

**Volume 1 - nº 1 - January/June 2010**

## **Moodle as an alternative to flexible education**

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### **Abstract**

In this paper, we intend to present the distance learning platform Moodle as a possible response to the expansion of pathways that direct us to a more flexible education, making it possible to overcome the spatial and temporal boundaries, as well as cater for different learners, their needs and particularities. In doing so, it is necessary to offer an overview of such e-platform and discuss its theoretical foundation. We also describe the main resources used to develop the online course for this research.

### **Key words**

Moodle, flexible education, blended learning, LMS, VLE.

### **Introduction**

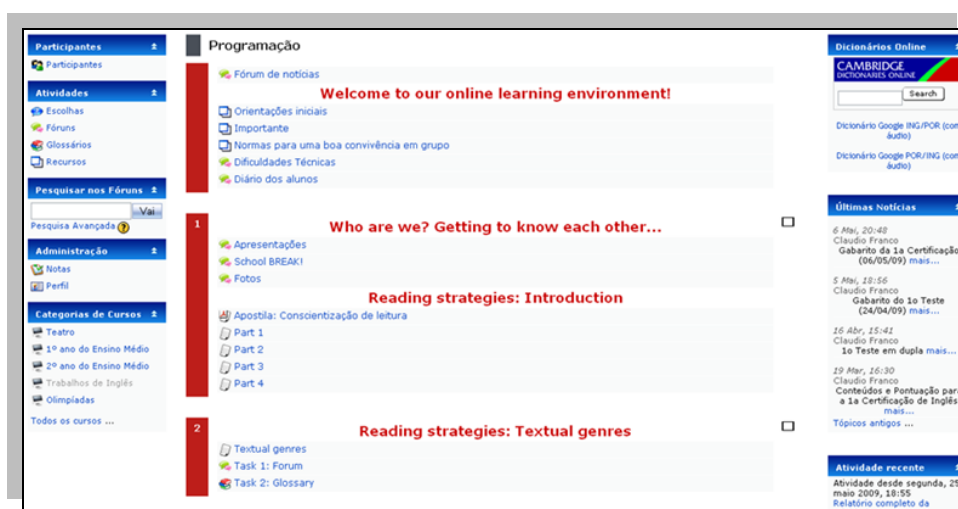
Playing with the computer, exchanging instant messages on the Internet, completing online profile pages and creating one's own blog stand for examples of activities that are part of many young people's lives. Technology accompanies them inside and outside the classroom through the use of portable devices like cell phones and computers, which prolong the contact of the youth with the Internet.



Having in mind this specificity of the generation to which our students belong - that of digital natives - we should try to create learning opportunities that encompass web-based learning. An alternative to introduce an online component to the classroom is the creation of a virtual learning environment (hereafter VLE). Simply put, a VLE can be understood as a tool that integrates various digital resources and supports blended or face-to-face courses. It can also serve as a basis to offer a course completely online. In this study, we used the Moodle platform to create a VLE for teaching English (with emphasis on reading) in a federal educational institution located in Rio de Janeiro. We also outline that this article consists of excerpts from my Master's dissertation (FRANCO, 2009), submitted to the Interdisciplinary Postgraduate Program in Applied Linguistics at the Federal University of Rio de Janeiro.

### **A bird's-eye view of moodle**

Moodle ([www.moodle.org](http://www.moodle.org)) is a Course Management System (CMS) or Learning Management System (LMS). It can be used to deliver online-only courses or as a complement to classroom courses – the latter is the case of this research. The figure below shows the front page (student's view) of the online course built for Brazilian learners of English from the aforementioned institution.



**Figure 1: Front page of the online course**

Currently, Moodle is being used by a large number of people, mostly by independent teachers at universities, schools and it also represents a low cost alternative for employee training, whether related to education or not. As Moodle is hosted on a web server, teachers and students can access the platform from any place with Internet access.

Moodle is a free software package and open source to produce online courses that can run on any computer with Windows, Mac or Linux. Being an open source in this case means anyone can participate in the development of the CMS. The user is authorized to copy, use and modify Moodle provided that the original license and copyright are not modified or removed.

The word Moodle has two meanings. Originally, it is an acronym for Modular-Object-Oriented Dynamic Learning Environment. In this sense, Moodle, in English, is “a verb that describes the process of lazily meandering through something, (...) an enjoyable tinkering that often leads to insights and creativity” (Cole and Foster, 2008: ix). Thus, the word Moodle is related both to the manner of how the program was developed, as to how you expect people to use it in an online course.

