrument that can help the country to reach the numerical goals of the PNE (Brazil, 2001), at the same time promoting social inclusion. However, after "*Portaria dos 20%*", society has to consider whether DL really applies to all the types of training, mainly to specific cases like Engineering Education, which will be analyzed in the next item.

3. SOME CONSEQUENCES WHICH MAY MATERIALIZE IF DL IS IMPLEMENTED IN SUPERIOR EDUCATION, SPECIALLY IN ENGINEERING

3.1 - The labour market

If "*Portaria dos 20%*" is adopted by institutions who offer presential Engineering courses or if this institutions implement DL graduation courses, unemployment may raise in the regional level, but also in the urban centers where the DL-contents are conceived, for there will be a decreasing necessity of presential teachers. There is a team that elaborates the contents and some institutions keep monitors to help the students, but others do not. However, the number of graduated teachers who participate in the process can decrease, since DL contents can reach, theoretically, an immense number of pupils. Regionally, the problem is still bigger, for many teachers will not be hired locally and new institutions will not be created, since DL is cheaper and at any time can fulfill some of the activities performed by trained teachers.

Castells (1999) illustrates the point of view above when he says that: "*Estudos sobre a interação entre a transformação tecnológica e a reestruturação capitalista, conduzidos durante a década de 80, também mostraram que, com bastante frequência e antes de tudo, as tecnologias foram introduzidas mais para economizar mão-de-obra, submeter os sindicatos e reduzir custos do que melhorar a ou aumentar a produtividade por meios que não sejam redução de quadro funcional*" (Studies on the interaction between technological transformation and capitalist reorganization, conducted during the 80's, have also shown that, frequently and above all, technologies had been introduced mainly to save manpower, to submit the unions and to reduce costs rather than to improve or to increase the productivity by other ways which were not reduction of the working force).

The dissemination of DL contents basically generated in great urban centers will have some consequences: fewer teacher will be hired in the interior, which means that probably less research will be conducted. Moreover, regional talents who graduate locally will probably migrate to great urban centers in order to obtain better positions in the labour market. This process can cause a bigger impoverishment of the regions, closing a vicious circle of external dependence: the regions will receive contents generated by great centers and will export young talents to these centers.

As a direct consequence of this reduced necessity of teachers and of the exodus of the local potential talents, research in these regions will suffer immediately, that's why one can observe more and more universities where little or no research is done. That happens specially to private universities. This fact affects the development of the regions, for the DL-contents generated by great urban centers seldom contemplate regional characteristics. As fewer teachers are hired and only a few institutions are created in the interior, these regions cannot conduct research and development on local specificities that could generate innovations of great economic value. Regions like the Amazon and Pantanal deserve more research institutes, universities and labs dedicated to many different areas of knowledge to do research on such significant biodiversity.

DL may be a powerful instrument of social inclusion for it has the capacity to reach many people in all the points of the territory. However, although it increases the qualification in formal education, some precautions have to be taken to make sure DL will not harm actions of research and regional development, thus aggravating the problems already mentioned.

3.2. The risk of DL as an isolation factor

One risk DL presents in the current educational context is to increase the characteristic isolation of the education institutions, fact emphasized by the following quotation. Activities as Extension, that can be deeply productive for it promotes contacts with the community, may use this instrument not for pedagogical or social reasons (inclusion), but for mere convenience or to save costs. Moreover, personal contacts (not the virtual ones) create competences and critical spirit, not to mention analytical capacity and “perception of signals” capacity, one of the characteristics more requested by the labour market currently.

