

# Platform Lattes' Usability reports Inadequate Levels of User Performance and Satisfaction

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## 1 Context

Lattes Platform is the result of the initiative from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) to integrate in an online environment the main federal and state development agencies into a single online database composed by academic résumé, research groups and institutions. Its database is a strategic tool for planning, management and operationalization of CNPq, and provides access to professionals and research projects of Ministério da Ciência e Tecnologia and other state agencies (AMORIM, 2003; BRITO, QUONAM & MENA-CHALCO, 2016).

Despite its relevance, it is suggested that the platform's interface holds meaningful usability problems which affects the interaction with users and makes common tasks a difficult and confusing experience. As stated by Digiampietri et al. (2014), this condition is responsible for causing an unexpected level of updates, about 20% of loss. What concerns to accessibility, it was found that the system makes its use hardly accessible to individuals with partial visual impairments and inaccessible to users with total blindness (BARBOSA, SANTOS & REIS, 2010).

Faced to this issue, the current study sought to understand the ways on which the Platform Lattes interface behaves within common tasks performed by typical users. To this intention, the research aimed at assessing the interface usability in what concerns to the levels of success, time and satisfaction. As known, these metrics are respectively related to effectiveness, efficiency and user satisfaction.

## 2 Method

An important concern of the study was to first identify relevant information to understand the users and their most common used tasks within the platform. Therefore, an online survey was applied to 20 representative users, and its outcomes showed to be

meaningful while pointing out the criteria for selecting participants and the tasks. Later, 7 participants over 22 years old, engaged as student or professor in post-graduation programs were submitted to the usability evaluation sessions. Based on the frequency of use of the system, three of these were classified as novice users, and 4 as experts. The number of users has taken into account what is stated by Tulis and Albert (2013), Preece et al. (2002), and Nielsen (2000), which respectively consider 6 to 8, 5 to 12, and 5 participants enough for usability experiments of this nature.

Five tasks, presented as scenarios, were asked to be performed by the users and comprised providing 1) personal information update; 2) research area information; 3) information related to publication and presentation in an event; 4) information related to publication in periodic/magazine; 5) the printed résumé.

In order to measure effectiveness, there were descriptions of adequate paths available for the evaluators so that they could judge, in a binary way (0=no; 1=yes), whether the user succeed in completing the task. On the other hand, efficiency was measured by using a chronometer, so that the evaluator could report the length of time used by the user until task completion. To extract data related to satisfaction, the users reported 1) after each task, in a 5 level Likert Scale ranging from unsatisfied to very satisfied, how satisfied they felt while performing the task; 2) and at the end of the experiment, in a questionnaire adapted from SUS (System Usability Scale), their level of agreement with sentences meant to evaluate the overall satisfaction. The experiment comprised 4 evaluators who played different roles.

### **3 Results**

Among the findings, task 1 which involved updating personal information was the one that presented the best results, offering success to all the participants and the shortest periods of time for task accomplishment, which also provided the highest degrees of satisfaction.

In task 2, meant for providing information related to study area, only 2 participants were successful within a period of time not suitable for a simple activity, resulting in low levels of satisfaction. The main issue here was due to the many and illogical steps required which forced the user to make more clicks, and made the task a time-consuming process demanding too much cognitive load.

The most latent issue was attributed to task 3, where users were asked to provide information related to article publication and presentation in an event. None of the users were able to succeed for different reasons such as technical terms, and illogical and/or unclear paths. Even though, some reported low satisfaction levels as expected in a task lacking effectiveness, others pointed out high levels probably because they believed the task was successfully completed.

Only three of the users were able to complete task 4 – which purpose was to report that an article was accepted for publication –, in periods of time that varied significantly. Regarding satisfaction, this task did not present patterns directly associated with the effectiveness and efficiency of the system. The most important issue here was that some users got lost into paths adverse to the intention, along with confusions caused by similar terms with different functions.

Task 5 – where the user was requested printing the brief version of the academic résumé –, obtained success from all the participants, in relatively acceptable periods of time and with satisfaction levels close to the highest ones, even though one participant took more time by using an uncommon method. Probably because of the success rate, levels of satisfaction were not critical.

The outcomes from the overall satisfaction questionnaire showed that users have doubts about the ease of use, claimed the need for help to perform tasks, and felt that new users would face difficulties in learning how to use it . Finally, it was observed that the factor of the user's level of expertise had no significant influence on the results leading us to believe that, given the critical usability issues identified on the Platform Lattes, the system is problematic enough to influence the user experience even among users considered as experts.

## **4 Conclusions**

Besides the nationwide relevance of Platform Lattes, the usability evaluation experiment applied in this study showed that its interface levels of user performance and satisfaction are inadequate to provide a pleasing experience. As discussed, the outcomes pointed out, among other things, lack of success in relevant tasks, substantial periods of time required for task completion including relatively simple tasks, and low rates for satisfaction. Also, the outcomes have suggested that the usability of the platform is problematic enough to make users believe they completed a task while they did not, and to lead expert users to failure.

It is believed, somehow, that design intervention efforts considering the outcomes of this study and their interpretations would be a meaningful step towards enhancing the quality of the user experience in the system. Also, regarding the limitations of the study it is suggested that, for future researches, an alternative method comprising more participants or other types of measures be applied in order to deepen the knowledge regarding Platform Lattes' usability.

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