Including Students' Voices in the Design of Blended Learning Lesson Plans

Laia Albó[1][0000-0002-7568-9178], Nayia Stylianidou[2], Xenofon Chalatsis[3], Max Dieckmann[1][0000-0001-7128-8337], Davinia Hernández-Leo[1][0000-0003-0548-7455]

[1] Universitat Pompeu Fabra, Barcelona, Spain, [2] European University Cyprus, Nicosia, Cyprus, [3] Athens Lifelong Learning Institute, Athens, Greece
laia.albo@upf.edu

Abstract. Voice inclusive pedagogy urges teachers to consider how they will act to incorporate children's voices within their teaching practice. In blended learning environments, students' views in technology-enhanced classrooms are a useful source of information that is often not utilised to its full potential. This demonstration paper presents an authoring tool that facilitates the co-design of blended learning lesson plans between teachers and students. The platform supports teachers to collect students' voices to define the main components of a lesson plan. It has integrated an inquiry feature to gather students' feedback during the design process throughout the definition of the learning objectives, the activities and tools, and the procedures for reflection and assessment.

Keywords: Voice Inclusive Pedagogy, Blended learning, Learning Design, Authoring Tools, Co-design, Lesson planning, Students' voices

1 Pedagogical background

The adoption of the UN Convention on the Rights of the Child in 1989, Article 12 [1] clearly states children's right to express their opinion for issues that concern them. Regarding educational environments and learning settings, students' voice is of utmost importance as it is linked to their increased active participation in learning. Additionally, it can contribute to dealing with practises of exclusion [2]. If students' voices are not heard, it can lead to a culture of silence [3], as children lose the right to their own voice. In line with the above, the pedagogical framework called voice inclusive pedagogy (VIP) urges teachers to consider how they will act to incorporate children's voices within their teaching practices [4]. In blended learning environments, students' views in technology-enhanced classrooms are a useful source of information that is often not utilised to its full disposal [5]. Engaging with the philosophy of VIP in digital and blended contexts creates opportunities to understand, identify, incorporate, and implement students' preferences in their learning to fully realise the potential of digital spaces in education [6].

Our approach to address the above-mentioned challenge is linking the philosophy and educational practices related to students' voices with the design of dialectical-

synergic blended lesson plans (DSBLP). These lesson plans involve the participation and collaboration of teachers and students in the mutual design of the lesson, leading to a more inclusive education environment. Generally, co-design, or collaborative design, is rooted in the tradition of participatory design [7]. It is therefore a learning synergy in which teachers and students share ideas and experiences to design innovative solutions. The main element of co-design is to enable creative and generative collaboration [8] which, in the case of the collaboration between students and teachers, multiple benefits can be achieved [9].

In this work we present a lesson planning tool that has been specifically designed to support teachers to create DSBLPs. By using the tool, teachers and students can take all the necessary steps together by exchanging ideas, opinions, and feedback to achieve a final lesson plan. Therefore, the roles of the teacher and the student to a great extent coincide. They both need to create, design, provide feedback and amend accordingly, express their views openly and equally, think critically about different aspects of the lesson plan (such as the sequence of activities), test different approaches for the same issue, democratically decide and finalise items, justify proposals and suggestions, respect others' opinions and views, and monitor the design process mutually. The aspect which differentiates the teacher's role is that (s)he is responsible for setting the lesson's overarching learning goal based on the overall curriculum and verifying that the produced DSBLP is in accordance with it, while leaving space for creativity and personal expression on the part of the students.

2 Technological background

Learning design authoring tools support teachers in creating learning activity plans, including description of tasks, supporting resources and tools and expected learning outcomes [10]. Although there are several learning design tools available, only a few of them provide co-design features [11, 12, 13] and they have been essentially oriented towards supporting co-design between teachers [14]. Our tool has been built upon the Ldshake [11] and the Ld-feedback [15] tools. Although the connection between the design tool and the feedback app was already explored in the past [15], in the current tool we are extending this connection to all the steps of the lesson plan and improving the integration between them. The current platform is realized as a website and - as is common for this type of application - consists of a frontend written in HTML, JavaScript and Jquery, as well as a backend with a MySQL database and PHP code. The feedback app is embedded directly into the DSBLP template, encouraging interaction and co-design with the students in all stages of the design process.

3 Description of the prototype

The design platform has three main components (see the top menu in Fig. 1): tools and tips; collaborative lesson plans; and feedback app. The *Tools and tips* menu offers a catalogue of digital tools to be used by teachers and students in the classroom. The main objective of the catalogue is to provide information and tips on how to create, use and

make more accessible the digital technologies that teachers might use in their classrooms. There are nine categories of tools: wikis; blogs; discussion forums; webcasting; e-portfolios; online survey and quizzes; virtual reality; augmented reality; and other technologies. Teachers and students can openly access the catalogue to help facilitate the creation of the DSBLPs.

