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Use of Exit Tickets and Audio Feedback in a Psychology and Communication subject: an exploratory pilot study.

Uso de Exit Tickets y Feedback por Audio en una asignatura de Psicología y Comunicación: un estudio piloto exploratorio.

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Abstract.

Introduction: The evolution of higher education demands strategies that foster active student engagement and enable continuous feedback. The Exit Ticket (ET) is an effective formative assessment tool typically used at the end of a lesson to gauge both conceptual understanding and methodological satisfaction, thereby allowing instructors to adjust content and teaching strategies accordingly. However, the use and evaluation of ETs in Health Sciences education have received limited attention. This pilot study examines the participation of Health Sciences students in a digital ET supplemented with additional explanations, and assesses their perception of the tool. **Methodology:** An anonymous digital ET was implemented during five voluntary theoretical sessions of the *Psychology and Communication* course in the Dentistry Degree programme at the University of Valencia (academic year 2024–2025; n = 75). Students were asked to indicate one concept they had learned and one they had not understood. The least understood concept of each session was subsequently addressed through an online audio explanation provided before the following lesson. Afterwards, 54 students completed a 4-point Likert-scale questionnaire to evaluate the strategy. **Results:** An average of 30.6 students attended the lessons, of whom 78.2% completed the ET. Among the students who responded to the evaluation survey, 89.1% had attended the sessions, and they rated the usefulness of the ET positively (median = 3 across all agreement items). Students reported that the tool facilitated learning reflection and enhanced communication with the instructor, thereby improving pedagogical practice. Additionally, 18.9% of surveyed students listened to the supplementary audio recordings during the first weeks, and all of them considered these explanations useful. **Conclusion:** The pilot implementation of the digital ET suggests its potential in Health Sciences education to promote metacognitive reflection and support fluid, formative communication between students and instructors. This strategy appears to enable the rapid adaptation of teaching to student needs. Future research should explore its scalability, applicability to other subjects, and direct impact on learning outcomes.

Keywords: Innovative education, Exit Ticket, higher education, feedback.

Resumen.

Introducción: El Ticket de Salida (TS) es una herramienta eficaz de evaluación formativa que se utiliza habitualmente al final de una clase para valorar tanto la comprensión conceptual como la satisfacción metodológica, lo que permite al profesorado ajustar el contenido y las estrategias de enseñanza en consecuencia. Sin embargo, el uso y la evaluación de los TS en la enseñanza de Ciencias de la Salud han recibido poca atención. Este estudio piloto examina la participación del alumnado de Ciencias de la Salud en un TS digital complementado con explicaciones adicionales y evalúa su percepción de la herramienta. **Metodología**: Se implementó un TS digital anónimo durante cinco sesiones teóricas voluntarias del curso de Psicología y Comunicación del Grado en Odontología de la Universidad de Valencia (curso académico 2024-2025; n = 75). Se pidió al alumnado que indicara un concepto que había aprendido y otro que no había comprendido. El concepto menos comprendido de cada sesión se abordó posteriormente mediante una explicación de audio en línea proporcionada antes de la siguiente clase. Posteriormente, 54 estudiantes completaron un cuestionario con escala Likert de 4 puntos para evaluar la estrategia. **Resultados:** Un promedio de 30,6 estudiantes asistieron a las clases y el 78,2% completó la herramienta de evaluación. Entre éstos, el 89,1% había asistido a las sesiones y valoraron positivamente la utilidad de la herramienta (mediana = 3). Los estudiantes indicaron que la herramienta facilitó la reflexión sobre el aprendizaje y mejoró la comunicación con el profesor, lo que contribuyó a mejorar la práctica pedagógica. El 18,9% de los estudiantes escuchó las grabaciones de audio complementarias durante las primeras semanas y las consideraron útiles. **Conclusión:** La implementación de esta herramienta de evaluación sugiere su potencial para promover la reflexión metacognitiva y apoyar una comunicación fluida y formativa entre estudiantes y profesores. Esta estrategia parece permitir la rápida adaptación de la enseñanza a las necesidades de los estudiantes. Las investigaciones futuras deberían explorar su escalabilidad, su aplicabilidad a otras asignaturas y su impacto directo en los resultados del aprendizaje.

Palabras clave: Innovación educativa, Exit Ticket, educación superior, feedback.

