

# Perceptions on the use of EVEA in university faculty: a comprehensive study on the effects of activities and learning resources

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**Abstract**—Incorporation of technology in education has revolutionized the teaching and learning process. Among the tools and platforms developed to enhance education, EVEA (Entorno Virtual de Enseñanza y Aprendizaje) has gained significant interest. EVEA provides diverse activities and learning resources for interactive learning. As Universidad Nacional de Educación (UNAE) integrates EVEA into its academic programs, it becomes crucial to analyze the activities and learning resources employed by university faculty when designing virtual classrooms. The study employed a qualitative approach, with 41 participants from different majors. Findings reveal the most utilized activities are Tasks, facilitating assignment collection, feedback, and student accountability. Files and URLs were the primary learning resources used by professors. Furthermore, participants perceived EVEA as a valuable vehicle for accessing resources, flexible learning, and engaging students. On the other hand, challenges encompass technology disparities, digital skills, and student distractions. Lastly, recommendations entail thorough training, dedicated support platforms, and teacher collaboration to maximize EVEA's potential.

**Keywords**— activities, benefits, challenges, EVEA, learning resources, university faculty perceptions

## I. INTRODUCTION

The incorporation of technology in education has transformed the teaching and learning process. As a result, different tools and platforms have been developed to enhance the educational experience [1]. One such tool that has attracted considerable interest in the recent years is EVEA 'Entorno Virtual de Enseñanza y Aprendizaje' [2]. This tool encompasses varied resources that facilitate interactive learning, collaborative activities, and convenient access to educational materials.

As universities around the world adopt EVEA more extensively, it becomes vital to assess how it impacts faculty and their teaching approaches, as well as the perceived consequences on student learning achievements [3].

Universidad Nacional de Educación (UNAE) is a pedagogical institution created in 2015 with a primary focus on training educators. UNAE is situated in Cañar, Ecuador, which embraces technology-enhanced learning experiences through the integration of Educational Virtual Environments for Learning (EVEA) in diverse academic programs. The aim is to allocate approximately 30% of the teacher training program to be developed using virtual platforms [4]. EVEA

facilitates interactive and immersive activities designed by faculty members to engage students actively.

These virtual environments offer access to a wide range of learning resources, including multimedia materials, and collaborative tools. UNAE implements EVEA in online, blended, and in-person learning settings to cater students' preferences and needs. The utilization of EVEA transcends disciplinary boundaries, finding applications in teacher training, pedagogical research, and educational technology. UNAE's objective is to promote critical thinking, creativity, and collaboration among students, equipping them with essential skills for success in the digital era.

By exploring the experiences of faculty members who have utilized EVEA, this study seeks to analyze the activities and learning resources employed by university faculty when designing virtual classrooms. The findings of this research can guide faculty members, educational administrators, and instructional designers in making informed decisions about the selection, integration, and optimization of EVEA in their teaching practices.

The subsequent sections of this research paper describe the research design employed, analysis, results, conclusions, and recommendations.

## II. METHOD

### A. Participants

This research paper involved professors as participants from the Universidad Nacional de Educación (UNAE). The study included 41 participants from six out of seven different majors of the university. The gender distribution among the participants is 63.4% female and 36.6% male. In terms of age, 19.5% of the participants fall within the age range of 44 years and older, while the majority, which accounts for 80.5%, belongs to the age group of 25 to 44 years.

Regarding their experience at the university, 43.9% of the professors have been at UNAE for two years or less, indicating a relatively recent affiliation. Additionally, 41.5% have been part of the university for a period ranging from 3 to 5 years, signifying a moderate level of experience. A smaller portion, specifically 14.6%, have accumulated six years or more of experience at UNAE, demonstrating a higher level of familiarity with the institution.

### B. Research design

In this research study, a qualitative approach was adopted, exploring people's perspectives, considering their context and cultural influences, and grasping viewpoints beyond the

researcher's own [5]. Besides, a purposeful sampling technique to select the research setting and participants with relevant knowledge and experiences was utilized [6].