## The educational philosophy

Moodle was created by the Australian Martin Dougiamas in the early 1990s. Martin, a computer scientist and educator, believed that an CMS would be far better if built by someone working in the education sector and not engineering. Martin, then, developed Moodle inspired by the social constructionist epistemology. This conception of learning is based on the idea that "people learn best when they are engaged in a social process of constructing knowledge through the act of constructing an artifact for others" (Cole and Foster, 2008: 4). This process occurs through the negotiation of meaning between participants, when they share knowledge.

Williams (2005: 4-5) briefly explains the four main concepts that make up the learning philosophy of Moodle (1) constructivism, according to which people actively construct new knowledge as they interact with the environment, (2) constructionism, which asserts that learning is particularly effective when something is built for others to use, (3) social constructivism, a concept that embraces the idea of collaboration within a social group, constructing and sharing meanings, and (4) connected and separate behavior, concepts that are related to one's participation in discussions. On the one hand, when someone is objective and defends their ideas, they take a separate behavior. On the other hand, when the approach of someone's subjective, trying to understand the viewpoint of the other, the behavior is characterized as connected. Therefore, the connected behavior appears to stimulate learning within a learning community, promoting a deeper reflection and the review of existing beliefs.

Dougiamas (1998), citing constructivism to explain the constructionist epistemology, sees constructivism as a theory of communication. To him, teaching is guided by the support of a language and a form of communication between teacher and students and among students. The communication process among all members must be

refined in order for learning to be effective. To this end, students must be actively involved in the construction of meaning, activating previous knowledge and rejecting the passive accommodation of knowledge. From this perspective, Dougiamas (1998) states that Moodle offers the required support (extending the benefits of reading and writing development) to stimulate multiple instances of communication among participants.

To Papert (1991), similarly to constructivism, constructionism conceives learning as "building structures of knowledge, regardless of the circumstances of learning." Gergen (1995), on the contrary, suggests that social constructionism is a "set of ideas focused solely on the development of meaning, which occurs through communicative action and construction of social artifacts, including texts."

It is based on this social model of learning, a student-centered approach, that the interface of Moodle was designed. The platform allows courses to be organized in a social, weekly or topic format, and still favors the use of tools for discussion and the sharing of ideas, artifacts. Other platforms (tool-centered), however, only focus on sending static material, merely offering another space for information input overload just like in the traditional pedagogical model.

The adoption of this learning theory allowed Moodle to focus on learning rather than on resources or tools, differing from other distance learning platforms. Apart from this, Dougiamas (2000) also took into account both the teacher and the student's perspectives to develop Moodle. Based on these characteristics, we consider the interface of this CMS as the most suitable to meet our educational purpose, i.e. use an online course as supplement to English classes (focused on reading).

Other factors such as usability, design and interactivity have also contributed to the choice of Moodle. The Internet pages have a simple layout with few graphics, and allow students to focus more on the content rather than on the appearance of the pages themselves. Each page also has a navigation bar, which offers links to access



content located on previous pages or the front page of the online course. As for interactivity, it is possible for a student to answer a question without having to edit their answer in the future or to add a comment with the option of changing the content. In addition to this, there are also multiple-choice activities with automatic feedback, like "right" or "wrong." And, more interestingly, the participants can co-construct texts on a given subject, with longer and more reflexive responses.

From the teachers' perspective, the ease of editing content and analyzing the profile of each student and each class are desired characteristics. The content of the online course is inserted the same way as in an electronic word processor. Dougiamas (1999) suggests that this feature combined with constant interaction in the online environment can help the teacher to analyze, through the written production of students, relevant aspects so you can continue the course. In a thoughtful way, the teacher is led to make the necessary adjustments so that students are actively engaged in the teaching and learning process. For Dougiamas (1999), the teacher is also involved in other activities during a course in Moodle such as monitoring students, stimulating and engaging in discussions, offering support and redesigning the course content from the students' response.

