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“Keep It Simple: Optimized Student Evaluations With Moodle”

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“Keep It Simple: Optimized Course Evaluations with Moodle”
A test run for user-friendly Moodle-based course evaluations

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ABSTRACT

Acquiring representative feedback from students is a common problem for universities. To address the often low response rates and participation bias, we focussed on a simplified evaluation process and improved user convenience. We developed and implemented a new tool for collecting feedback by sharing an accessible short survey on our Moodle-based e-learning platform. This new Moodle evaluation tool allows surveys to pop up visibly but non-invasively within every Moodle course offered by our university for the duration of the valuation period. After voting, the survey does not show up again. By condensing a questionnaire to three main queries using a 6-point Likert scale, we gathered data on overall satisfaction with the course, satisfaction with course structure and navigation, and satisfaction with course elements and content. Within two weeks, we collected 65,000 votes from over 1600 courses, with an average response rate of 30% among all active students using the Moodle platform. This paper describes the design and implementation of the short survey, provides an overview of the new evaluation tool and its features, and shares preliminary results and interpretations of the data. Based on these findings, we outline our plans for the continuation and extension of the short-survey approach.

1 INTRODUCTION

Collecting student feedback is a crucial element for maintaining and improving the quality of educational courses at universities. The insights gained from student perspectives can help instructors identify areas in need of improvement, adjust course materials, and enhance overall teaching methods. Despite its importance, acquiring representative feedback from students often remains a challenge due to low participation rates. Here, we address this issue by presenting a remodelled tool for collecting student feedback within Moodle.

The shift from in-class pen-and-paper surveys to digital surveys over the past decades has often led to decreased participation rates (Dommeyer et al. 2004; Asare and Daniel 2018; Casey and Poropat 2014; Plante et al. 2022). Contributing factors include a decreased sense of immediacy, personal connection, and social pressure in digital environments (Fan and Yan 2010). Digital surveys are more easily ignored or postponed than paper-based surveys used to be in the classroom setting. Also, digital surveys often require students to follow external links and therefore aren't well integrated into the learning experience (user-flow) of the students (Dommeyer et al. 2004). These technical barriers also exist within our current institutional evaluation system, the commercial EvaSys platform. That is why we substantially re-designed and beta-tested the Moodle evaluation plug-in *Course Feedback*, with a focus on a convenient, non-invasive user-experience that reduces disruptions and promotes student engagement in the evaluation process.

The Moodle plug-in *Course Feedback* integrates an institution-wide survey directly into the online course environment of the Moodle-based e-learning platform used by the university. The aim is to reduce the time and effort required to complete the survey and make this process as seamless as possible. By integrating the survey on top of each course page, students can provide feedback without having to navigate away from their course materials.

In the following we describe the design of *Course Feedback*, its new features, and its implementation and test in a university-wide short survey. We also present preliminary results and an interpretation of the data collected. Finally, based on these findings, we will outline our plans for the continuation and extension of use cases for *Course Feedback* and the short-survey approach to further enhance the effectiveness of course evaluations.

2 METHODOLOGY

2.1 Design and integration of a user-friendly Moodle evaluation plug-in

The re-design of the Moodle plug-in *Course Feedback* was aimed at improving the user-experience for online-evaluations through a seamless integration into the Moodle course environment. Students should not be disrupted in their workflows, while the survey still has to be clearly visible. Instead of using links to an external evaluation system, the survey now appears as a notification banner at the top of every Moodle course for a defined time period (in our case: two weeks). It is fully embedded into the course page and appears directly under the course title (see Figure 1). The participation is voluntary and users can opt to simply ignore it, scroll down, and directly start using the course page. Nevertheless, the survey remains at the top of the page until the user completes the voting process, the course administrator deactivates it or the end of the evaluation period is reached. Users also have the option to skip participation in the survey by closing the evaluation window with one click. However, this does not deactivate the banner. The banner will reappear when the student logs in to the course page again.

To prevent lengthy text blocks accompanied by multiple choice boxes as well as to add some playfulness and increase visibility, we chose a tile-based design featuring text and descriptive emojis. To participate, users click directly on one of the six emojis of the first question. The response is registered immediately, the banner fades out, and the next question fades in. After the final question, the entire survey vanishes automatically, and students find themselves again at the top of the Moodle course they initially chose to work in when logging in. Due to this minimalistic design, users can respond to (in our case) three survey questions with just three clicks. Neither initiating nor concluding the feedback process requires any further actions. Everything happens within the course page.

