

## Ld-Feedback App: Connecting learning designs with students' and teachers' perceived experiences

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**Abstract.** This demonstration paper presents the Ld-Feedback mobile application. A variety of learning design tools were developed during the last years. However, there is still lack of substantial understanding on how learning designs are implemented and experienced by students and teachers. Ld-Feedback is connected with the Integrated Learning Design Environment (ILDE) and allows students and teachers to provide feedback during and after the implementation of learning designs. Two interfaces allow teachers to create feedback forms and generate reports for their learning designs' implementations. Students and teachers access feedback forms to evaluate learning designs with ratings and comments. The development of the application aims at facilitating teacher-led inquiry by providing data informed insights for learning designs within communities of educators.

**Keywords:** Learning Design, student and teacher feedback, teacher inquiry, re-design, communities of educators

### 1 Introduction

Learning Design (LD) is the field that studies how teachers/designers revise learning activities towards more pedagogically informed decisions to achieve educational objectives [1]. One of the main directions is on how the tacit work of teachers/designers can be represented and shared among educational practitioners [2]. A variety of digital tools were developed to support LD [3] while web-based platforms allow educators to share their learning designs, e.g. LAMS community [4], Learning Designer [5], ILDE [6]. However, limited work so far focuses on "what happens after the design process" [7]. Although LD representations provide a result of the decision making process of the teacher/designer, few information is available for previous particularizations of a learning design, the learners' preferences of the delivery mode and reflection about the teachers' run-time experience [8]. Data-informed learning designs when implemented with learning technologies can take advantage from the digital footprints of students like learning analytics visualizations but teachers/designers often need qualitative data and understanding of how students perceived their learning experience to better inform the redesign of learning activities [9-10].

Mobile apps have been increasingly adopted by educators for the facilitation of their teaching and learning. Mobile tools enable teachers to capture real time information from class activities, to move beyond the classroom setting and even author learning activities [11]. In the ecosystem of LD tools few authoring tools connect elements of the design-time with the run-time evaluation of learning designs. An empirical study of a mobile application for location game-based learning presents visualizations of students' activities' enactment to enable teachers revise their learning design [12]. The visualizations supported teacher inquiry with awareness information of students' activity. These studies show the value of learning analytics but they also conclude that students' and teachers' opinion about the implementation of learning activities would also be highly relevant to understand the impact of learning designs. The tool described in this paper aims at facilitating the collection and reporting of this type of feedback information. The approach considered in the design of the tool is generic in that the tool can be applied to multiple types of learning designs, not being specific to particular learning designs tools.

## **2 Ld-Feedback mobile App**

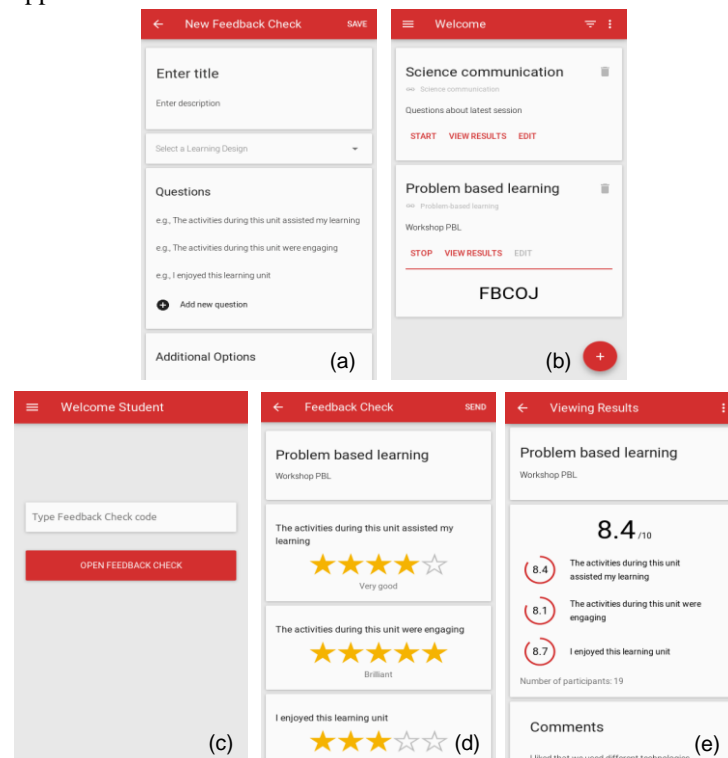
Ld-Feedback is a mobile application which allows students and teachers to provide feedback regarding the implementation of learning designs created with multiple tools. To achieve that, the application is connected with the Integrated Learning Design Environment (ILDE), a web-based community platform for the creation, co-creation and sharing of learning designs [6]. The application includes two interfaces for supporting teachers and students in providing feedback for learning designs' implementations. Ld-Feedback also runs in non-mobiles devices such as laptops and tablets.

The teacher interface allows teachers to create forms called "Feedback Check". The user selects from a dropdown list one learning design created in ILDE and associates the feedback check to the particular learning design. The feedback is authored by the teacher (e.g. feedback for the whole learning design or partial for a learning activity). The form consists of a default template with items regarding the effectiveness of the whole learning design which can be edited by the teacher. The default template includes three items about students' subjective learning, level of engagement and enjoyment but the teacher can also edit the default items or add other items. Two additional options allow users to enable feedback comments from students and presentation of the results to students. Once the Feedback Check is ready, the teacher can start a feedback session and a code for students is auto generated.

The students can insert the code in the student interface and rate the items in a scale (2=Awful, 4= Not very good, 6 = Good, 8 = Very good, 10 = Brilliant) as they were edited by the teacher. Students can write comments about their general experience of the particular learning session. The items of the feedback form depend on the teacher inquiry problem addressed within the particular learning design.

The teacher can stop the feedback session from the professor interface and view the results of the feedback check as a report. Moreover, he/she can enable the presen-

tation of the results to the students so they become aware of their class. The report shows the overall rating between 2-10 and the rating of each item following by all the comments provided by students (Fig. 1). The reports can be visualized in the Ld-Feedback App or in the context of ILDE.



**Fig. 1.** Screenshots of the Ld-Feedback App. (a) & (b) Teacher interface, (c) & (d) Student interface, (e) Visualization of students' responses.

A first illustrative case was used in a teacher workshop as part of a project for data informed learning designs within communities of teachers. The Ld-Feedback App was used by the facilitator of the workshop to evaluate elements of the workshops' learning design. Initial teachers' opinion as students in this case was that Ld-Feedback is a useful teacher support tool and its strong point is the intuitive and simple to use interface.

### 3 Conclusion

This paper presented the Ld-Feedback App, a mobile application which associates learning designs with feedback forms and enables students and teachers to report about their experience. A new generation of data-informed learning design tools aims to support teacher-led inquiry. The experiences of the different stakeholders including teachers and students when using the application will better show how data analytics

can inform the quality of learning experiences. Implementations of learning designs from a community of teachers would also reveal effectiveness of different learning-teaching strategies.

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