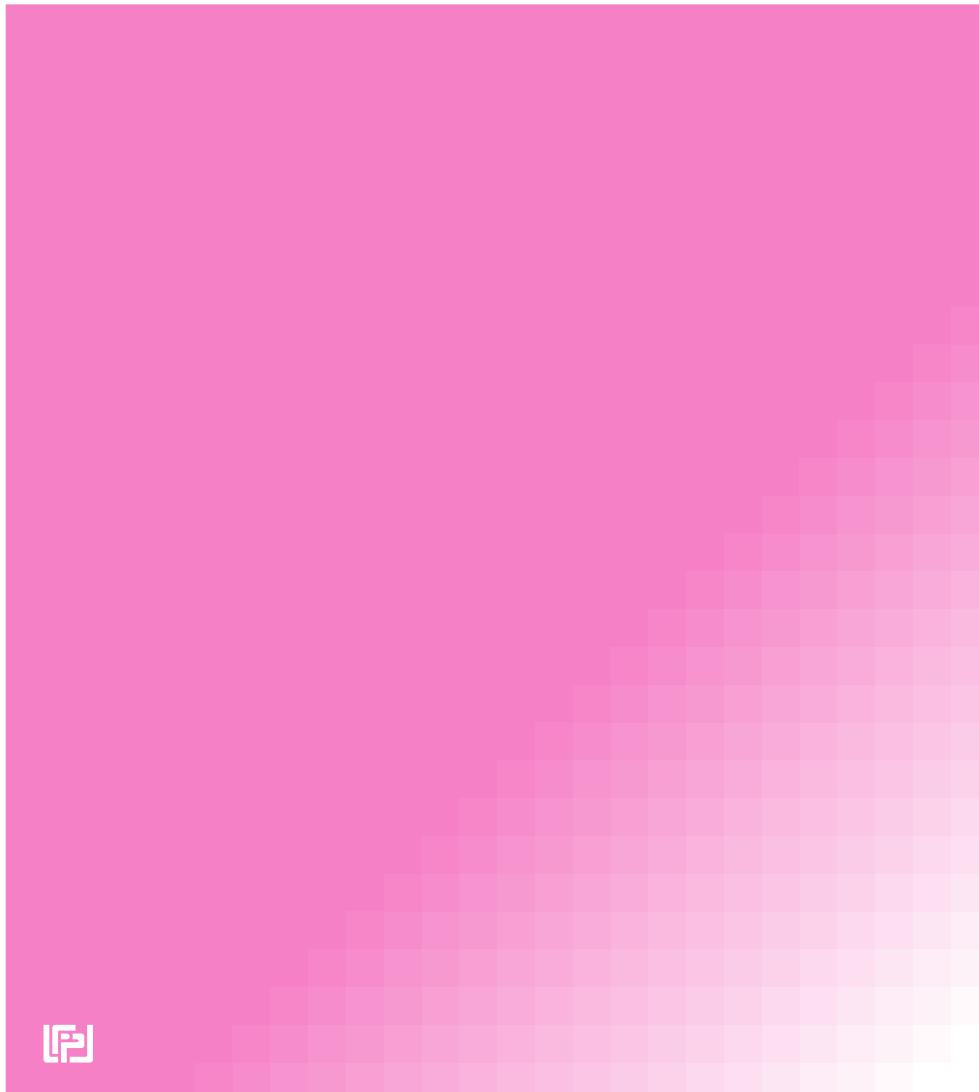


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Ensino à Distância: Desafios Pedagógicos Distance Education: Pedagogical Challenges

Publicação do CECLICO - Centro de Estudos Culturais, da Linguagem e do Comportamento

Universidade Fernando Pessoa



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Revista Cibertextualidades 04 (anual) - 2011

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EDIÇÃO

edições UNIVERSIDADE FERNANDO PESSOA

Praça 9 de Abril, 349 | 4249-004 Porto

edicoes@ufp.pt | www.ufp.pt

DESIGN E IMPRESSÃO

Oficina Gráfica da UFP

ACABAMENTOS

Gráficos Reunidos

DEPÓSITO LEGAL

241 161/06

ISSN

1646-4435

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PORTE UNIVERSIDADE FERNANDO PESSOA 2011

Learner characteristics in Distance Education (DE): Presentation of an instrument and context

Paulo Rurato¹

(Translated by Fátima Silva)

Abstract: Faced with the great changes occurring in the workplace as well as the challenges placed by the Information Society and by Globalization demand a new perspective for education, continuous training and lifelong learning. Under such conditions we can expect that actual education structures will not be able to respond well to these challenges.

