# "Click it, when you need it": On-Demand Feedback for Online Settings

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**Abstract:** On-demand help is suggested among the means of reinforcing help-seeking behaviors. This paper presents Help-Button, a closed-loop mechanism for Learning Management Systems that provides students a channel for on-demand support requests, and at the same time informs the teachers about students' progress to intervene accordingly. To explore Help-Button usefulness, we conducted a pilot study to document the experience of the teachers and students when using the proposed mechanism. The preliminary results suggested that participants were satisfied with the proposed tool and perceived the integrated functions as useful. Additionally, we gained insights about further enhancements to allow for dynamic interactions among teachers and students.

**Keywords:** On-demand Help, Online Learning, Automated Feedback, Scaffolding, Support

## 1. Introduction

Help-seeking, i.e., students' self-efficacy to moderate their own learning process and seek assistance to overcome their inadequacies (Karabenick & Newman, 2013), concerns a key competence of self-regulation both for face-to-face and online learning contexts (Parnes, Kanchewa, Marks, & Schwartz, 2020). Online learning, nevertheless, is often characterised by a high students-teacher ratio and asynchronous communication, that may overwhelm both the help-seekers and the help-providers (Sheridan, 2006) and hinder the acquisition of timely and tailored support (Chounta & Avouris, 2016; Topali et al., 2022). To promote help-seeking in online learning, Wood & Wood (1999) proposed reinforcing opportunities for on-demand help, where students declare their need for receiving support. Previous studies explored the provision of on-demand support to students in different learning contexts. For example, Alavi, Dillenbourg, & Kaplan (2009) suggested two tools aimed to keep the teachers aware during Higher Education courses, where learners could indicate a) the activity they encountered difficulties, b) the intensity of the problem and c) the time spent with the activity. The authors run a pilot study with the preliminary results to suggest the effectiveness of the tools in improving students-to-teacher communication. Patikorn & Heffernan (2020), attempting to scale-up on-demand assistance in online learning, proposed a system that allows teachers to pre-define assistance to several learner problems.

Building on such context, we propose to combine both timely and personalised on-demand support in online learning by implementing a mechanism, named Help-Button, for Learning Management Systems (LMSs). Help-Button permits students to request help and at the same time informs the teachers about the progress and course behaviour of the students who requested help. Following, we present a preliminary user study of Help-Button under the following research question: *What is the perceived experience of the teachers and students when using the suggested mechanism?*

## 2. Help-Button Overview

Help-Button is implemented as a Moodle plug-in and permits students to request for help by clicking a green help button placed next to a corresponding resource, e.g., activity or content material (Figure 1, upper left). Help-Button offers two interfaces: a teacher interface (Figure 1, upper right) and a student interface (Figure 1, down). The teacher interface includes information about students' help requests (e.g., numbers of requests, students' course activity). The student interface (appearing when clicking Help-Button), consists of an explanation space, where the student can provide details regarding their request, and a response area where predefined, automatic help is given in the form of additional material, brief explanations, hints etc.
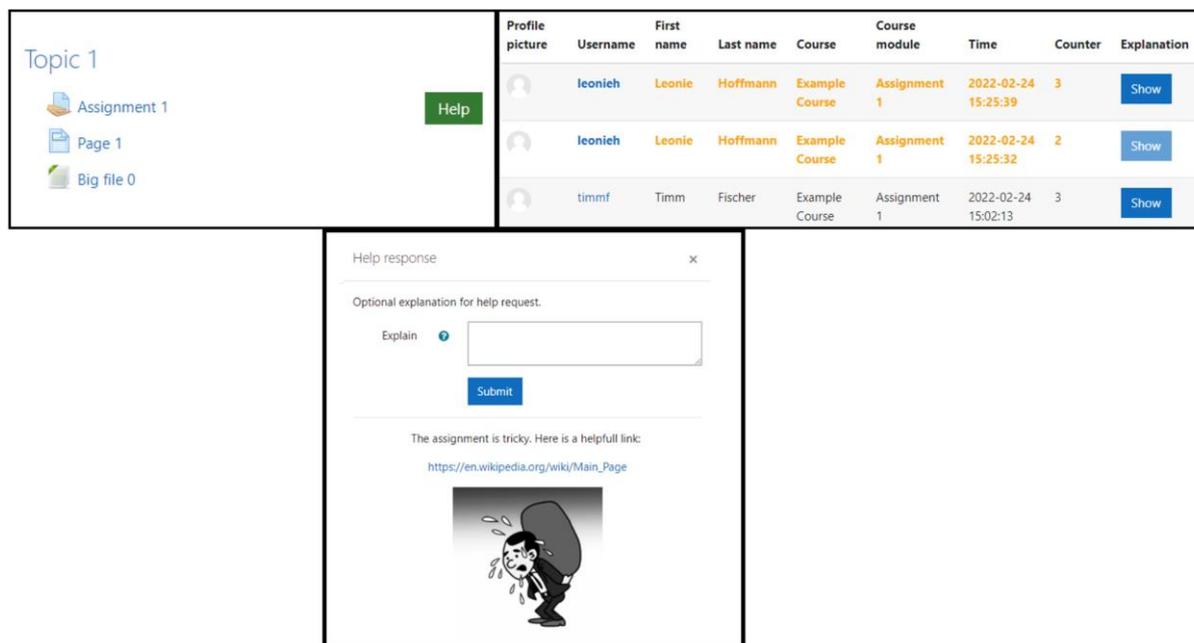