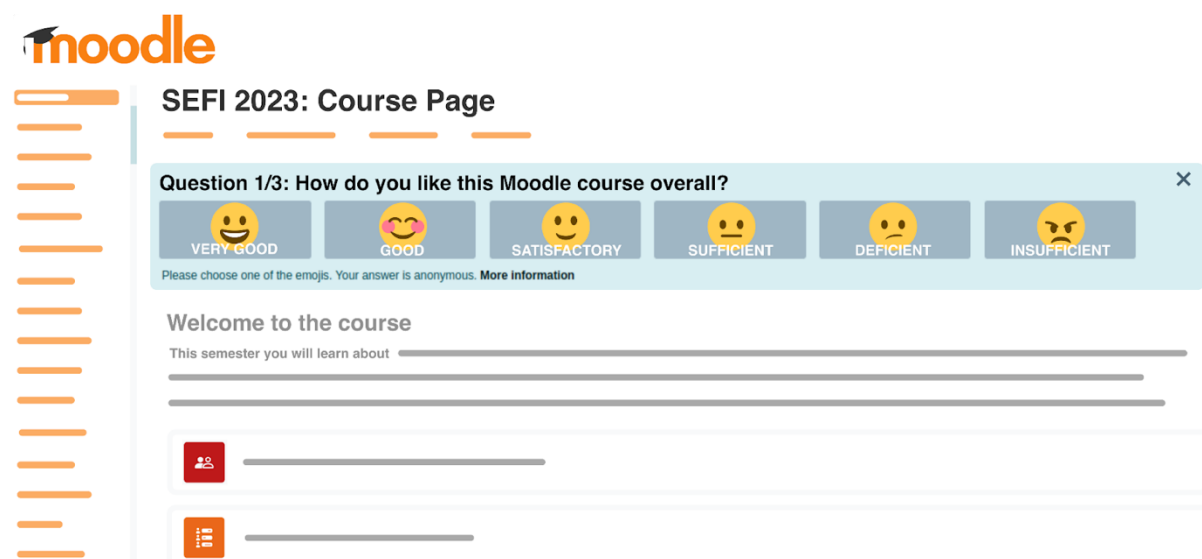


Fig. 1. Course Feedback integrated into a Moodle course environment as it appears during the active period in every course until the survey is completed.

2.2 Data collection

The data generated by the survey is anonymous, it does not collect user identification information. At the same time, the information on the notification banner is different for participants and trainers. While participants are asked to give feedback once in every course they are enrolled in, course trainers have access to the real-time results and an option to disable the survey in their own courses.

3 RESULTS

3.1 The Short Survey and Summary of Findings

Following the expectation that shorter surveys reduce survey fatigue and thus improve participation rates (Asare and Daniel 2018), we adopted a minimalist approach for this survey, consisting of only three short questions:

1. How do you like this Moodle course overall?
2. How do you like the navigation within this Moodle course?
3. How do you like the digital activities and materials available in this Moodle course?

The responses were measured on a 6-point Likert scale (0=insufficient to 5=very good). We conducted the two-week survey in the last weeks of the lecture period. At that time 50,113 users were enrolled on the Moodle platform. Of these, only 16,433 logged into Moodle (and would hence see our survey). We considered these as “active users”. Students were asked to give feedback in every single course they actively visited during the survey time period. The total number of responses for the first question was 22,724, while the last question still had 21,041 responses, showing a very low dropout rate of survey participants. Over 92% of students who started the survey also finished it.

This high completion rate can be attributed to the short, user-friendly design of the survey, which required minimal time and effort from participants. We achieved this by keeping the survey concise and by implementing a user flow where follow-up questions appeared directly after a response was provided, instead of students having to scroll through a survey form. The low dropout rate underscores the effectiveness of the short survey approach.

An analysis of the response rates over the entire 14-day period revealed that nearly half of the responses were collected within the first two days (Wednesday and Thursday). This indicates that a large proportion of participants clicked through the questionnaire immediately when being first confronted with it.

At the time of the survey a total of 19,590 courses were hosted on the platform out of which 2,200 courses were active (at least one user log-in during the period of the survey) in the two-week period of the survey. Out of the active courses, we received at least one response in 1,636 courses, with a total average response rate of 30%. For further analysis, filters were implemented to exclude courses with low numbers of responses and low participation rates. That way we were able to exclude courses with very low activity and also non-teaching related courses such as test courses, templates, organizational courses, etc. Consequently, we only incorporated courses with a minimum of five responses and a response rate (among active student users) of at least 20% into our analysis. This resulted in a selection of 783 courses for in-

depth data analysis. By excluding the courses with low activity, the response rate within the subset increased to 37.2%.