New methods demand new organization alternatives that, in turn, require new educational policies and the rethinking of education itself.

DE is a challenge by itself, placing new demands both to the learners, and facilitators. Schrum and Hong (2002) identify a set of seven dimensions for a distance learning environment, which allows the setting of positive learning experiences: (1) access tools; (2) technology experience; (3) study habits and skills; (4) life style factors; (5) goals and purposes; (6) learning preferences; (7) personal characteristics.

The thesis defended in this paper holds that learners, when asked about their characteristics, considering a transversal approach focusing on different aspects of their family, personal and professional life, the available technology resources, technology skills, as well as motivation and learning preferences, provide a preview of a set of information that, if made available to facilitators, allows both players (learners and facilitators) access to the mechanisms that ease the adoption of learning strategies, that enhance the possibility of a well-succeeded learning experience.

Key words: Learners Characteristics, Distance Education

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1. Introduction

In today's world, where a large section of the population is lacking in primary resources, education is seen as a factor for change. However, absence of the human resources required to train populations on a large scale renders it impossible to put such training into practice.

The Teaching Institutions, and, in our particular case, those providing DE, are faced with the need to supply answers to these questions and requests, reinforcing their interaction with Society, making their training more flexible and suiting it to lifelong learning, shaping citizens rather than professionals.

Alterations in the paradigms of Face-to-Face Teaching, which seek to provide a more flexible and individualised training, centring the teaching process on learning instead of teaching and attempting to prepare learners for a citizenship and a way of living where they are constantly learning and developing, have allowed for the introduction of new teaching/learning methods. The introduction of technology-based tools, if properly done, can remedy some of the problems mentioned, allowing for a simultaneous personalisation of learning and widening of the target public.

DE seen here as a form of teaching based on Information and Communication Technologies (ICTs) will thus take on an

increasing role in teaching/learning courses, whatever their philosophy and intent. DE can be defined as being a formal, instruction-based educational process, where the group of learners is separated and where interactive telecommunications systems are used to connect learners, resources and facilitators (Schlosser and Simonson, 2002).

Hence, the thesis holds that it is possible to have advance knowledge, as reliable as possible, of the potential distance learners, in a set of situations that portray their personal, family and professional life, which can be used by facilitators to introduce learning strategies appropriate for these characteristics.

2. Background and Guidelines of the Work

In the past four decades, a quantity of new knowledge has been generated that is greater than that of all the preceding history of humanity (McCormack *et al.*, 1998, *in* Óscar Mealha, Caixinha and Ramos, 1999). It has, thus, become necessary to conceive new modes of transmitting knowledge adapted to new publics, which must necessarily include increased flexibility and the redefining of the traditional teaching space (Óscar Mealha *et al.*, 1999).

A review of the research carried out in this field reveals that the exponential growth of DE over recent years has not been duly accompanied by exhaustive analysis of the

phenomena related to this methodology. Most of the research was aimed at comparing DE with face-to-face teaching. However, despite the evident usefulness of that research, which has meant that we now have a real perception that distance learners behave in the same way and have similar levels of satisfaction and success as in face-to-face teaching, there are still many questions and problems to be resolved (Illera, Escofet and Martin, 2002).

Thus, to provide information that will allow the institutions involved in this area to understand the challenges of DE and thereby construct effective learning environments, one must research and identify the dimensions that characterise a successful distance learner.

Several authors, including Moore (1990), Gibson (1990) and Keegan (1996), after analysing DE statistics and success rates, have observed and identified certain characteristics as being more conducive to learner success in DE, and which, according to Holmberg (1995), are far from being uniform.

Defining such characteristics may help us to understand (or at least to make learners, facilitators and other involved parties reflect on) who has the appropriate profile (in the sense of being the best suited to the demands of DE), according to pre-established parameters, thereby avoiding taking on distance learners likely to fail.

It is important to select the format that will supply the best chance (for success) for each learner, individually. However, previous research on DE indicates that existing information is scarce, specifically with regard to explaining and understanding the individual differences between distance learners.

Teaching/Educating at a distance is a challenge since it places new demands both on learners and facilitators. Schrum and Hong (2002a) supply a group of seven dimensions to be applied in distance education environments, which permit positive and successful learning experiences. The identified dimensions which were confirmed by their research are: access to technological resources; technology experience; study habits and skills; lifestyle factors; goals and purposes; learning preferences and personal characteristics.