Figure 1. The three main Help-Button interfaces. Upper Left: Overview of the Help-Button in the course. Upper Right: Instructor interface with information related to the help requests. Down: Student interface

## 3. Method

To test Help-Button, we conducted a preliminary user study with 9 participants (5 students and 4 teachers). We provided the participants with predefined tasks depending on their role (that is, student or teacher) that we asked them to carry out. These tasks involved reviewing help requests and designing support for Help-Button (for participants who acted as teachers) and asking for help using Help-Button (for participants who acted as students). Then, we asked participants to fill out a questionnaire, based on the validated instrument System Usability Scale (SUS) (Brooke, 2013) to gather insights regarding the participants' experience with Help-Button. Specifically, teachers' questionnaire included the 10 SUS items which respondents rated on a 5-point scale (from 1-strongly disagree, to agree 5-strongly) and students' questionnaire included the first four SUS items (since the rest of them did not correspond to students' viewpoint). An open-ended question was delivered both to students and teachers asking about general perceptions and concerns after using Help-Button.

## 4. Preliminary Results

Regarding usability as measured by SUS, teachers evaluated the Help-Button highly (M= 92.5 out of 100, SD =4), potentially indicating Help-Button´s potential. While SUS requires 5 participants at least for warranting its reliability and we only had 4, the participants' responses to the open-ended questions suggested that they enjoyed the tool and its potential (i.e., "*I think the plug-in is easy to use and very well integrated within Moodle. From my point of view, this is a very important feature that can make the difference*", "*I would say that the plug-in is really fascinating and can be very useful most of the time*"). Similarly, students' ratings suggested willingness to use the tool frequently (M=3.8, SD=0.84), low

complexity (M=1.4, SD=0.55), ease of use (M=4.4, SD=0.55) and quick understanding on how the tool works (M=4.6, SD=0.55) and overall confirmed students' satisfaction with Help-Button.

Participants offered further input on possible mechanism enhancements. Among the recommendations we encountered comments about the need to add filtering functionality to facilitate the teacher's interaction with the tool and personalise the offered interventions ("...*the teacher overview list would need some filtering or ordering so the list can be filtered considering the type of activity, the name of the user or the number of submissions*", "*If mandatory (auto-reply) is utilised, it should be filtered in some way so that different responses from the teacher can be offered based on the help needed*"). Additionally, a student proposed placing the mechanism inside the activities to avoid interruptions in the learning process.

## 5. Conclusions

To support the provision of on-demand help in online learning, we developed Help-Button: a mechanism for students to request support and to receive semi-automated feedback. This paper presents a preliminary study about the experience of the teachers and students when using the proposed mechanism. Concretely, Help-Button was examined under two scenarios, from the teacher and student viewpoints. The results of the implementation suggested that the participants were satisfied with Help-Button and perceived it as useful. However, participants proposed further enhancements to achieve dynamic interactions through the mechanism and increase the level of personalization to the provided interventions.

Our findings are indicative due to the preliminary character of the study and the small sample. In the future, we aim to use Help-Button into an authentic course setting and evaluate its impact during the course enactment. Additionally, we are interested in assessing students' engagement applying standardised questionnaires, e.g., the NASA TLX questionnaire (Nasa, 2006), and triangulation.

## Acknowledgements

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