1. Introduction

Teaching and learning in higher education, as in earlier stages of education, are undergoing substantial transformations due to the opportunities that technology provides within the educational context. In particular, the roles of teachers and students have evolved considerably. Students now aspire to play a more active role, while teachers take on supervisory and planning responsibilities (1-2). Given the large number of students that may be in a classroom, supervising their understanding and learning of content can be difficult; therefore, it is important to develop strategies that make learning more engaging (3) and facilitate periodic feedback.

Active student participation in the teaching–learning process offers significant advantages in terms of knowledge and skill acquisition as well as consolidation. For example, it enables students to reflect continuously on the knowledge they have acquired and their understanding of it after the learning experience. Furthermore, sharing this reflection with the teacher creates opportunities to adapt methodologies, clarify concepts, and explore how the teacher could better support students' comprehension of the content (4). This is also highly relevant in Health Sciences teaching. Student interest and satisfaction with the teaching received are becoming increasingly important in this field, in both theoretical and practical contexts (5-6). Various strategies have therefore been

developed to facilitate student engagement and feedback, with the dual aim of improving both the learning experience and teaching practice (7-8).

One such strategy is the Exit Ticket, whereby students complete a short form at the end of a lesson to reflect on aspects such as their understanding of the content covered or their satisfaction with the teaching methodology employed (9). These forms can be completed on index cards, a sheet of paper from a notebook, or online, preferably immediately after the lesson ends (10).

Exit Tickets provide teachers with a simple, efficient, and informative method of assessing their students' understanding at the end of a lesson (10), enabling them to adapt the content and refine their teaching methods according to students' needs (1, 3-4, 11-12). Furthermore, as mobile devices and laptops are widely used by university students, it is easy to integrate these technologies to enable the rapid exchange of feedback between students and teachers — for example, through digital questionnaires or by responding to students' questions.

However, although the Exit Ticket strategy is increasingly being implemented in higher education, there is currently limited literature addressing its use in Health Sciences education. Therefore, this study aims to analyse the following: 1) how health sciences students engage with the Exit Ticket tool; 2) whether these students make use of the additional explanations derived from the Exit Tickets provided by the professor; and 3) how the students assess the tool.

2. Methods

This study describes the pilot implementation and student evaluation of an Exit Ticket survey combined with an online explanation intended to complement that provided in class for the Psychology and Communication course in the Dentistry degree programme at the University of Valencia, Spain, during the 2024–2025 academic year. A potential sample of 75 students enrolled in the course was included.

Summary of the teaching and learning strategy:

The teaching strategy employed comprised two distinct phases. First, an Exit Ticket survey was implemented at the end of the theoretical lessons for voluntary completion. On the form, each participant had to 1) highlight one concept that they had learned during the lesson, 2) specify any content not understood, and 3) fill in a section for additional suggestions or comments. On the same day, the professor selected the concept that most participants had highlighted as not well understood and prepared and shared online a recorded explanation of that concept. Students could access the audio file from that moment until the end of the course.

Implementation:

The Exit Ticket was administered at the end of five theoretical sessions in which student attendance was voluntary. Students could access the questionnaire via a QR code provided at the end of the lesson. The Exit Ticket was anonymous, and responses were collected for 15 minutes after the end of the lesson. The aim was to encourage honest responses based on the students' experience of the respective classes.

The Vocaroo® platform was selected to record an audio message explaining the content that was most frequently identified as not well understood. This message was then uploaded via a link in the course's Virtual Classroom.

Finally, during a compulsory seminar, students completed a survey to evaluate the strategy used. This 10-item Likert-scale questionnaire (with responses ranging from 1 = Strongly Disagree to 4 = Strongly Agree), which consisted of a translation from the work of Danley, McCoy and Weed (2016) carried out by a bilingual translator. This questionnaire assessed students' experience of using the Exit Ticket strategy (12). Specifically, the questionnaire explored whether the students considered Exit Tickets to have: 1) reflected the effort they had made in class; 2) helped them reflect on what they had learned during each class; 3) made it easier for the professor to adapt the classes based on the feedback received; 4) helped them put what they had learned in class into practice; 5) facilitated communication with the professor; 6) allowed them to reflect on the effort they had made in class; 7) reflected their learning; 8) improved the professor's focus on class content; 9) allowed them to give their opinion on the materials and strategies used in class; and 10) been beneficial to them as students.

Next, they were asked if they had listened to the recorded audio explanation and, if so, if they had found it useful.

Using this strategy did not constitute a change to the subject's basic teaching method at any time. Participation in each process was always voluntary and anonymous. Participants were informed about the nature of the strategy and the possible anonymous publication of the results, and they gave their informed consent. As the project consisted of an anonymous satisfaction survey linked to a teaching activity with no experimental component and did not collect psychological or health-related information, it fell within the category of studies that are exempt from ethics committee review according to the institution's regulations.