This research aims only to investigate and understand the characteristics of potential distance learners in order to understand them better and thus meet their needs and anxieties, ensuring the successful conclusion of a distance course or programme.

It can thus be said that current DE systems are not adapted to learners' personal characteristics, implying that they neither correspond nor respond to the needs and interests of learners (learning strategies).

The following points should be taken into consideration:

- It is easy to overlook a DE course, due to personal, professional and family circumstances, unless there are strong reasons to complete it;
- Some learners prefer the independence of DE, others consider it uncomfortable;
- DE courses allow greater freedom of time management, but simultaneously require greater self-discipline;
- Some people learn better through face-to-face interaction with other learners, but this interaction is not always possible on a DE course;
- A DE course requires working preferentially with written instructions, with the facilitator's explanations only acting as support or aid;
- A DE course requires as much or more time than in the classroom;
- A DE course uses technology to teach and communicate. Learners need to feel comfortable using a computer and other technologies, as well as downloading and uploading the assignments;
- Text-based materials are the first resource and source to direct and support learners in a distance course. Some distance courses require occasional face-to-face sessions for orientation and sitting tests.

3. The option for Distance Education

Since the 1950s, with the expansion of research in social sciences, all the research in the scope of DE has been based on comparisons with face-to-face education.

Although researchers continued to conduct comparative studies, their usefulness in revealing more information decreased over the years since, invariably, results showed no significant difference between the various forms of teaching/learning, whichever form was used (Saba, 2000). More recently, researchers have gone beyond comparative studies and have introduced new methods, such as content analysis and interviews to players in the educational process. These new methods permit not only the acquisition of resources to build a theoretical framework, but also the ability to understand the many methodological and theoretical limitations, which involve the wide range of DE formats. All these studies have revealed the complexity of DE, indicating the existence of many variables, in addition to other important elements in terms of DE, such as the economic and social issues that affect this domain (Saba, 2000).

3.1. What justifies DE?

This question may seem far-fetched; however, there are good reasons for asking it.

Some people assume that DE does not differ substantially from face-to-face teaching, thus arguing that, if face-to-face teaching is good and it is possible to teach at a distance, then this opportunity should be taken. On the other hand, however, others see advantages in DE in relation to face-to-face teaching. These include: greater scope; more favourable cost/benefit ratio and, mainly,

greater flexibility (both for the facilitators and the learners) because they believe in the possibility of personalizing DE, at such a level that it reaches individualization. Contrary to these two favourable positions to DE, there are those who believe that in this system the participants lose their personal dimension which, although not necessary to education itself, is essential to effective education.

Leaving the second position aside for this moment, it can be said that there is an obvious contradiction between the first and third positions. In fact, the defenders of the first assume that there are substantial differences between DE and face-to-face education, while those who defend the third believe that the potentiality of DE removes something important – or even essential – from the teaching relationship, namely its personal character, which, in their opinion, is what makes it efficient.

Nowadays, the personal nature of a relationship is independent of the time and space proximity, and it is possible to maintain personal relationships at a distance, using the available means of communication, which involve text, sound and image (static and moving). On the other hand, the mere spatio-temporal contiguity does not guarantee that a relationship is personal; for instance, the existence of classes with many students results in a very impersonal relationship, despite the proximity in time and space. In these contexts, the facilitator does not often know all the individual characteristics, which

are of extreme relevance to ensure efficient education.

Face-to-face communication, during which one can easily detect differences of nonverbal expression (voice tone, pitch and volume, speech rhythm, pauses, subtle emphases) and body language (especially facial expressions, in which the look is the most significant characteristic, but also posture, hand, arm and leg position, possibility of physical contact, etc.), is more effective in traditional teaching than in DE, even with the use of all the resources that technology today places at our disposal.

On the other hand, the points of view of those who claim advantages in DE over face-to-face teaching are also considered. The reasons that they mention are analysed below.

However, there is no doubt that the range that DE reaches is greater than face-to-face teaching, whether through instructor-led courses via the Internet, television, radio, correspondence or any other. Indeed, they thereby reach many more people with the same, or even lower, investments and resources.

Regarding the cost/benefit ratio, the question is a little more difficult to evaluate since the cost of developing quality DE programmes (involving, for instance, television, video, or the use of specialised software) is extremely high. In addition, distribution and “broadcasting” also have a

reasonable cost. Hence, if they are distributed through commercial television networks, the cost of transmission may be even higher than the cost of development, with the drawback that it is a recurring cost. Thus, these programmes only offer a favourable cost/benefit ratio with (in number of individuals potentially covered) a really significant range. On the other hand, a good DE programme can be offered and taught several times, without affecting the cost of development.