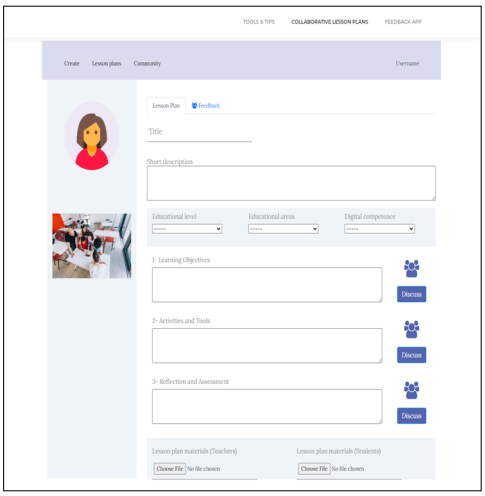

Fig. 1. Screen capture of the lesson plan editor interface.

The menu *Collaborative lesson plans* is the space where teachers can co-create their lesson plans and it requires to sign in with a Google account. The Create button, in the second line menu, opens the lesson plan editor (see Fig. 1). The *Lesson plans* menu allows teachers to explore other teachers' lesson plans within the platform. Moreover, the *Community* menu shows the list of the teachers' profiles within the community. Returning to the *Create* menu and the lesson plan editor (Fig. 1), on the left side of the editor appears the profile picture of the teacher as well as an image that can be uploaded for representing the lesson within the platform. In the main area, the editor invites teachers to specify the title for the lesson plan, provide a short description of the lesson, and select the educational levels, educational areas, and the digital competences related to the lesson plan. The template has three text areas to co-design the three main parts of the lesson plan: the learning objectives, the sequence of activities and tools, and the assessment tools and pedagogical strategies for promoting reflection. Next to each text area there is a discussion button that opens a pop-up window (Fig 2.) for discussing each part of the lesson plan with the students. The pop-up window contains two tabs. The *Feedback App* tab allows teachers to use the web-based application to collect students' views (left figure). A default template with closed and/or open questions for the students is available depending on each step e.g., the default template for discussing the learning objectives only includes an open question (Fig. 2, left). Teachers can edit and adapt the default questions depending on their needs. Once they have agreed with the questions to ask, they can press the start button (Fig. 2, left) and the app generates a

unique five-digit code. Teachers can share the code with the students to allow them to express their views anonymously (the feedback app does not require any sign in by students). The button *View results* (Fig. 2, left) shows the aggregated results of the rating questions and the list of the open responses, depending on the case. The responses collected are linked to the specific co-design step within the specific lesson plan. The *Other* tab allows teachers to report information collected by other means e.g., oral inquiry (right figure). Back in the main window, there is also a *Feedback* tab (see the blue tab called Feedback in Fig 1., next to the Lesson plan tab) which has the same functionality as the discuss buttons and pop-up windows but is mainly aimed to collect students' general feedback after the implementation of the lesson plan.

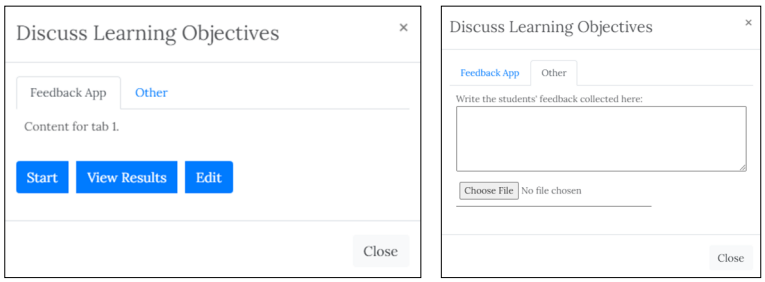

Fig. 2. Pop-up window that is activated with the discussion buttons.

Finally, the menu *Feedback App* is the interface to be used by the students. By sharing the link to this section of the platform, students can find the place to insert the code created by the teacher. When inserting the code, they can access the feedback app questions prepared for the co-design process. Once they have submitted the answers, students can view the aggregated results submitted by the rest of the students in the class. The interface follows a responsive design to allow students accessing the feedback app through any device. The platform can be accessed at https://ildeplus.upf.edu/BLENDI/

4 Use case, preliminary results and future work

The platform is being developed within the context of a research project titled "BLENDI – Blended Learning for Inclusion" that aims to support teachers in designing more inclusive blended learning practices. It involves five countries across Europe and each partner works locally with at least one (up to three, depending on the country) primary and/or secondary schools. In order to get teachers and students' opinions and to validate the initial requirements for the platform, each partner has carried out a research comprised of questionnaires and focus group discussions with their teachers and students. An initial version of the platform was shown during the focus group discussions and, despite the results being currently analysed, the initial insights have been promising. Both teachers and students have shown their positive interest in using the platform and have acknowledged some of the potential DSBLPs' benefits commented in the first section. The multilingual platform will be piloted in the schools across the five countries in the next months.

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