



New face and developments – a teamwork

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As the founder and coordinator of the DislexiaBrasil I will here outline the changes in the original version of the website as a result of research and demands from teachers for certification. I will present the embryo of our project for teacher training using the Moodle version of DislexiaBrasil and will emphasize the importance of the involvement of both the Center of Distance Education of my University (UFMG) and the Brazilian Open University (UAB) and the commitment of my team in the development of this project.

How did DislexiaBrasil come about?

The website *DislexiaBrasil* (<http://dislexiabrasil.com.br/>), the Brazilian Portuguese version of the Online Learning Course *Basics for teachers: Dyslexia – How to identify it and What to do*, is the result of a partnership established with Dyslexia International following the Paris World Dyslexia Forum in 2010. Since its launch in 2012, thousands of teachers all over Brazil have used it, with this number increasing drastically soon after the II World Dyslexia Forum (<http://wdf2014.com.br>; <http://www.dyslexia-international.org/wp-content/uploads/2015/10/WDF-III-UNESCO-meeting-aPinheiro-23set15.pdf>), hosted at UFMG, in Brazil, in 2014.

Changes in the original version of the DislexiaBrasil

The website is constantly updated. Now it is acquiring a new face as it is being reconstructed in the Aspx# (.NET) programming language (before it was *WordPress*). In this new formatting, the contents of the Section 1 of the site were revised, updated, expanded and reorganized. This work was done in collaboration with Prof. *Leonor Scliar-Cabral* and took into account the Brazilian linguistic, educational and social context and the findings of neuroscience.

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Adjusting the website to the Brazilian reality

In this attempt and to make the website as **interactive** and **attractive** as possible, the following were included in Section 1 by my team:

- videos and testimonies about Brazilian dyslexics;
- testimonies of Brazilian teachers about their experience with the site;
- videos of lectures about different aspects of the course; and
- new illustrations.

As for the **reorganization** of the information, the main change consisted in transforming each main part of Section 1 into a unit by itself, generating thus, the following three parts:

Unit 1 – Dyslexia (definition, how it feels and causes)

Unit 2 – The development of reading and

Unit 3 – Reading difficulties and Co-morbidity (*co-occurring* disorders such as attention deficit disorder [ADD], attention deficit hyperactivity disorder [ADHD], and motor disorder dyspraxia).

This division of Section 1 into units was motivated by the results of the Masters Thesis of *Ângela Corrêa*. In this work (*DislexiaBrasil: first analyses and the elaboration of a tool for the evaluation of its effectiveness for teachers*), a sample of teachers studied the site for one month and completed a Teacher’s Evaluation Questionnaire which is made available on the site at the end of the course. This instrument enquires about the clarity, accessibility, level of difficulty and quantity of information on the site from the teacher’s point of view. It was found that 99.4% of our teachers considered the course as being positive and relevant. However, in spite of the high levels of acceptance expressed, the message from their comments and suggestions was that, due to the considerable level of difficulty of the course and its length, they would benefit from having the information of each section of the site organized in smaller bits. This necessity was reinforced by the results of a second study. In that study on the bases of the information of each section of the DB, it was created a Knowledge Questionnaire to be completed by teachers in order to evaluate their learning of the site content before and after being submitted to it. This baseline questionnaire is composed by 45 questions (15 questions for each section of the DB). It was tested it in a sample of 71 teachers in 15 public and private schools in Belo Horizonte before they studied the site. It was discovered that **the majority of the teachers had below average knowledge in the content covered by the site**, indicating a need:

- for the capacity raising of teachers in subjects related to dyslexia and to the learning of written language; and
- for special care in the planning of the delivery of such capacitation in regards to the length of it and the preparation of the presented material.

In order to respond to such a demand the following alterations were done:

- the introduction of new practice exercises (retrieval activities) all along each unit;
- the adding of a summary at the end of each unit and of 10 “Test Yourself” questions (in total, 20 new questions were elaborated);
- provision of instant feedback for the activities (multiple-choice and small answer to be filled in a box); and

- the inclusion of links to related Brazilian sites and of optional reading related Brazilian research.