Nowadays, many institutions interested in DE are searching means to reduce the cost of development, which, unfortunately, rarely happens without a reduction in quality. This happens because, instead of using sophisticated media such as television and video, the institutions predominantly use text printed in the development of the course, distributing it through the Internet (with lower costs, both in the development and broadcasting). Thus, DE becomes a kind of more refined correspondence education using technology, with the distribution of texts via the Internet rather than conventional mail.

Concerning greater flexibility, and since DE uses both synchronous and asynchronous communication technologies, there is no doubt that, in the case of the latter, both facilitators and learners have greater flexibility to determine the time and the schedule dedicated to teaching and learning, respectively.

The possibility of personalization is a vitally important factor because it is precisely this point that the defenders of DE mostly emphasise. Moreover, most professionals working in this field realise that each person is different from the others, with their own needs, their personal goals and their learning preferences, using the learning strategies that best suit them and at their own pace. It is also essential to stress that when the learners are adults new elements must be considered, mainly time availability, family, social and professional responsibilities, and personal determination; thus, teaching/learning strategies must consider all these factors.

In the area of adult education, the literature shows that the use of interactive learning environments contributes to the development of self-direction and critical thinking. Additionally, the semi-autonomous and self-directed nature of a DE environment provides a creative and innovative atmosphere. It can be seen that, in these environments, the facilitator and the learner collaborate to create a dynamic learning experience. Thus, the facilitators should take the opportunity provided by these changes to redesign their educational materials and to adapt to this new reality, reflecting on their objectives and the used teaching/learning style. This may lead them to discover that many of the qualities that make a facilitator successful in traditional education also apply, with some minor alterations, to DE.

It is equally essential for learners and facilitators to possess a minimum of technological knowledge, including knowledge on the use of a computer. For example, they need to know how to navigate and explore the *Web*; be familiar with tools, such as discussion groups, procedures associated with file transfer (FTP) and electronic mail; use, without problems, the most common software such as Windows and Office programs, besides others which may be necessary for a certain module or course. If they cannot use these tools correctly, it will be difficult to succeed in DE.

Technological limitations also represent a critical factor because even the most sophisticated technology is not 100% reliable. Frequently, the problem does not lie in the kind or the quality of the equipment used but rather when it will fail because, in fact, breakdowns can occur at any time and at any stage of the process. In this situation, technology can be a barrier and, thus, constitute a negative learning experience.

Another aspect to consider is that, while a particular method of education may be the most appropriate for a mature and self-disciplined learner, it may be inappropriate for someone who is more dependent. In addition, DE allows learners to take control over their learning experiences, giving them flexibility to study at the time they want; however, it also gives them greater responsibility. Thus, to be successful, learners must be organised, self-motivated and

possess a high degree of time management skills in order to keep up with the pace of the course. For these reasons, DE is appropriate neither for younger learners (school age – preparatory and secondary), nor for learners that are more dependent and have difficulties in assuming responsibilities (required in DE).

As a summary, we list some advantages/disadvantages of DE (Table 1):

Table 1 – Advantages and Disadvantages of DE (Rurato, 2008).

| Main advantages |
|--|
| Allows greater availability and differentiated study rates |
| Eliminates space and time barriers, opening training paths to people who have difficulty travelling or having a study schedule |
| Stimulates self-learning, allowing continuous personal development, giving individuals more autonomy |
| Fosters continuous acquisition of new knowledge, in order to face new personal and professional competences |
| Gives rise to more open methods and work formats, which involve the sharing of experiences |
| Eliminates the problem of the geographic dispersion of students |
| Optimises resources with significant reduction in training costs, especially in time, journeys and stays |
| Ensures and promotes experimentation and familiarity with technology and with new telematic services |
| Allows successive and necessary repetitions to study the contents |

Makes the course contents more suitable and attractive, especially those in multimedia format

Permits learners to conciliate studying with their professional and family life

Enables learners to choose the learning method that best fits their style and possibilities

Allows matching of training opportunities to the needs of a given population

Is also accessible to people with special physical difficulties or isolation

Main disadvantages

Does not foster a human student/teacher relationship typical of a classroom

Does not generate unexpected and immediatistic reactions

Requires high initial investment, that is, many resources to create the course, especially for multimedia format products and support

Demands some technological knowledge (computing and multimedia)

Faces some obstacles related to the reduced confidence in this type of educational strategies, from the more conservative sectors that are resistant to innovation and change

Is still not well-known

Finally, DE can only be considered advantageous if the arguments which refer to flexibility, accessibility, rationalization of resources, interactivity, and others mentioned above, ensure pedagogic results similar, or even better, to those obtained with traditional education.