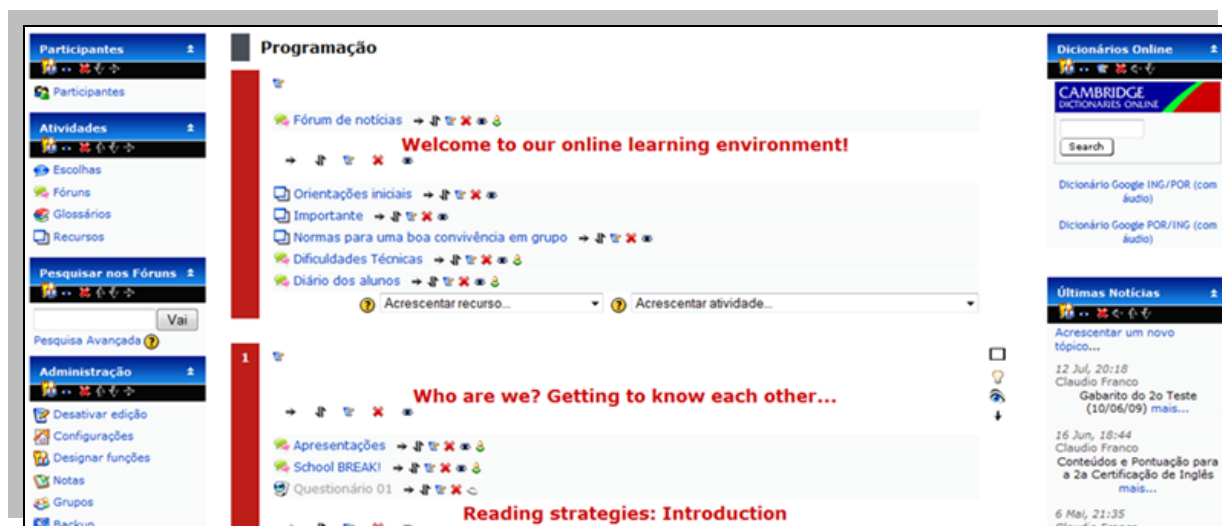
## **Principal resources**

Moodle has a wide range of features such as forums, glossaries, assignments, chats, surveys, quizzes that can be selected by the teacher/administrator to create a more flexible learning environment, meeting the educational objectives and needs of the students.

Moodle 1.9 – the version used in this study – allows the teacher to switch between three different roles while editing a page: system administrator, non-editing teacher and student. Only teachers/administrators can edit the content of the course.

Regarding the roles of non-editing teacher and student, they do not have capability and permission to change data in the course.






When the teacher/administrator turns editing on, some configuration icons show so that it is possible to customize the interface of Moodle and add resources and activities to the course. Among the functions available, you can add, move, delete blocks of activities and also the general layout of the page. What is more, the teacher/administrator can add, delete, edit, show and hide features. The next picture is an example of a course page with editing turned on.



**Figure 2: Front page of the online course with editing turned on.**

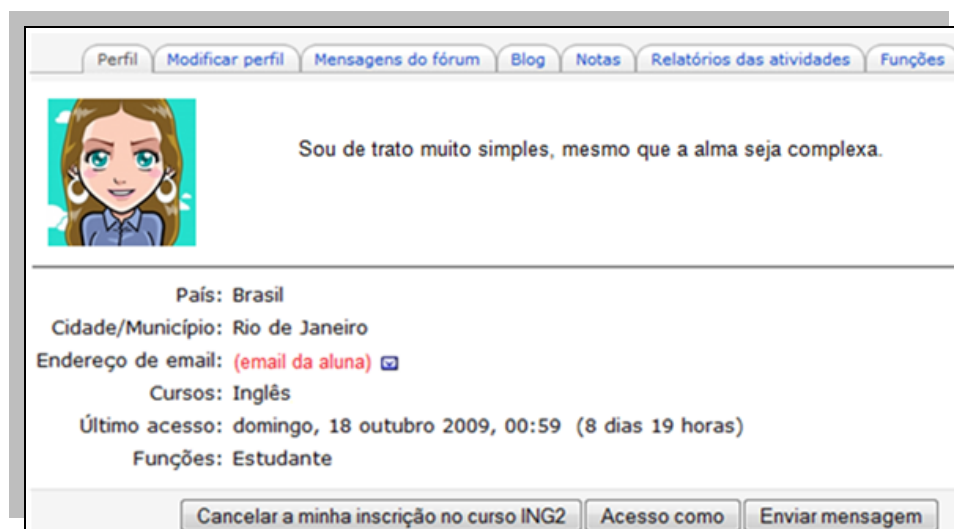
The front page consists of blocks of activities, organized into three columns. In the center column you will see the course content, i.e. the course resources and activities. In the far-left column of the front page you will find the tool blocks: **People**, **Activities**, Search Forums, **Administration** and Course Categories; while in the far-right column the available blocks are: Online Dictionaries, Latest News, Recent Activity and **Online Users**. It is within the scope of this article to cover only the blocks in bold (People; Activities; Administration; Online Users, respectively), which are the ones I consider most relevant to this study.