Moving from the website to a structured Virtual Learning Environment

With the increase of the usage of the site by the teachers all over Brazil, a new demand emerged: to provide certificates for the teachers.

To be able to satisfy such a demand, the Section 1 of the DislexiaBrasil has also been made available in the MOODLE (*Modular Object-Oriented Dynamic Learning Environment*) platform. This MOODLE version and the manual for the student that accompanies it (Pinheiro & Scliar-Cabral, 2017) has become an independent course, which is named “Dislexia: Causas e Consequências (DCC)” [Dyslexia: causes and consequences], being the manual available in pdf to be downloaded and as a printed book.

The DCC course is thus, delivered via a Virtual Learning Environment (VLE) guided by a manual. It is delivered in 60 hours distributed in 10 weeks in which most of the resources available in a formal distance course such as Forum of discussion, formation of study groups and supervision of the course by a tutorial team are explored.

The idea is to let the students to interact with the material and between themselves as much as possible and to encourage **peer learning** which means, students learning from each other and through active interaction. For instance, the students assist videos on their own, but are encouraged to discuss them in the Forum and also in their study groups. Therefore, the aim of all these experiences is to combine **personalized learning** with peer learning mediated by experienced tutors or even by the peers that also becomes a coach a mentor, creating thus a real collaborative learning setting.

The first experience running the DCC

The DCC was tried out in 2016 with:

1) a group of 11 undergraduate (Honours) students in psychology and education as one of the optional subjects offered by the **Department of Psychology** of UFMG. This was the first subject taught in a VLE in the Department, which explains the small number of students who enrolled in it. Out of the 16 students enrolled only 11 accessed the platform; and

2) a group of 347 professionals of different parts of Brazil (students doing License in Pedagogy, teachers and professionals of the basic education) attending an extramural course offered by the **Center of Distance Education** of UFMG. The call for this course attracted 10.064 inscriptions. The coordination of the course made for a really hectic time at its first offering; due to the number of tutors and its hybrid format, it was possible to accept only 520 students. Thus, it was necessary to have a draw. The participants who were not selected were crying out even after our assurance that this course would be from then on run in continuous flux. Out of the 520 people inscribed only 347 accessed the platform. These people were then randomly distributed into nine groups, with each of them being monitored by one tutor. Apart from these nine groups there was another one

which had the specificity of being formed by 28 professionals working in the Municipal Secretary of Education of a small city called “Sapiranga” in Rio Grande do Sul, a State in the south of Brazil. The tutor of this group, which we will call Sapiranga, also worked at the Municipal Secretary of Education of Sapiranga. The Sapiranga group, differently from the other nine, was homogeneous in regard their institution of origin, but not in regard to their formation as this group was formed by students doing License in Pedagogy, teachers and professionals of the basic education.

Both courses (the optional subject offered by the Psychology Department at UFMG and the extramural course) were followed by Tutors officially trained by UFMG’s **Center of Distance Education**. There was one tutor for the undergraduate students and 10 for those attending the extramural course.

During each course the tutors received supervision by myself and by two members of the DislexiaBrasil support group. The courses were run separately but in parallel. They started at the same time and followed the same schedule. After being introduced to the DCC, the students were asked to answer the baseline questionnaire (the knowledge questionnaire mentioned above) prior to the study of its content. The participants were told that they would not be graded in this activity as it has as purpose the identification of their previous knowledge about the content of the DCC.

During the DCC, the participants were neither graded in the retrieval activities nor in the Test Yourself activity. However, they were graded by completing specific assigned activities and by his/her type of participation in the Forum. For all activities there was a deadline and the non-submission of an activity and/or the non-participation (or poor participation) in the Forum lead to the loss of credit (30% of the course credit is allocated to these interactive activities). At the end of the course the participants were resubmitted to the base line they did at the beginning of it. While the Honours students got a grade, the teachers got a certificate for successful completion the course. That is 70% or above in the marked activities.