Many issues still have to be considered in order to determine the advantages and disadvantages of DE. However, the following

information is true: DE is one of the most powerful tools that help to shape the future (Delors, 1996). Consequently, to contribute to an increasingly interdependent world, an effort must be made to maximise the benefits and reduce, or eliminate, the disadvantages of DE. Finding an effective and balanced way of doing this, and at the same time, finding innovative means to do so, will, thus, be the work of educators committed to DE.

Coldewey (1982) identified the following reasons which limit research activities in DE: researchers in the field of education are rarely, or never, present during the design of DE systems; there is no clear research paradigm in DE so it is difficult to attract funds to develop research activities in this area; educational researchers often ask questions of no, or virtually no, practical or theoretical relevance; DE researchers test variables which, in fact, are classes of variables (such as the comparison between the distance and classroom learning).

4. Characteristics for a successful distance learner

Completion of a DE course requires learners to have different skills and attitudes, among which (Indiana College Network, 2004): accessibility to the necessary technological tools; willingness to share their educational experiences with others, in an open and friendly environment, which makes more timid learners feel more comfortable and at ease; ability and proficiency to

communicate mainly through writing; self-motivation and self-discipline, because the freedom and flexibility in this environment imply being, above all, responsible and disciplined; learners must ensure that the facilitator knows their problems as it is not possible for the facilitator to have an exact perception of some reactions (confusion, annoyance, frustration, etc.); thus, in case of difficulty, learners must take the initiative to communicate this to the facilitator so that they can be helped; be prepared to spend as many, or more, hours per week as on a traditional course; ability to meet the requirements (which must be similar to those of a traditional teaching course); and think critically, enabling them to make decisions regarding learning as these will be required based on facts and experience.

Thus, which skills are required for a distance learner to be successful?

The required, and often demanded, skills are not arbitrary decisions; on the contrary, they need to be adopted because they increase the likelihood of a learner being successful, which is a fundamental issue in DE.

As Holmberg (1995) points out, there is, in fact, no evidence that DE learners are a homogenous group; however, it is equally true that many share certain characteristics that can provide the basis for the profile of the typical distance learner. Despite this range of characteristics, they usually reflect a combination of demographic and situational

variables, such as age, gender, ethnic group, geographic location and family and social situation.

Hence, from the great number of studies on this subject, it is possible to extract a group of basic characteristics, accepted by most researchers and educators, enabling us to view the distance learner as someone who is (Thompson, 1998): older than the typical undergraduate, female, employed on a full-time basis, and married.

While the early research in this area explored the demographic characteristics and the family and social situation, in recent years there has been a change and greater attention has begun to be attributed to affective characteristics of DE learners. However, much of the literature continues to reflect the desire to develop a profile of the distance learner, especially in terms of personality, learning styles and motivation.

Many authors, including Moore (1986), Gibson (2003), and Keegan (1996) have, thus, observed, based on an analysis of statistics and success rates of DE learners, and identified certain characteristics which are more likely to lead to success in DE.

Thus, some of the characteristics of the distance learner are: adult, aged between twenty and forty; full-time professional; studying *part-time* from home (Schrum and Luetkehans, 1997); organization and concentration skills; self-motivation;

maturity; self-discipline; autonomy; persistence; independence; assertiveness, self-direction; flexibility (temporal and material), and adaptability (Neely, Niemi and Ehrhard, 1998); access to a wide range of technologies (Petty e Johnston, 2002).

In addition, it is practically impossible to describe an adult learner in specific terms, since there are probably as many styles, differentiated needs and apprenticeships as adult individuals on the planet. Nevertheless, it can be said that every adult has the potentiality and the potential to progress and undertake learning activities (Hiemstra, 2002).

Providing information that allows institutions in this area to understand the challenges of DE, and, thus, construct effective learning environments, it is necessary to investigate and identify the dimensions that characterise a successful distance learner.

Schrum and Hong (2002a) identified seven dimensions, confirmed as significant, among which there are no substantial differences, that is, none unequivocally overlaps the others. These dimensions are: technology resources; technology experience; study habits and skills; lifestyle factors; goals and purposes; learning styles and personal characteristics.

Although these dimensions are presented separately, in reality, they do not function independently, on the contrary, they are interrelated. They thus function together to

support or challenge the learner, and it has been noticed that the absence of any of them does not allow the whole to be complete (Schrum and Hong, 2002b).