In the **People block** there is a list of all course members, which can be displayed according to the alphabetical order of users' name, last name, city/county, country or last access (see Figure 3). This tool allows the teacher to view the individual profiles of the participants and to obtain details about each one, especially when the last time a user logged in.

| Foto do usuário   | Nome / Sobrenome | Cidade/Município   | País   | Último acesso ↑    | Selecionar               |
|---|------------------|--------------------|--------|--------------------|--------------------------|
|    | Claudio Franco   | Duque de Caxias    | Brasil | agora              | <input type="checkbox"/> |
|    | Lolly            | Rio de Janeiro     | Brasil | 11 segundos        | <input type="checkbox"/> |
|   | Bella            | Duque de Caxias    | Brasil | 3 horas 38 minutos | <input type="checkbox"/> |
|  | Angel            | São João de Meriti | Brasil | 4 horas 15 minutos | <input type="checkbox"/> |
|  | Leo              | Duque de Caxias    | Brasil | 6 horas 13 minutos | <input type="checkbox"/> |

**Figure 3: People block, list of users.**

The full profile of participants can be accessed when you click on the user's picture or their name/last name. As far as ethical issues in research are concerned, it is worth highlighting that the original photos of the participants were replaced by avatars - created in [www.faceyourmanga.com](http://www.faceyourmanga.com) - that relate to the course members' physical characteristics. In addition to the information available in the list of users, each profile contains personal information about the individuals such as e-mail address, Skype ID, MSN ID, and other pieces of information the user wants to share. There is also a space for participants to write about themselves as the following student did:



**Figure 4: A student's profile.**

In the list of participants of the course, there is a column located on the right side of the page, "Select", where you can tick the user(s) you wish to send a message. Then, you will see a field to write the message, which resembles the way people send e-mails. This message will be sent to each user's personal e-mail and it will also be showed in a pop-up window the next time they access Moodle.

Also found in the far-left column, beneath the People block, is the **Activities block**. It lists the activity types that are available in the course. It serves, for example, as a shortcut to choices, forums, glossaries and resources.

Under "Choices", we have access to the participants' responses on small, one-question surveys like multiple-choice, quizzes, true/false, among others. The questions that were created for the online course consisted of the multiple-choice ones, in which participants must choose one answer only. These activities were always related to polls and aimed at getting rapid feedback from the students about a particular topic.

"Forums" introduce a valuable form of asynchronous communication among course members, i.e. you and your students communicate with one another at anytime, from



anywhere, creating opportunities to exchange ideas, thoughts, information, and concern about a certain subject. In these forums, one can post as many topics of conversation as they want and participants reply to messages already posted, gradually forming an online community.

“Glossaries” enable participants to create a list of terms and it is also possible to add comments to definitions. In this research, students had to develop a glossary as part of a task. After reading a set of texts, each student added words or expressions extracted from these texts in order to build a vocabulary list.

The last activity type was the “Resources”. When it comes to adding content to the course (in the drop-down menu “add a resource...”), the version 1.9 of Moodle allows you to: insert a label, compose a text page, compose a web page, link to a file or web site, display a directory and add an package IMS Content Package (IP Multimedia Subsystem English Content Package) – the latter is a feature that enables the archiving and exchanging of content between compatible electronic systems, often with internal navigation. On the surface, the “add a resource” menu provides the teacher/administrator with tools for adding text, graphics, links the courses.

The **Administration block**, also in the far-left column, can only be entirely viewed by the course editing teacher and system administrator. Under this block, students are just allowed to access their grade and profile. The most commonly used tools by the teacher are: “turn editing on”, “settings” and “reports”. As you are already acquainted with the button “turn editing on”, the Administration block also offers you a link to this feature, allowing you to add resources and activities to your online course. The “settings” page allows the teacher/administrator to make important choices about the general format of the course. The options available to set the course format are: category, full name, short name, course ID number, summary, format, number of weeks/topics, course start date, hidden sections, news items to show, show grades, show activity reports, maximum upload size, is this a meta course?, and default role.

Moodle also provides the teacher/administrator with detailed information on all activities undertaken by participants. The tool "Reports" has this function. It shows all members' logs and generates participation reports of student activities. It is also possible to view the site statistics (if enabled) and get more detailed reports. There are two types of reports: participation report and activity report.

The participation report is useful for tracking each student's activity and monitoring their course actions. Besides, it can also help you find out which resources and activities students find most important. The next figure reveals that 39 students participated in the activity "Biography.com" and the Student D3 was probably the most engaged user (34 actions).