Data analysis:

Given the exploratory pilot nature of the study, descriptive analyses were first conducted to summarise student attendance, participation in the Exit Ticket, and responses to the evaluation questionnaire. Means, standard deviations, and ranges were reported for all quantitative variables, and absolute and relative frequencies were used for categorical variables. The internal structure of the questionnaire was examined using an exploratory factor analysis (EFA). Given the aim of identifying the latent structure underlying the set of Likert-type items, the principal axis factoring (PAF) extraction method was employed. As potential factors were expected to be correlated, an oblique

rotation (direct Oblimin, δ = 0) was applied, following current methodological recommendations for psychological and educational measurement. The decision on the number of factors to retain was guided by the eigenvalue-greater-than-one criterion. In addition, the internal consistency of the scale was assessed using Cronbach's alpha. The collected data were analysed using IBM SPSS Statistics 28.0 for Windows (IBM Corp., Armonk, NY, USA, 2021).

3. Results

A mean of 30.6 students per class attended the five sessions (SD = 16.29; range = 35). Of them, an average of 25 students (78.2% of the average attendance for each class) completed the Exit Ticket (SD = 15.78; range = 32) with a total of 125 responses. A learned concept was identified in 120 (96%) of the responses, and a concept that was not understood in 16 (12.8%) of them. 54 students (average age 19.89; 81.8% female) responded to the strategy assessment questionnaire. Of these, 49 (89.1%) stated that they had attended at least one of the classes.

Preliminary analyses of the questionnaire (n = 49) confirmed that the data were suitable for factor analysis (KMO = .886; Bartlett's test, $X^2 = 493.604$, $p < .001$). Principal axis factoring identified a single factor (eigenvalue = 8.016), explaining 80.15% of the variance, with all remaining factors showing eigenvalues below 1. All items displayed high loadings (.784–.933), supporting a clear unidimensional structure of the scale. Internal consistency was excellent (Cronbach's alpha = .972).

Responders (n = 49) agreed that the Exit Ticket was useful (median score of 3 for all items) (Figure 1). On average, 18.9% (SD = 8.95, range = 23.6) of the 54 students who responded the questionnaire had listened to each audio. All these students found the audios useful.

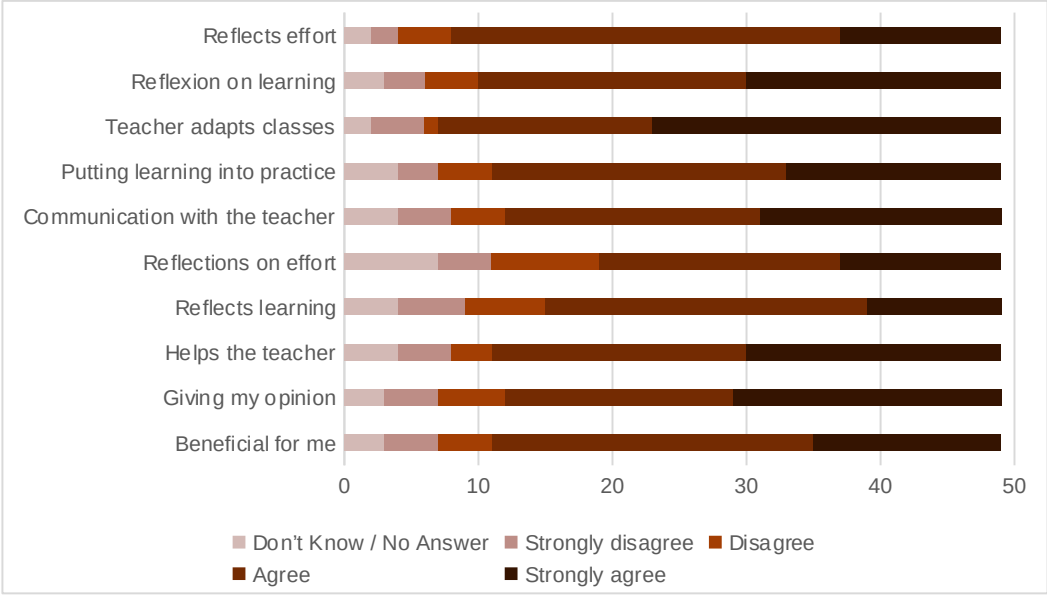

Figure 1. Responses to the Assessment Questionnaire.