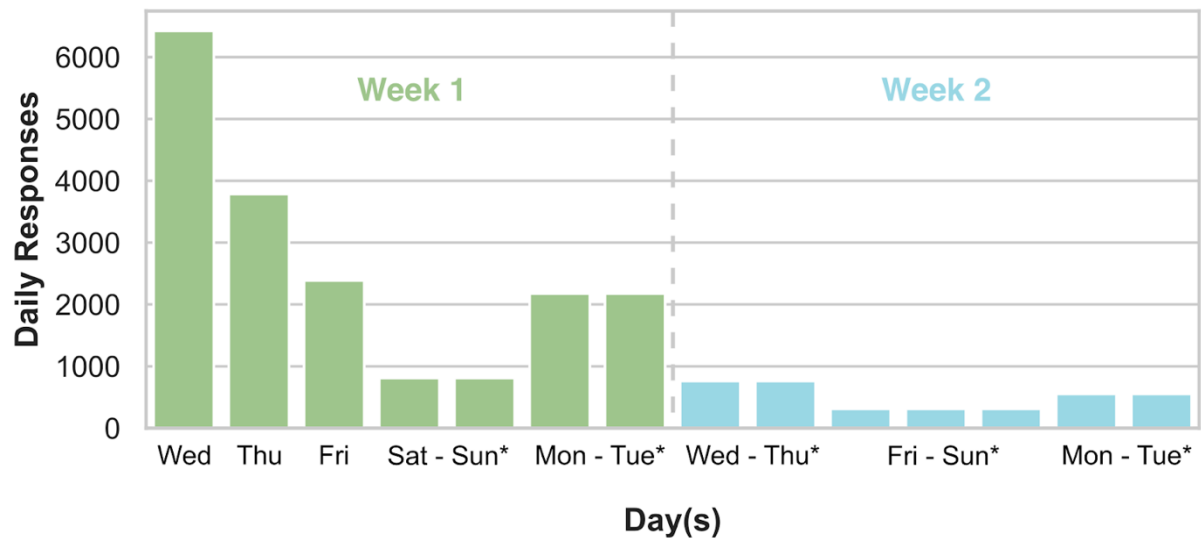


Fig. 2: Responses per day across the 14-day run time (*averaged from two to three day spans, as after the start-phase data was acquired irregularly)

3.2 Preliminary Analysis of Survey Responses

Even though the primary focus of this article is to describe the re-design of the *Course Feedback* Moodle plug-in, we also want to briefly discuss data collected in the survey and what we learned for future implementations of such surveys. To facilitate a comparison of course ratings, and to avoid comparing (for example) very large and less personal lectures with intimate seminars, we sorted courses into four distinct size categories:

- Small (0-20 active students)
- Medium (21-50 active students)
- Large (51-120 active students)
- Massive (over 120 active students)

The analysis revealed that smaller courses tend to receive significantly higher approval ratings across all three evaluated questions (see Fig. 3). Factors that contribute to the higher approval ratings for smaller courses likely include the more personalized learning experience they offer, as well as the increased opportunities for direct contact with instructors. Additionally, larger courses often fall under the category of mandatory courses, which might be generally less popular compared to elective courses. However, we are aware that the comparability of courses across disciplines and course formats, even within these size categories, is difficult and feedback might vary widely (Stark and Freishtat 2014).