In short, all educators agree: with the importance of learners having access to the appropriate tools, and having previous experience with the technology to be able to correctly use the potentialities of DE; that the factors relating to lifestyle, such as completing tasks in time, play an important role in their ability to finish a DE course or programme; with the relevance of the importance attributed to learning preferences, and that self-discipline is one of the most important and decisive factors contributing to the success, or otherwise, of DE, although neither study habits and skills nor personal characteristics are considered absolutely fundamental.

5. Instrument

5.1. Reasons for search and contextualization

The reasons for the choice of this instrument relate to the fact that it was the one that came closest to the object of our research, analyzing a set of dimensions, repeatedly referred to in the literature in this area, but for which there was no available instrument that made them operational. As a result of research undertaken with regard to the studies carried out by Lynne Schrum of the University of Georgia, we found a survey

which she elaborated herself, based on her research and created for the Board of Regents of the University System of Georgia. After this discovery, the survey was translated and adapted to the Portuguese context for the adult learners who wanted or intended to take a distant course. Thus, we used this survey (SORT – Student Online Readiness Tool - <http://alt.usg.edu/sort/>), which aims to aid learners to make the most accurate decision before committing themselves to a distance course, since they can reach the conclusion that this methodology is not the most appropriate for them. The adaptation of this survey "respected" Lynne Schrum's original research. In this respect, she has always reported the existence of seven dimensions and not six as in the case of SORT, in which there is no item about personal characteristics (Table 2).

A further survey was later found, which, although not as directed as the above mentioned, had a set of items that, after duly

adapted and translated, would perfectly fit into this research. We, thus, used many of these items to add to the survey that was the basis of the one used in this research – the SORT – resulting in much more balanced dimensions, in terms of the number of questions. This survey, authored by James White of the University of South Florida, is also available online (www.coedu.usf.edu/jwhite/survey1/dld599.html).

5.2. The Instrument – Analysis of Learners' Characteristic in a DE context

Analysis of existing literature and research on the characteristics of a successful distance learner identified seven dimensions as critical factors with impact on the success of adults who want to learn at a distance. The survey, based on research by Schrum and Hong (2002b), consisted of seven dimensions, namely technology resources; technology experience; study habits and skills; lifestyle factors; goals and purposes; learning styles and personal characteristics.

Table 2 – Comparison between the Dimensions of the Original Survey and the one used in this Research (Rurato, 2008).

| SORT – Student Online Readiness Tool | Survey used in the research |
|---|-------------------------------------|
| Access to Tools – 12 items | Technological Resources – 14 items |
| Technology Experience – 9 items | Technology Experience – 14 items |
| Study Habits and Skills – 9 items | Study Habits and Skills – 12 items |
| Lifestyle Factors – 6 items | Lifestyle Factors – 12 items |
| Goals and Purposes – 6 items | Goals and Purposes – 12 items |
| Learning Preferences – 11 items | Learning Preferences – 12 items |
| Personal Characteristics – 0 items | Personal Characteristics – 12 items |

The instrument has a total of 88 items, distributed among the dimensions already listed, each of which will be explained.

Learner access to the tools or **technology resources** is obvious, but its importance is not always considered and it is even often undervalued. This dimension (14 items) analyses the existence and the requirement of minimum conditions at the level of technology resources, since technologies are increasingly present in the teaching/learning strategies of this model. This fact will have increasing implications in the access to the indispensable tools, to the required skills and to essential information. The items in this dimension are analyzed through a set of options that the learners choose, considering their particular case.

Technology Experience of learners is a factor which also influences their success in DE. This dimension (14 items) analyses their competences in this field, attempting to understand their position regarding the need to be updated and their ability to resolve unexpected, but likely, situations, without necessarily being an expert.

Learners' study habits and skills aims to analyse whether they have a set of practices and skills to be successful in DE. This dimension (12 items) analyses their suitability in terms of expression/interaction skills, control over their learning and management of time, thus allowing them to cope with the

demands of time, pace and interaction that DE involves.

The dimension **lifestyle factors** analyses whether learners have a lifestyle in keeping with the requirements, at various levels, to someone wanting to take a DE course. This dimension (12 items) attempts to understand if the learners have some flexibility in their schedules, if they have a learning environment with the minimum conditions to be able to study in peace, if their family and friends support them, and if there is professional compatibility. All these factors have an influence on the final result, which we hope will be favourable.

