

Metacommunication through VLE Interfaces: Signs of Expression of the Teacher's Self

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Abstract. This article fits in a broader context of a qualitative research seeking for traces or signs of expression, presence and representation of the self from the perspective of teachers as end-user developers of virtual learning environment interfaces. We chose Moodle as the environment to conduct this work and we counted with the voluntary participation of nine teachers with different profiles concerning the area, educational model and target audience. Questionnaire and interview were applied and testimonies were collected, uncovering three ways of self-expression and representation: expression through written language, interface customization and through the content. We focus this paper on the communication practiced via Moodle by means of written language.

Keywords: Computer-based learning, Metacommunication, Semiotic Engineering, Virtual Learning Environment.

1 Introduction

Recently we have witnessed the rise of a new educational paradigm, where the interaction between teacher and students happens through the Internet by the use of a Virtual Learning Environment (VLE). In this context, distance education has become a practical and attractive option for both students and teachers, mainly for those with displacement and time restrictions. Even the traditional (on-ground) classroom has adhered to this tendency by employing VLE to support extra-class activities.

The paradigm shift still preserves teacher's role as the knowledge mediator, but now there is an interface between him and his students, bringing new challenges to the teaching-learning context. From a broader perspective, this is a case of communication between humans, but it is also a subject of interest to the Human-Computer Interaction (HCI) research area, for this communication happens through the computer.

According to Monteiro *et al.* [1], most of the communication-centered investigations presented on formal HCI venues relies on social sciences such as psychology, but only a few of those study semiotic aspects of the communication through software interface, being these aspects key in our study. That said, this article is part of a research on how teachers express and represent themselves

through a VLE from the perspective of Semiotic Engineering, a discipline that brings together concepts from HCI and semiotics.

Semiotic Engineering [2] is a theory of HCI based on semiotic aspects of communication. In this theory, HCI gains a new perspective where the system interface acts as the designer's deputy in his communication with the user. The idea is, every time the user interacts with the system he is engaging in a one-way conversation established by means of *one-shot message* directed from designer to user. This message is static and self-contained; it carries not only every information about how to use the system but also the designer's perception of who the user is, what he needs, and how user's interaction with the system is expected to be. Thus, one-shot message is a piece of *metacommunication* – communication of and about communication –, which is the foundation stone of the Semiotic Engineering theory.

In this research, teacher occupies the role of system designer, who manages and arranges the VLE for the best interest of his students, the system users. We counted with the voluntary participation of nine teachers which were asked about their perceptions on the way they express themselves via VLE. From testimonies we identified three ways of expressing the teacher's self: through content, interface customization and written language. Literature on End-User Programming (EUP, or EUD for End-User Development) [3,4,5,6] considers customization a special case of EUP, which places VLE configuration in a very particular kind of programming activity. Despite this study embraces aspects of customization and EUP, the lack of space forces us to focus this article on the metacommunication [1,2,7] practiced through written language.

Next section presents the methodology adopted during this qualitative research. It follows a section dedicated to data analysis, where the most significant testimonies concerning the written expression are presented. Last section concludes the paper with final considerations.

2 Methodology

Given the focus of this qualitative research – which is how the teacher expresses himself from the interfaces at his disposal –, among the virtual learning environments (VLEs) available, we chose Moodle [8] for conducting our work, since it is free, open-source and widely adopted.

We conducted this research as an exploratory case study divided into two stages: the first consisted on the application of a structured questionnaire; the second was conceived as a semi-structured interview. The strategy was to use the questionnaire to promote initial reflection on teacher's experience, and then deepen with open questions proposed during the interview. The results presented in this paper were obtained by means of qualitative analysis of data collected during the process.

The questionnaire consisted of four sections. The first gathered personal information such as the respondent's age, practice area, *etc.* The second was to foster early reflection on the teaching activity. Next section aimed to deepen reflection

on the teacher-student relationship in the traditional classroom. The last was to prepare the teacher for the interview to come.

The interview was conducted in person, by video or by chat. It consisted of seven open questions about how teachers feel they express themselves via Moodle interface, giving the interviewee freedom to explore the subject and raise issues.

3 Data Analysis and Discussion

During this research, we have interviewed nine teachers (all Moodle users) whose profiles are available on Table 1. With exception to T3, a novice on both teaching and VLEs usage, all the others have long time experience on teaching and at least 5 years of experience with Moodle. With the interviews, we collected teachers' impressions in respect to the way they communicate with their students via Moodle. These testimonies highlight signs of self-expression and self-representation, characterizing the teachers' presence through the interface.

Table 1. Teachers' profile according to their overall experience with Moodle (current and past). Except to T3, all of them are currently using Moodle to deliver education through one or more of these educational models.

Teacher	Distance Education	Blended Learning	On-Ground Education	Time of Experience	Target Audience
T2 T6 T8	✓ ✓ ✓			5 years	Corporative Education
T4 T5 T1 T9 T7	✓ ✓ ✓ ✓	 ✓ ✓ ✓	✓ ✓ ✓ ✓	7 years	Higher Education
T3			✓	1 year	
Note: teachers are numbered according to the order they were interviewed.					

According to them, educational model and target audience play important roles on the way teachers express themselves via Moodle. Unlike those teachers engaged with blended learning and on-ground education – which are completely in charge of every class-related thing –, teachers delivering distance education said they are usually assisted by an auxiliary staff responsible for technical issues related to configuration, use and customization of the virtual learning environment. Depending on the level of assistance due by the technical staff, teachers may have difficulty on expressing themselves via interface customization. This is the case for those in Table 1 delivering distance education classes whose audience consists of colleagues and associates of the corporation for which they work. Since the Moodle interface follows some corporative guidelines and the content is given by experts, unless they are part of the expert team, T2, T6, and T8 are tutors only and, as such, written language through forums, chats and messages

are the only ways they may have some freedom to express their own selves. On the other hand, teachers engaged with higher education are responsible for producing the content for their classes, which add to the possible ways of expressing the teacher's self a third dimension: expression through the content, including personal interpretation in respect to the subject of study.