Módulo de atividades Biography.com

Olhar o verso Escolher... Mostrar só Estudante Mostrar ações

Todas as ações Vai

Fórum Acessos: view discussion, search, forum, forums, subscribers  
 Fórum Mensagens: add discussion, add post, delete discussion, delete post, move discussion, prune post, update post

39 Estudante

Nome : Todos ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 Sobrenome : Todos ABCDEFGHIJKLMNOPQRSTUVWXYZ

Página: 1 2 (Próximo)

| Nome / Sobrenome # | Todas as ações | Selecionar               |
|--------------------|----------------|--------------------------|
| Aluna D2           | Sim (7)        | <input type="checkbox"/> |
| Aluna C2           | Sim (12)       | <input type="checkbox"/> |
| Aluna D3           | Sim (5)        | <input type="checkbox"/> |
| Aluno C5           | Sim (4)        | <input type="checkbox"/> |
| Aluna D4           | Sim (7)        | <input type="checkbox"/> |
| Aluna D15          | Sim (32)       | <input type="checkbox"/> |
| Aluna D17          | Sim (4)        | <input type="checkbox"/> |
| Aluno D8           | Sim (2)        | <input type="checkbox"/> |
| Aluno D9           | Sim (30)       | <input type="checkbox"/> |
| Aluno D3           | Sim (34)       | <input type="checkbox"/> |
| Aluna D13          | Sim (2)        | <input type="checkbox"/> |
| Aluna D10          | Sim (5)        | <input type="checkbox"/> |
| Aluna D6           | Sim (9)        | <input type="checkbox"/> |

**Figure 5: Example of a participation report.**

The activity report, on the other hand, lists how many times and the last time each activity has been viewed. Moodle provides a list of users who were viewing a single activity or a desired feature, based on criteria established by the teacher/administrator such as the nature of actions (view, edit). The following figure illustrates how one can view the logs of student activity.

Inglês: Claudio Franco, Todos os dias (UTC-3)

Inglês Claudio Franco Todos os dias Biography.com Todas as ações Mostrar na página

Obter estes logs

Mostrando 117 registros

Página: 1 2 (Próximo)

| Hora                       | Endereço IP    | Nome completo  | Ação                  | Informação    |
|----------------------------|----------------|----------------|-----------------------|---------------|
| Seg 2 novembro 2009, 10:15 | 187.13.153.76  | Claudio Franco | forum view discussion | Amy Winehouse |
| Seg 2 novembro 2009, 10:15 | 187.13.153.76  | Claudio Franco | forum view forum      | Biography.com |
| Dom 1 novembro 2009, 20:46 | 187.13.213.107 | Claudio Franco | forum view discussion | Amy Winehouse |

**Figure 6: Example of an activity report**

The objective of the previous report is to track all the actions performed by a particular participant. In this case, Moodle recorded and displayed 117 instances of actions, making it possible for the teacher to know, for example, how long the student took in each action.

In the far-right column of this online course, we have the block "Online Dictionaries", in which participants can have access to two electronic dictionaries: Cambridge (monolingual – English) and Google (bilingual – Portuguese and English). Underneath this block, we find another one: "Latest News" – a tool linked to the news forum, which automatically displays the last messages posted by. In "Recent Activity", the user can view what happened in the course since their last access such as new activities, new users, new messages, among other updates. This tool helps participants to keep track of the messages posted by colleagues as it is regarded as an easy shortcut to the latest posts, facilitating asynchronous communication in the course.

The last feature in the far-right column to be described is the **Online Users block**. It allows viewing who has been browsing the course for the last five minutes. It is also possible to send the participant a message. If the user is offline, the messages window will pop up. A message can also be sent using the block "People", clicking the "Send Message" button. The user can receive a copy of the messages via e-mail if this option is enabled.



These communication tools available in Moodle contribute to an expansion of the interaction between and among participants, as they need not be in the same place and at the same time to communicate over the Internet.

## Final thoughts

In this article, we have seen that Moodle may contribute to the development of a flexible education of quality. This flexibility is related not only to the ease of communication driven by technological advances, but also to the advantage of creating an inclusive learning environment, where you can give voice to participants and stress the characteristics of a teacher who relates well with students, respecting and encouraging them to express their opinions, feelings and attitudes.

Just about a decade ago, Pierre Lévy (1999: 14) claimed that "the second deluge (information deluge) will never end" and that "we must accept it as our new condition, one in which our children will learn how to swim, float, and navigate". However, are these children who belong to the generation of digital natives who actually need to learn how to navigate in cyberspace? Who is to teach them? Is the teacher really prepared to incorporate new technologies in their pedagogical practice?

We come to realize that technology does not cause uneasiness to the current generation of digital natives and the teacher cannot overlook this fact. We believe that the teacher (especially the virtual one) needs to be more and more concerned with the mastering of technology, developing strategies to exploit its full potential. It is through inclusive educational activities in sync with the students' reality that we can make learning more centered on them, integrating learners in the process of knowledge construction and thus making them responsible for their own learning.

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