In spite of schedule and deadlines, **Self-pacing** (or self-pace learning) is one of the main characteristic of e-learning. So each student can take his/her own time to go over the materials available in their respective courses.

The outcomes

- 1) DCC delivered as optional subject for undergraduate students at UFMG: no student dropped out and all of them (N = 11) were approved (successfully concluded the course). The students also provided a very positive report about the experience and about the content of the course, with some of them showing interest in becoming a tutor in future courses. The pre and post evaluation made via the baseline questionnaire showed an increase of knowledge about the content of the course. The mean performance in the pre evaluation was 60% and in the post-evaluation it was 80%. As a result the DCC will continue to be offered in the Psychology course. It is possible that not only the number of students interested in DCC will increase but also that new courses will be offered in the VLE.

2) DCC delivered as extramural course

The full report of this experience is in preparation by Sena, Ludovico and Pinheiro. Thus, I will present here only the general result of groups 1-9 as a whole and of the Sapiranga group.

Groups 1-9: out of the 347 participants enrolled in the course, only 188 (54,17%) remained active (that is, completed most activities). Out of these active participants, only 59% were approved in the course; and

Sapiranga group: out of the 28 participants enrolled in the course, 24 (85,71%) remained active and out of these 92% were approved in the course.

Contrary to both the Sapiranga group and UFMG's undergraduate students, the participants of groups 1-9 of the extramural course, found the DCC difficult. This was not a surprise considering the heterogeneity of both, the participants and the institutions and places in Brazil where they got their education and where they work. This result is in agreement with those reported by Corrêa (2014), mentioned above. In short, it may be that the low level of previous knowledge in the content covered by the DCC provided the participants with a small base on which the new knowledge offered by the course could be built upon.

The much better results of Sapiranga group in relation to groups 1-9 and its similarity with those of UFMG's undergraduate students indicates that the DCC may be better suited to homogeneous groups of participants, preferably in a situation in which the participants know each other and can form study groups, as it was possible in both Sapiranga group and UFMG's undergraduate students.

Ways forward

- 1) To do a follow-up study with the participants who were approved in the extramural course.
- 2) To offer the participants who were not approved a chance of retaking the course.
- 3) To test the DCC as an extramural course in an experimental study (This project will be carried out by Tatiana Linhares in a Masters Thesis). Based on the experience gained in the first offer of the course (briefly described), at this time we will work with a homogenous sample, which will be the experimental group (EG). At this time, we chose to work only with students doing License in Pedagogy in the Brazilian Open University (UAB) as at UAB the credits or certificate from an extramural course are generally transferable towards a degree or career improvement. However, instead of recruiting students individually, through special agreement with the coordinator of the UAB's courses, we will only recruit groups of students rather than individual ones. In this way, we hope to encourage **peer learning** and the formation of study groups. As a group control (GC) we will work with an equivalent group of students also doing License Distance Courses Pedagogy in run in the Moodle platform. Special agreement will also be made with the coordinator of the courses of this latter group to ensure that as many students as possible agree in filling in our baseline questionnaire as one of the initial activities of the course and also at the end of their course.

The outcomes expected: to demonstrate the effectiveness of the DCC. If it were to be effective in transmitting knowledge about dyslexia then, in the post-test, the EG should have significantly better knowledge about this course when compared to the CG.

Having proved the effectiveness of this course I will move on to negotiations with the coordinator of both, the UAB and the Faculty of Education to implement the DCC as a mandatory part of their teacher training programs. I will also encourage the Secretary of Education of other States of Brazil to use the course on ongoing training of in-service teachers, following the model being set in the State of Minas Gerais in which the link of the site since the II World Dyslexia Forum (IIWDF) has been made available in the site of the Secretary of Education.

At the same time, following the steps of the elaboration of the DCC my team and I will move on to work on the Sections 2 and 3 of DyslexiaBrasil, transforming each of them in an independent course, creating thus the DyslexiaBrasil set.

Final goal of the projects presented here

It is to set a model for teacher training on dyslexia and related areas in Brazil via Virtual Learning Environment.

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