Buarque (1994) agrees to the relevance of the subject, when he emphasizes that “isolation” may cause some effects related to the perception of reality: *“Além do comodismo, é em grande parte por isso, para fugir e proteger-se do real, que a comunidade universitária muitas vezes repudia associações com empresários e sindicatos e relega a segundo plano as atividades de extensão. Nos países chamados de subdesenvolvidos, a universidade sofre outro tipo de repulsa ao real: vergonha dele. A consciência do privilégio que é a vida universitária em relação às favelas, visto em fotos “engajadas” dispostas nas paredes dos estúdios e laboratórios da academia, faz o universitário preferir esquecer a realidade que o cerca. Em uma visita ao prédio onde funcionam os cursos de ciências sociais na Universidade Federal do Rio de Janeiro, no centro da cidade, um conferencista ficou surpreso quando, ao falar sobre marginalidade e exclusão social diante de um público atento e comprometido, descobriu que nenhum dos alunos presentes havia percebido com espírito científico a existência de uma família que morava na calçada, sob um papelão, encostado à parede do prédio da universidade. Os alunos conheciam todas as estatísticas sobre a pobreza no Rio e no Brasil, mas passavam pela realidade sem a menor curiosidade”* (Besides trying to make things easier, and to a large extent, to run away and to protect themselves from reality, the university community many times repudiates associations with entrepreneurs and unions and relegates to a second plan the activities of extension. In the so-called underdeveloped countries, the university suffers another type of repulse to reality: shame of it. The conscience of the privilege that university life is when compared to life in slums, as seen in “engaged” photos which hang on the walls of the studios and laboratories of the academy, makes the college student prefer to forget the reality that surrounds him. In a visits to the building where the courses of social sciences in the Federal University of Rio de Janeiro function, in the center of the city, a lecturer got surprised when, speaking on marginality and social exclusion to a serious and committed audience, he discovered that none of the attending pupils had perceived with scientific spirit the existence of a family who lived in the sidewalk, under a cardboard, leaned against the wall of the building of the university. The pupils knew all the statistics on poverty in Rio and in Brazil, but they passed through reality without curiosity).

This quotation is related to the university as a whole and not specifically to DL, however, this contact with the present reality, not virtual, is vital for the development of competences and to the notion of citizenship, therefore isolation is a one-way street. Currently, one of hardest and widespread criticism against the university is exactly its distance from the community, despite the activities of Extension. As in Brazil the digital inclusion is still small, DL will not become a short-term panacea. Meanwhile, social problems generated by the lack of perspectives increase, mainly those related to the young population that does not have access to education. Therefore, as a response, the social abyss gets deeper, and the excluded ones start to exclude. Castells (1999) already had observed that: *“Quando a Rede desliga o Ser, o Ser, individual ou coletivo, constrói seu significado sem a referência instrumental global: o processo de desconexão torna-se recíproco após a recusa, pelos excluídos, da lógica unilateral de dominação estrutural e exclusão social”* (When the Net disconnects the Being, the Being, individual or collective, constructs its meaning without a global instrumental reference: the disconnection process becomes reciprocal after the refusal, by the excluded ones, of the unilateral logic of structural domination and social exclusion).

3.3. Competences

Currently an engineer has to be capable of working with professionals of others areas. For this to happen, it is necessary that the professional develops characteristics of interpersonal relationship and team work. Therefore, another important aspect to be mentioned is how DL deals with competences. The authors mentioned in this work (Buarque (1994), Demo (2000), Litto (2003) e ForGRAD (2004)) worry about the introduction of competence learning, as well as the role the university can play in the making of citizens. However, it is not evident that DL contents can develop these concepts in courses completely non-presential or, at least, without on-line communication among the pupils. Citizenship and competences are also acquired in classroom discussions with peers and teachers. The “Competence to work in team”, one of the ten competences mentioned by Perrenoud (2000), also requires personal contact, which brings us back to the suggestion already above, i.e., to implement partially presential courses or to see to it that the pupils keep contact with one another. This comments want to emphasize that on top of cultural impoverishment, sometimes the pedagogical aspects may also suffer a little, depending on the conditions in which the courses are developed.