Given the overview, testimony analysis made it possible to distinguish three categories concerning the ways teachers express themselves: through interface customization, written language and through the content. The lack of room to go through all the aspects of this research made us choose to focus this article on metacommunication through written language. This kind of expression is mostly practiced via forums, the most important Moodle activity, according to teachers.

Interviewees were asked about how they feel in respect to self-expression through Moodle interface, what promotes and what hinders this expression. About the use of his own language, T3 said it is not difficult for him to express by writing in the same tone he uses to talk. Perhaps T3 feels so comfortable with that given the fact his is much familiar with technology, but for some it is a challenge. Teacher T7, for instance, is mostly concerned with the form of the expression. He said a teacher must be careful with the writing since it is subject to dual-interpretation, and a word out of context may end up discouraging the student in his journey to knowledge construction.

Teacher T2 said to be a trace of her personality being rather formal when writing. She believes this is why people find her extremely serious. This is an evidence of presence and self-representation according to teacher's perception about her receptiveness among students. According to her, distance education has the challenge to bring teacher and students together, and in this scenario too technical and formal language may be a problem. T2 said a teacher must ease the teacher-student relationship by being smooth on writing so that students feel close and assisted, and this is something for her to pursue.

In a similar way, the desire to be thorough made the text of teacher T4 too formal. In spite of this trace of personality, she realized it is worth to relax on formality so that students feel comfortable to interact and build knowledge together. According to her, it is important to ease on formality and reach for dialog when proposing activities, so that students feel invited to participate.

Teacher T8 is pragmatic, she values the need of closeness but also the importance of clarity. That is the reason why she prefers to communicate by using the same language of her students. However, closeness may be achieved not only by the use of a common language, but also by the presence, which she believes is perceived whenever she puts something in her writings to mark her personality. She said even a joke may break the ice and shorten distances, leaving students more comfortable to ask and to speak; to her, this is a way to be closer.

Following the same line, teacher T5 said she addresses her students as if she were talking to them. The idea seems to be: drop formality to promote clarity and closeness. However, closeness, presence and availability may be achieved by other means. For instance, T4 considers important that the teacher show he knows each student by name, notices his presence and concerns about his

absence. It is, in fact, a personality trace of a caring teacher and also a way to be present. Even though T6 deals with restrictions of the corporative education, she agreed with T4 and called attention to the importance of ensuring that the same treatment of a face-to-face conversation be practiced via VLE, in order to narrow the relationship and foster the students' participation.

When asked about feeling present, T1 said his teaching style is reflected on Moodle but complaint about not feeling the students present, being more and more difficult to motivate them. According to T4, T5 and T9, students' lack of motivation may come from a methodological inadequacy. T1 uses to replicate classroom materials on Moodle, which is probably the cause of students' lack of interest. In the case of blended learning, T4 and T5 advise to avoid that the virtual area be a copy of the on-ground class. Teacher T9 believes that the ease to put things on Moodle gives the wrong idea that nothing more is necessary, but that content needs a pedagogical architecture for it to work.

But not only methodological issues hinder the expression via Moodle. Teachers complained about administration and the difficulty to keep plug-ins up-to-date. T4 said that Portfolio is an activity she would like it were part of the main package. According to her, Portfolio is meant to keep the student's record and should be configurable in a way the student could choose the mates with whom to share it. Teacher T7 believes knowledge is also constructed by interacting with peers, something he misses on Moodle. However, after saying that, he recalled of the Workshop (peer assessment) activity, which enables students to evaluate each others' works. Even so, teachers said Moodle is not prepared to work with students in group. Some of them workout this problem by using forums.

The most dissonant testimony about the adequacy of Moodle to express the teacher's self came from T9. She said Moodle is linear but herself is hypertextual; her discourse is congruent but not linear. Adding to this trace of personality, she said Moodle is not completely adequate for her since it is not graphical; it is not suitable to work with scientific computing. According to her, chat and forum are text-based, they were not meant to work with anything but text. One can use dollar sign to insert formulas on chat message, but she finds it too boring; she would like something different. It should also be possible to insert vector graphics, since static images, like a picture, don't fill her needs as teacher. Instead of being always worrying about the format and the logic of the content she makes available, she would like that Moodle were a place where you drop everything inside, classify with a tag, and the content were automatically rearranged. A place where each one finds his own way to read and construct knowledge.

4 Final Considerations

With this work we initiated a discussion on how teachers express and represent themselves through the use of virtual learning environments (VLEs) interfaces. Nine teachers were interviewed and the most significant testimonies were presented in this paper. We found signs of expression that highlight three ways of expressing oneself through the VLE interface: by means of written language, via interface customization and through content assembling.

These evidences of self-expression are considered in this work as a sign of self-representation, where the virtual learning environment acts as the teacher's deputy in the communication with his students. Most of all, we believe that the representation of the self impacts directly on teacher's perception about his own presence by the students, as we may observe by the testimonies.

We understand it is important to investigate different teacher profiles to better characterize the ways of self-expression via VLEs. Future work also includes executing the analogous research by interviewing the students, in order to collect the points of view of both interlocutors (teachers and students) of this communication between humans, mediated by Moodle.

This entire research, which includes also aspects of self-expression through interface customization and content creation, is expected to give insights on how to refactor the Moodle interface (and the interface of its tools) such that teachers can improve their expression through it. Some methodology guidelines about better practices when using a VLE may also be necessary.

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