### C. Data Collection Method

The chosen method for this study was a survey designed from a qualitative focus, utilizing a semi-structured questionnaire consisting of 15 questions through Google Forms for data collection. This method combined predefined and open-ended questions, capturing in depth participants' insights ideal for obtaining richer data [6]. This questionnaire was designed in Spanish since most of the professors speak this language.

### D. Data Analysis Method

To analyze the collected data, content analysis was employed. This allowed for a systematic examination of the data, identifying key patterns, themes, and meanings within the data. Content analysis helped researchers gain insights into the underlying messages, ideas, and characteristics present in the material being analyzed [7]. The collected information was sorted into categories and analyzed inductively, allowing the researchers to identify the most frequent activities and learning resources employed by university faculty when designing virtual classrooms.

## III. RESEARCH FINDINGS AND DISCUSSION

The primary objective of this research study was to examine the perceptions of university faculty members regarding activities and learning resources within virtual classrooms. This section concisely showcases the results, derived from the responses of all 41 participants (100%), portrayed through four illustrative figures depicting the facets of Activities, Resources, Advantages, and Challenges inherent in the EVEA, followed by a succinct discussion.

Figure 1 illustrates the most and least frequent activities employed by university faculty in their virtual classrooms.

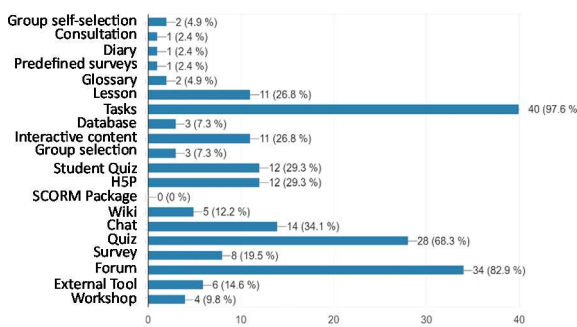


Fig. 1. Learning activities on EVEA

The previous figure presents the responses of professors regarding the top 5 activities utilized out of 20 options in the virtual classroom. Tasks were the most widely used activity (97.6%), enabling assignment collection, timely feedback, and fostering student accountability. Professors highlighted the value of Tasks as evidence of the teaching-learning process, simplifying grading and rubric assignment. They also emphasized time-saving benefits and the ability for students to work both individually and in groups. Conversely, no professors reported utilizing the SCORM package.

Figure 2 depicts the most and least frequent resources employed by university faculty in their virtual classrooms.

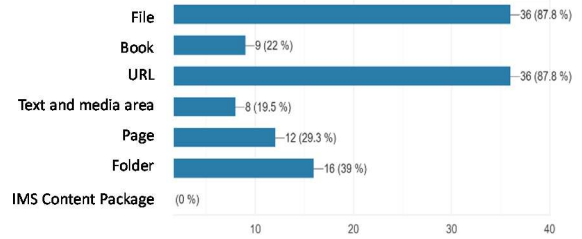


Fig. 2. Learning resources on EVEA

Figure 2 displays the responses of professors regarding the top 3 activities used out of 7 options in the virtual classroom. The most utilized learning resources were Files and URLs, accounting for 87.8% of responses. Conversely, no professors reported utilizing the IMS Content Package. Professors explained that they used Files to share materials with students, provide subject-specific knowledge, and upload resources for upcoming classes (e.g., books, papers, and PowerPoint presentations). As for URLs, professors mentioned their usefulness in facilitating faster access to external websites, enabling the dissemination of content learned in class, and sharing links for practice outside of the classroom (e.g., YouTube, social networks, iCloud, and platforms like Padlet, Metemeter, and Kialo). These findings highlight the prevalence of the Flipped Classroom methodology at UNAE, where professors routinely share materials in advance. To design a virtual classroom effectively, professors should use the instructional design model ADDIE (Analyze, Design, Develop, Implement, and Evaluate), which involves diverse resources, up-to-date content, problem-solving activities, and consider students' andragogical foundations. Hence, the implementation of Flipped Classroom methodologies will enhance the learning experience [2].

Figure 3 illustrates the top three positive aspects that professors at UNAE perceive as advantages.