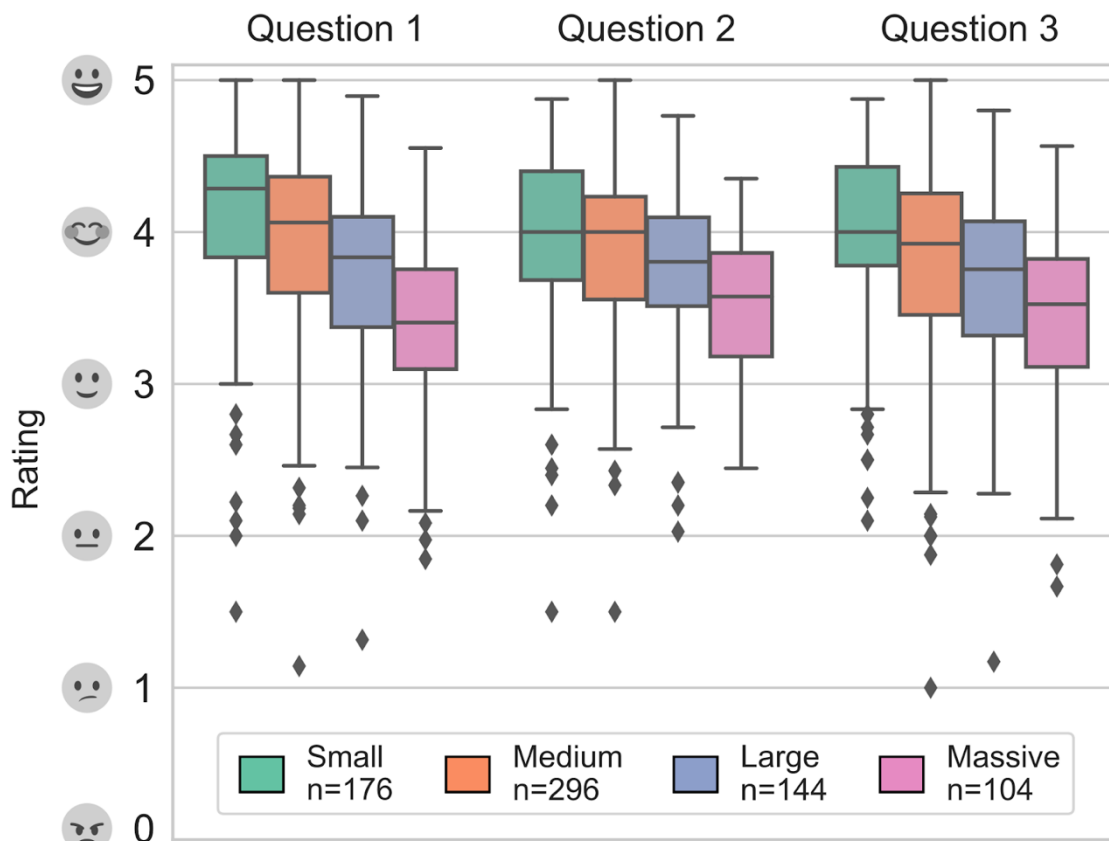


Fig. 3: Question 1-3: Average course ratings sorted by course size

3.3 Limitations of the Study

While the short survey showed promise, its limitations must be recognized. One concern is whether it measured satisfaction solely with the Moodle course design or the entire course experience. The survey focused on satisfaction with the Moodle course's structure, navigation, and content, but students may have included feedback on the overall course experience, including in-person components.

Another limitation is that the short survey may miss some important aspects of the course experience and thus not always provide a comprehensive understanding of students' experiences.

However, the trade-off between data quality and increased participation rates should be considered when evaluating the overall effectiveness of the short survey approach. Note that our technical implementation is not limited to short surveys.

3.4 Future Research

This was the first step of a larger research project. Several directions for future research will be explored to further use the *Course Feedback* plug-in and to further analyze the data acquired.

1. Analysis of the top-ranked courses of each category to identify impactful course design elements.

2. An additional analysis of a dataset of all the course activities (e.g. assignments, quizzes, videos, group organization, etc.) to gain insights on the user satisfaction with different course design approaches.
3. Improved survey questions and open text field option, including course-specific questions added by trainers.
4. Broader application of the *Course Feedback* tool: our tool offers to the University to efficiently gather student feedback within Moodle and make data-driven improvements. For example, our university Moodle system was recently updated from Moodle V.3.11 to V.4.1. A survey about the overall satisfaction rates between the two versions could be easily undertaken now.

4 SUMMARY

In conclusion, the *Course Feedback* tool has proven to be an effective and user-friendly solution for collecting student feedback in Moodle courses. By seamlessly integrating the short survey directly into the course environment, the tool minimizes barriers that often deter students from participating in evaluations, such as time constraints and disruption to their learning experience. While the short survey approach may have certain limitations in terms of data comprehensiveness, the overall success of the *Course Feedback* tool in improving the user flow showcases its potential for broader applications.

The technical implementation and the minimalist design, featuring only three concise questions, streamline the feedback process and could encourage higher response rates. Furthermore, the low dropout rate indicates that students found the tool easy to use and were inclined to complete the survey once they began.

Future enhancements to the tool could involve refining survey questions, incorporating open text field options, and expanding its use across different platforms and educational contexts.

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