The dimension **goals and purposes** analyses learners' predisposition towards a distance course. This dimension (12 items) attempts to study learners' original intention in enrolling in a distance course or programme, since their level of motivation to participate and commit themselves to learning is of outmost importance. Apparently, learners' motivation is a topic that generates a lot of discussion between distance educators and the educational community in general. Motivation seems to be a key factor, but not by itself.

The dimension **learning preferences** analyses the way(s) we like to learn, how we process and recall information. This dimension (12 items) attempts to understand the most accessible means for learning. Educators have much to gain from the knowledge of individual learning

preferences. The attempt to understand our learning preferences is, in itself, no value judgment; as such, in this dimension nobody has low or high learning preferences.

The dimension **personal characteristics** analyses the way in which individuals deal with their daily activities. This dimension (12 items) attempts to understand learners' pattern of behaviour in subjects that go beyond their studies, but which are also directly or indirectly linked to educational activities in general, seeing that the learners' personal responsibility in all this process is fundamental.

We have chosen to use an instrument created and adapted to the Portuguese context even though it is still in an exploratory stage and for which there are no previous empirical studies that allow comparison with our results.

6. Conclusion

DE has a great impact on thought and practice throughout the educational system, regarding critical materials, such as how learners learn, how they can be taught in a better way and how educational resources can be more efficient and organised. On the other hand, DE is unequivocally linked to ICT innovation, and the identification of new learning needs and new ideas about how information can be accessed and applied. In particular, DE has the potential to highlight a more learner-centred educational approach, leading, in turn, to a more intense contact

between educational institutions, on the one hand, and between companies and industries, on the other.

It can also be seen that the penetration of technologies in life today, at work and in social interaction, has changed the traditional view of our societies, affecting our political, economic, social and educational systems, both internally and at a global level. Thus, in the 21st century, the prosperity of each nation is related to the capacity of their educational systems to be successful and implement the necessary changes in order to offer citizens quality educational opportunities, regardless of time, place and resources.

However, there are some current affairs in DE, at a European level, that are open and that, according to UNESCO (2002b) can be summarised as follows:

- Make DE coincide with the needs of the development of Human Resources, and the future integrated development of Human Resources policies and educational strategies;
- Mobilise conventional institutions to the implementation of distance teaching/learning strategies, and, at the same time, capitalise the experience and resources of many institutions specialised in DE;
- Need to innovate, both in conventional and DE institutions, regarding the effective use of ICT for teaching/learning purposes, based on efficient educational strategies, research, and accessibility

- to the required infrastructure and connectivity, with acceptable costs;
- Importance of continuously recognizing qualifications gained through DE methodologies;
- Importance of developing quality standards in DE systems, in both the public and private sector;
- Need to find the balance and synergies between national and European development, regarding policies, appropriate infrastructures, quality and equivalence standards, joint development projects and support systems;
- Help to develop programmes and create DE infrastructures in regions where development is insufficient.

It is, thus, necessary to revise our educational paradigms so that they might constitute teaching/learning systems that effectively permit inclusion and continuous training of individuals who are subject to organizational changes arising from the Information Society.

We can thus state that current DE systems are not adapted to learners' personal characteristics, which implies that they do not correspond or respond to learners' needs and interests (learning strategies).

To conclude, it can be mentioned that, in the current context, the promotion of a quality learning experience, based on the knowledge of learners' needs, their expectations and characteristics as learners,

constitute the cornerstone to having increasingly autonomous learners, who are responsible and effective, founders of a learning culture that will permit lifelong learning with consistency, persistence and discipline and, fundamentally, success.

References

- COLDEWAY, D. O.** (1982). Recent Research in Distance Learning. In J. S. Daniel, M. A. Stroud e J. R. Thompson (Eds.), *Learning at a Distance: A World Perspective* (pp. 29-37). Edmonton, Alberta, Alberta University.
- DELORS, J.** (1996). Education for tomorrow. *UNESCO Courier*. [Online]. Available in http://findarticles.com/p/articles/mi_m1310/is_1996_April/ai_18365779/ [Accessed on 26/03/2005].
- GIBSON, C. C.** (1990). Learners and learning: A discussion of selected research. In M. G. Moore (Ed.), *Contemporary Issues in American Distance Education* (pp. 121-137). New York, Pergamon Press.
- GIBSON, C. C.** (2003). Learners and Learning: The Need for Theory. In M. G. Moore e W. G. Anderson (Eds.), *Handbook of Distance Education* (pp. 147-160). Mahwah, NJ, Lawrence Erlbaum Associates.
- HIEMSTRA, R.** (2002). *Lifelong learning. An exploration of adult and continuing education within a setting of lifelong learning needs* (3rd ed.). Fayetteville, New York, Hitree Press.
- HOLMBERG, B.** (1995). Theory and practice of distance education (2nd ed.). London, Routledge.