3.4. Performance evaluation in DL

In relation to this, Pallof and Pratt *apud* Provenzano (Provenzano, 2003) admit that this issue is always mentioned and comment that: “*um dos receios que os professores expressam quando apresentamos nossas oficinas sobre ensino a distância está relacionado ao problema da “cola”. Todos querem saber como monitorar ou eliminar a cola do ambiente on-line. [...] se um curso for bem construído, se estiver centrado no aluno e incentivar sua reflexão e seu fortalecimento, a questão da cola não deve preocupar. Se os trabalhos estimularem o pensamento crítico e forem preparados para ser compartilhados com o grupo, os participantes adquirirão um sentido de responsabilidade na produção de trabalhos úteis para os colegas. [...] Nossa experiência demonstrou que, se confiarmos e delegarmos poderes a nossos alunos, eles passarão a perceber que são especialistas no que diz respeito à sua aprendizagem. Colar é algo irrelevante nesse processo porque, se o aluno o fizesse, estaria enganando a si mesmo*” (one of the fears that teachers express when we present our workshops on DL is related to the problem of "cheating". All want to know how to monitor or to eliminate “cheating” from on-line the environment [...] if a course is well constructed, if it is centered in the pupil and stimulates his reflection and his strength, the issue of “cheating” should not be a concern. If the activities stimulate critical thought and are conceived to be shared with the group, the participants will acquire a sense of responsibility in the production of useful works for the colleagues [...] Our experience demonstrated that, if we trust and delegate powers to our pupils, they will start to notice that they are specialists in whatever concerns their learning. “Cheating” is something irrelevant in this process because, if the pupil did it, he would be deceiving himself).

This optimistical vision of the authors does not softens the productive sector, which still does not trust the diplomas conferred by some entities which adopt DL, mainly because their performance evaluations lacks reliability. This lack of trust gets worse when the evaluation does not occur with the physical presence of the student, which makes it possible for the student to have “external help” while solving the questions of the tests. In Engineering Education the issue of performance evaluation becomes still more relevant, for the courses make the students deal with projects that can cause losses of life or property, in case these projects are badly calculated or implemented.

Peixoto (2000), whose work contributes to rescue qualitative and the subjective parameters in organizational performance evaluations, i.e., defends that, instead of being limited by conventional forms of performance evaluation based on numerical indicators, performance analyses should also consider the process as a whole and not only the agent, here in this case, the pupil. That means that, parallel to the evaluation of the pupils, it would be interesting to analyse the contents offered by the institution, the teachers, the physical aspects, the publications generated and any other relevant parameters, depending on what and on whom is being evaluated. Public policies have evolved in the educational sector: instruments like *Provão* (ENC - National Examination of Courses), *ENADE* (National Examination of Performance of Students, which substituted *Provão*), *ENEM* (National Examination of High-school Performance) and the recently *SINAES* (National System of Evaluation of Superior Education) (Brazil, 2004) demonstrate greater concern with this topic. *SINAES* indicates that the focus is already targeted at the process as a whole, for it not only promotes an evaluation of the pupil, but it also evaluates all the parameters involved in the process, like the teachers, the physical conditions physics, and other parameters of relevance. One expects that this line of performance evaluation also spreads out for the area of DL, for without a reliable system of evaluation of the process, it will be unfair to evaluate the pupils isolatedly.

Performance analysis related to DL courses deserves to be discussed by the *SEED* with all the involved social segments, in order not to preserve the credibility of the courses and make them accepted by the productive sector and by society in general. In case this credibility is not established, society will claim for mechanisms of Certification, in the line of what the Bar Association of Brazil (*Ordem dos Advogados do Brasil - OAB*) already practices currently, for the presentation of one's diploma is not enough to be admitted, therefore a written and oral examination is demanded, so that the candidate can become a member of the Order.

4. Conclusion

Through a bibliographical research, this paper showed the current context of education in Brazil, pointing out that DL is gaining momentum, for it saves costs and provide an opportunity for students who live far from the great urban centers to get access to learning tools. This phenomenon is already beginning to reach Engineering Education and tends to be amplified after the promulgation of “*Portaria dos 20%*” (Brazil, 2001). Although DL is an instrument of cheap implementation and it is, at the same time, capable of reaching a great number of people, it presents some risks that may arise if it is implemented in a way that does not take care of certain pedagogical aspects, specially those related to competences, citizenship and performance evaluation. It can also have some consequences on the labour market related to teachers and consequently on research. There are also risks related to the concentration of contents generated by certain institutions, which will export courses to the interior of the country. However, it has many positive aspects and among them one can mention the consulting work that some institutions perform for the productive sector and communities of localities located far from great urban centers, which takes into consideration the regional peculiarities. The paper proposes a serious reflection on these aspects, so that the Engineering Education community tries to implement this tool with serious prior consideration, making sure the courses will meet the required quality demands and, whenever possible, will see to it that local characteristics are preserved and enhanced.

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