

Web Evaluator for Students – A Case Example

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Abstract. *Getting the attention of students has always been a hard task for most teachers. In this context the use of new technologies can be taken into consideration for giving the teacher new means to incentive his students.*

The tool described in this article gives importance to the opinion of the students for their own evaluation. Thanks to it a group of students from the University of Minho was able to post questions to their colleagues and to evaluate their peer's works on the discipline of Power Electronics Complement.

Keywords. e-Learning, Internet, Renewable Energy, Electrical Engineering.

1. Introduction

The birth of the Internet opened a door to a whole new world of possibilities where almost anything was possible. With that liberty many areas began to evolve their means of work, grasping this new opportunity to grow. In teaching, for example, there was the opportunity to spread its wings and finally reach students and teachers anytime at anyplace. The definition appeared: e-Learning, a way to obtain information, knowledge and data for learning purposes through programs using the Internet as its vehicle. Taking the eLearning into consideration a teacher can generalize and specify his teaching methods in ways that would be almost impossible to achieve without it, winning time, money and perhaps the rising on its students' motivation and learning results.

In the University of Minho, the students of Complements on Power Electronics had their grades and works influenced by their comrades. A tool was created to aid the students in the process of making their works and to make their opinion count when their grades would be delivered.

2. The Web Evaluator

Almost every student dislikes certain subjects mainly because he doesn't know its full purpose. And in a discipline, where there are so many works and subjects, almost every student concentrates its time and energy on the theme of his work and leaves the rest behind. Another thing to have in consideration is students aren't happy being just passive watchers in every step of the evaluation process, they make the best they can but the final word is always from the teacher.

Then why not reformulate the evaluation process? First step: the students have to say which questions should be answered in a certain work, making them analyze all the themes and not just their work's theme. Second Step: have the students' evaluation weight on their final grade, considering how true his vote was.

To make this possible a web application was created, using HTML, PHP and a database in MySQL. This application, the Web Evaluator, has two primary functions: the post question and the student evaluator.

2.1. Part One: Posting Questions

On a first period of time each group of students was asked to post two questions to the other groups. The questions were considered valid, invalid or repeated by the group they were direct to; and if a question was considered invalid or repeated, the group that posted it had to post another question to substitute it.

Figure 1 shows the teacher's view of the post question part, where he can say the last word about a classification (although the point is for the students manage all the system, the teacher acts only has a referee when there is an invalid classification by the students).

After the process of posting questions was complete, it was up to each group to have each question answered in the final version of their work.

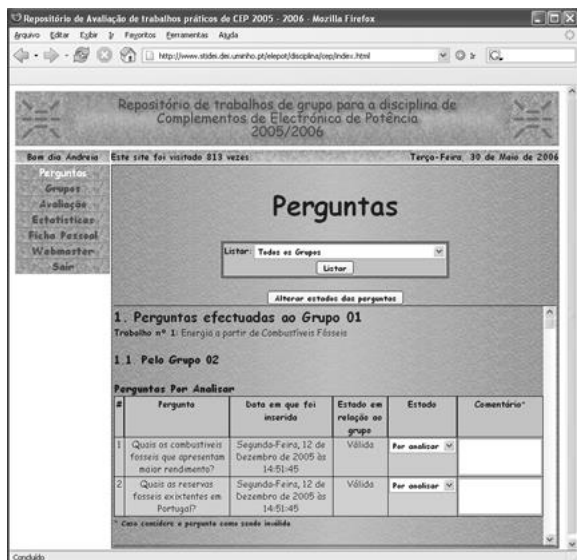


Figure 1. Posting questions window



Figure 2. Evaluation window

2.2. Part Two: The Evaluation

When the final version of each group's work was presented to an audience (teachers, students and some guests) the second part of the process began. In this part each student, not the group, had to evaluate every work presented (including his group's work). The evaluation was made by positions, placing the best group in first position, the second best in second position and so on.

Right after the user confirmed his choice, the program gave him the opportunity to change his choice in the period of 24h. When this period was over, the application kept his vote and waited for all the other users to vote or for the teacher to close the votes.

By the time the voting period was over, the teacher could see if there was some kind of vote manipulation and in that case ask for the students who manipulated the voting process to vote again or to exclude them from the evaluation. If any of the groups was in the same position as another group, the teacher was responsible to break the tie, but that's the only thing he could do.

At the time the evaluation was considered valid by the teacher, and only after that time, each student could see his results (as member of a group and as an evaluator).

Every student received points for its group's position and for his accuracy has an evaluator (the more accurate his choice was, compared with the final, better qualified he was as an evaluator). The teacher was the only one to have access to all the grades, Figure 2.

Each grade is calculated by the program, the teacher only defined the maximum and minimum grade that a group and an evaluator can have (in this case: group grade was between 3.5 and 1.5, evaluator grade was between 2.5 and 1.5).

3. Conclusion

Thanks to this method of evaluation the students got more involved with the discipline, by having to get familiar with all the themes. The evaluation made them feel involved and closer not only to the teacher but to the colleagues as well; and when that happens working is worthwhile.

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