4. Discussion

This study demonstrates the pilot implementation of a combination of an Exit Ticket tool and recorded voice messages as a means of supplementing teaching in a Health Sciences course. The main findings can be summarised as follows: the Exit Ticket showed a high level of adherence among the students who attended the classes. The tool was primarily used for reflection on learning and communication with the professor. In addition, aspects such as the professor's adaptation of the class and the opportunity for students to reflect on their own effort were also highly rated in the survey. Finally, a moderate proportion of students listened to the voice recordings in the early stages of the course and found them useful.

Teaching strategies that facilitate interaction with professors and reflection on the teaching process are currently recognised as effective learning tools (2, 5). In this study, the majority of students used the Exit Ticket tool to present concepts they had learned. Indeed, the participating students emphasised that the tool facilitated reflection on learning. This aligns with previous literature suggesting that Exit Tickets improve students' knowledge by encouraging self-reflection on the subject matter and enabling them to resolve specific doubts (3, 13–15).

This metacognitive process also provides an opportunity to enhance knowledge acquisition and foster critical thinking (16). Unlike other approaches, the Exit Ticket in this case did not directly ask about the concepts taught during the session. Self-reflection on subject content has proven to be an effective way of reinforcing basic concepts, especially when guided questions on the most important concepts are used (14-15). While this was not the objective of the selected task, adding specific questions on the subject matter could enhance the tool's effectiveness. Consistent with the design of this Exit Ticket, however, the percentage of students who noted that the tool reflected the effort made during class was lower.

Conversely, a high percentage of participants emphasised the tool's usefulness in providing professors with information to enhance their teaching practice. There is strong evidence of the importance of seamless communication between professors and students in improving teaching practice (8). Therefore, adapting content based on student feedback improves learning, regardless of the professor's level of experience (8, 16). Similarly, tools such as this one can facilitate the development of a more effective teaching programme in undergraduate education (17).

Among the functions described for the Exit Ticket, professors can identify misunderstood or misinterpreted concepts promptly and clarify them in the next session (18). In our methodology, the least understood concepts were reformulated with specific explanations that students could listen to in the following weeks. While all students who accessed these recordings found them useful, this group comprised only one-fifth of those who responded to the survey. It should be noted that the information obtained relates to a period well before the exam; therefore, students who listened to the audios at this stage of the course might have been those who had not understood a concept or those who had not attended the theoretical class.

In addition to these findings, the study offers several practical implications for Health Sciences educators. In theory-intensive courses, tools such as digital Exit Tickets combined with brief audio explanations may provide a feasible way to monitor students' understanding, promote metacognitive reflection, and rapidly address areas of confusion. This approach may be particularly valuable in large groups or content-heavy subjects, where instructors often have limited opportunities to assess students' learning needs in real time (19).

This study has a number of limitations that must be considered. Firstly, it was conducted with a small group of students and across only a limited number of sessions delivered by a single professor, which restricts the generalisability of the findings. Nevertheless, undertaking the study as a pilot under real teaching conditions provides a foundation for scaling it up to include a larger and more diverse sample of students and professors. Secondly, as previously mentioned, the available data does not enable us to conclude whether there has been a genuine change in student learning. Moreover, although descriptive statistics were reported, the lack of inferential analyses further limits our ability to determine the real impact of the intervention. This will have to be the subject of future studies, but the present work reveals the tool's potential to improve communication with professors as perceived by students, which could significantly impact the learning experience (8). Finally, those students who were present in the voluntary theoretical classes (and therefore able to complete the Exit Ticket) might not be representative of all students and a self-selection bias might have been influenced the results. Nevertheless, this tool was found to be useful, thereby enhancing the teaching–learning experience of the students who attended these classes.

5. Conclusions

- Exit tickets are an educational strategy that enables continuous and formative communication throughout the teaching and learning process. When combined with audio recordings, this enables prompt feedback between students and teachers, and fosters instruction tailored to the specific needs of each student group.
- Our study showed that the proposed strategy encouraged students to reflect on their own learning and facilitated seamless communication with teachers to improve teaching. The tool was widely used and well valued by students, and it may also help consolidate complex concepts.
- Future studies should focus on adapting this tool to the specific needs of each subject and teacher, and on identifying the elements that most directly enhance learning. In addition, subsequent phases should incorporate measures that allow the impact on actual learning to be assessed (such as pre/post tests, examination performance, or concept retention) and explore whether the use of audio materials improves understanding among students who are absent.

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