

Digital written feedback to promote motivation and engagement. A case study in Higher Education

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1 Theoretical framework

The scientific literature highlights that feedback is one of the most important factors in supporting study and promoting academic achievement [1, 2]. Indeed, it provides the students with information about their own learning, also making them aware of both the level of understanding achieved and the gap to the goal. Providing formative feedback in progress is relevant: pointing out strengths and weaknesses in one's work allows learners to understand whether they are moving in the right direction and to develop metacognitive awareness. A key element is learner accountability to feedback [3]: the receipt of it should not in fact be viewed passively, but it is important for the learner to reflect and act proactively on the feedback provided in order to use it productively, which requires the learner to be engaged and feedback literate [4].

In higher education, motivation [5] can be shaped by feedback on performances [6] and thus be able to affect the achievement of learners [7]. Students, in fact, benefit from feedback when they perceive that paying attention to it will move them from their current state to their desired state. When feedback focuses on the task exerts a positive influence on performance, facilitating the process of knowledge construction [8]. Written feedback is crucial, as it becomes the absolute empirical link that can be examined to reveal the teacher's intentions and ultimately provide the learner with a key to interpret the messages [9].

2 Contexts, objectives and methodology of the study

The context of the case study is the laboratory of "Educational Technology" (1 CFU) delivered in a.y. 2022/23. It is a compulsory course included in the 1° year of the blended master's degree course in "Media Education" at Catholic University of Milan. The laboratory aims to introduce students to the design of e-learning courses through online hands-on activities. Structured in five classroom meetings, it required the 22 enrolled students, divided into groups, to design a blended course starting from a provided scenario, working collaboratively in Google Drive over four weeks. The teacher provided written feedback in progress, using the "comments" function.

The purpose of the study is to understand how much the teacher's release of written feedback helped students feel motivated and involved in their participation at the lab. In order to gather students' perceptions of the working method adopted, an

exploratory survey was conducted at the end of the course by administering a semi-structured anonymous questionnaire using CAWI methodology, that consists of 15 items organized in 3 areas: personal data, previous experience about feedback in university, perceptions about feedback received during the lab.

3 Results e research perspectives

A total of 18 responses were collected. 77.8% of the students (no. 14) expresses satisfaction about receiving feedback in progress. 72.2% (no. 13) reports that they received written and/or oral feedback during their bachelor's degree, mostly from lab teachers. The finding is interesting and deserves further study since these students completed their three-year degrees during the pandemic years, when it was not possible to be physically present in the classroom. 88.8% (no. 16) affirms that the release of feedback helped them feel involved in participating in the workshop and 77.7% (no. 14) that it positively affected their motivation. Analysis of the open-ended responses also shows great awareness with respect to the importance of the feedback provided by the teacher. Finally, 77.7% (no. 14) emphasizes that the release of feedback on the way was helpful in enhancing design skills, the goal of the activity.

The formative feedback provided by the teacher involved individualized input to each group's work. Clearly, a similar activity requires the teacher to spend a significant amount of time at the project drafting stage. With large classes, sustainability is at risk: from a research perspective, it is precisely in these cases that Artificial Intelligence could help the teacher in this onerous but important duty [10].

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