- ILLERA, J. L., ESCOFET, A. AND MARTÍN, M. V.** (2002). *La influencia de las diferencias individuales en la percepción de los entornos de aprendizaje virtual*. Conferência Internacional sobre Educação, Formação e Novas Tecnologias. Valéncia, 12-14 June.
- INDIANA COLLEGE NETWORK** (2004). *Becoming a Successful Online Student*. [Online]. Available in www.icn.org/studentservices/success.html [Accessed on 2/11/2004].
- KEEGAN, D.** (1996). *Foundations of Distance Education* (3rd ed.). London, Routledge.
- MOORE, M. G.** (1986). Learners and Learning at a Distance. In *Proceedings: Second Effective Teaching at a Distance Conference*, Madison, Wisconsin. Department of Continuing and Vocational Education (pp. 8-45). [Online]. Available in http://www.ed.psu.edu/acsde/pdf/learners_learning.pdf [Accessed on 30/04/2002].
- MOORE, M. G.** (1990). Recent Contributions to the Theory of Distance Education. *Open Learning*, 5(3), 10-16.
- NEELEY, L., NIEMI, J. A. AND EHRHARD, B. J.** (1998). Classes going the distance so people don't have to: Instructional opportunities for adult learners. *T.H.E. Journal*, 26(4), 72-74. [Online]. Available in www.thejournal.com/magazine/vault/A2039A.cfm [Accessed on 23/03/2003].
- ÓSCAR MEALHA, P. A., CAIXINHA, H. AND RAMOS, F.** (1999). *A Universidade Virtual – a flexibilidade espacial e temporal do novo paradigma de ensino*. [Online]. Available in www.bocc.ubi.pt/pag/almeida-pedro-universidade-virtual.pdf [Accessed on 24/06/2006].
- PETTY, I. L. AND JOHNSTON, J.** (2002). *Handbook of Distance Education for Adult Learners* (1st ed.). Published By Project IDEAL, Institute for Social Research, University of Michigan. [Online]. Available in www.intelecom.org/ilrn/adulted/crc/crcpdf/projectideal_handbk.pdf [Accessed on 16/03/2006].
- RURATO, P.** (2008). *As Características dos Aprendentes na Educação a Distância – Impacto no Processo Educativo com vista ao Desenvolvimento de Estratégias de Sucesso*. Tese de Doutoramento em Gestão Industrial. Aveiro, Edição do Autor.
- SABA, F.** (2000). Research in Distance Education: A status report. *International Review of Research in Open and Distance Learning*, 1(1). [Online]. Available in www.irrodl.org/index.php/irrodl/search/results. [Accessed on 12/04/2005].
- SCHLOSSER, L. A. AND SIMONSON, M.** (2002). *Distance Education: Definition and Glossary of Terms*. Bloomington, IN: Association for Educational Communications and Technology. [Online]. Available in www.nova.edu/~simsmich/jan%2024.pdf. [Accessed on 20/03/2006].
- SCHRUM, L. AND HONG, S.** (2002a). Dimensions and strategies for online success : Voices from experienced educators. *Journal of Asynchronous Learning Networks*, 6(1). [Online]. Available in www.sloan-c.org/publications/jaln/v6n1/v6n1_schrum.asp. [Accessed on 22/06/2004].
- SCHRUM, L. AND HONG, S.** (2002b). From the Field: Characteristics of Successful Tertiary Online Students and Strategies of

- Experienced Online Educators. *Education and Information Technologies*, 7(1), 5-16. [Online]. Available in www.springerlink.com/content/?k=Schrum. [Accessed on 31/01/2006].
- SCHRUM, L. AND LUETKEHANS, L.** (1997). A primer on distance education: Considerations for decision makers. Washington, DC, Association for Educational Communication and Technology.
- THOMPSON, M. M.** (1998). Distance learners in higher education. In C. C. Gibson (Ed.), *Distance Learners in Higher Education: Institutional responses for quality outcomes* (pp. 9-24). Atwood Publishing.
- UNESCO** (2002b). *Teacher Education Guidelines: Using Open and Distance Learning*. [Online]. Available in <http://unesdoc.unesco.org/images/0012/001253/125396e.pdf> [Accessed on 03/03/2006].