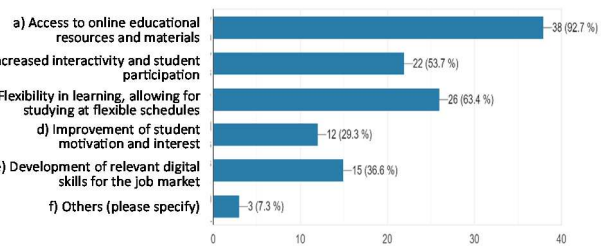


Fig. 3. Positive aspects of using EVEA

This figure presents that 92.7% of UNAE professors acknowledge the virtual classroom's benefits in accessing online educational resources, while 63.4% appreciate its flexibility for learning and scheduling. Additionally, 53.7% note that students actively engage and participate in interactive discussions. These findings emphasize the prevalence of connectivism as a robust learning theory at UNAE [4], fostering a respectful online learning community where students interact and value diverse perspectives.

Figure 4 outlines the three most common challenges and limitations encountered by UNAE professors while utilizing the virtual classroom.

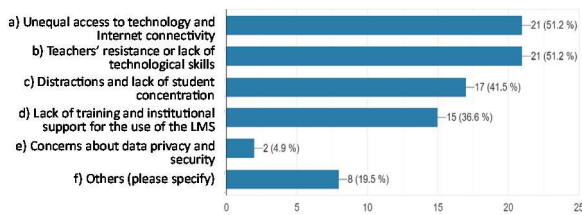


Fig. 4. Challenges when employing EVEA

In Figure 4, based on the survey results, it is evident that a noteworthy proportion of UNAE professors (51.2%) identify unequal access to technology and internet connectivity as the most challenging aspect. Similarly, the resistance or absence of digital skills among professors is also reported at the same percentage as the most challenging aspect when it comes to working with the virtual classroom. Additionally, 41.5% highlights that technology serves as a distraction for students, leading to less concentration on studies. These findings highlight the shared responsibility between professors and students in utilizing technology as a valuable tool for teaching and learning.

From the open-ended questions some insights were gathered. UNAE professors recognize that students face unequal access to the internet from their homes, likely due to being the first generation attending university and residing in areas with limited internet availability. In addition, UNAE professors highlight the lack of digital skills as a challenge they face. They recommend that the university provides comprehensive training on utilizing the virtual classroom's resources and activities to maximize its potential. An effective approach involves the utilization of humorous didactic resources. For example, research has indicated that memes can be exceptionally valuable tools for promoting both teacher digital skills mastery and student autonomy within the learning process [8]. Additionally, they suggest the establishment of a dedicated support platform where professors can seek assistance when needed. Continuous training on the virtual classroom is essential, particularly for new faculty members. In this regard, there is a need to provide training for both academic and administrative staff to effectively facilitate the integration of virtual environments in higher education [9]. Furthermore, they emphasize the importance of collaborative work among teachers, promoting standardization and a supportive environment. Finally, allocating dedicated time for EVEA preparation is also considered crucial.

#### IV. CONCLUSIONS

Based on the stated objective of this study, which was to analyze the activities and learning resources employed by university faculty when designing virtual classrooms, three

conclusions were drawn. First, the effectiveness and widespread use of Tasks is perceived by UNAE professors as the most utilized activity in EVEA. They highlight that Tasks enable assignment collection, evidence of the teaching-learning process, feedback and grading, and opportunities for both individual and group work.

Second, it is concluded that Files and URLs are the primary learning resources utilized by UNAE professors. They perceived that Files and URLs bring benefits to their teaching practice such as: access to online educational resources, flexibility in learning and scheduling, and active student engagement, showcasing the prevalence of the Flipped Classroom methodology and Connectivism theory embraced in the UNAE pedagogical model.

Finally, UNAE professors' experiences with EVEA reveal both its advantages and challenges. They recommend comprehensive training, standard platforms, continuous professional development and support, collaborative work among teachers, and dedicated preparation time for the virtual classroom.

As a prospective next step, it is recommended to investigate the perspectives of UNAE students. This dual perspective analysis would provide a comprehensive understanding of how EVEA contributes to the teaching and learning process, allowing for a more holistic evaluation of its impact.

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